



RURAL INDUSTRIES RESEARCH
& DEVELOPMENT CORPORATION

The Australian Cashew Industry An Information System

**A report for the Rural Industries
Research and Development
Corporation**

by Noel J Grundon

February 2000

RIRDC Publication No 00/15
RIRDC Project No CSL-1A

© 2000 Rural Industries Research and Development Corporation.
All rights reserved.

ISBN 0 642 58045 6
ISSN 1440-6845

"The Australian Cashew Industry – An Information System"
Publication No 00/15
Project No. CSL-1A.

The views expressed and the conclusions reached in this publication are those of the author and not necessarily those of persons consulted. RIRDC shall not be responsible in any way whatsoever to any person who relies in whole or in part on the contents of this report.

This publication is copyright. However, RIRDC encourages wide dissemination of its research, providing the Corporation is clearly acknowledged. For any other enquires concerning reproduction, contact the Communications Manager on phone 02 6272 3186.

Researcher Contact Details

Dr Noel J Grundon
CSIRO Land and Water
P.O. Box 780
ATHERTON, Qld 4880

Phone: (07) 4091 8800
Fax: (07) 4091 3245
Email: noel.grundon@tfr.csiro.au
Website: <http://www.tfr.csiro.au>

RIRDC Contact Details

Rural Industries Research and Development Corporation
Level 1, AMA House
42 Macquarie Street
BARTON ACT 2600
PO Box 4776
KINGSTON ACT 2604

Phone: 02 6272 4539
Fax: 02 6272 5877
Email: rirdc@rirdc.gov.au
Website: <http://www.rirdc.gov.au>

Published in February 2000
Printed on environmentally friendly paper Canprint

Foreword

Cashew is a high-value tropical nut that contains a nutritious kernel used extensively in confectionary.

Australia is a major importer of cashew kernel, but has sufficient soils suitable for growing cashew in tropical northern Australia to become a net exporter of nuts and/or kernels.

At the RIRDC Review of Cashew R&D in 1996, the Australian cashew industry expressed a strong need for a manual of 'best estimate' management strategies adapted to Australian conditions. In order to address this need, RIRDC commissioned a project to gather information from Australian cashew researchers, the local industry, and relevant overseas literature, and to incorporate that information into an Australian Cashew Industry Information Support System, made up of four components:

- A comprehensive database of the cashew literature published since 1979 of both Australian and overseas origin;
- A review of Australian cashew literature;
- A manual of 'best estimate' management strategies aimed at benefiting existing and new growers by encouraging good management decisions that lead to sustainable economic returns with minimum long term risks to the environment; and
- A mechanism for regularly updating the manual and maintaining contact within the Australian cashew industry.

This report describes the development of the Information Support System. The three major outcomes of the project are attached as separate appendices:

1. *Cashew Literature Database: 1979-1998* contains about 1250 citations collated into 53 subject matter areas;
2. *Review of Australian Cashew Literature* is the result of critically reviewing the published literature of Australian cashew research, and attempts to place that information in the context of overseas information; and
3. *Cashew Information Kit* is a publication of the Queensland Department of Primary Industries Agrilink Project and contains cultural information for cashews adapted to Australian conditions. It is the outcome of an information gathering workshop attended by key resource personnel drawn from the major Australian research institutions and the Australian cashew industry.

This report, a new addition to RIRDC's diverse range of over 450 research publications, forms part of our New Plant Products research program which aims to facilitate the development of new industries based on plants or plant products that have commercial potential for Australia.

Most of our publications are available for viewing, downloading or purchasing online through our website:

- downloads at www.rirdc.gov.au/reports/Index.htm
- purchases at www.rirdc.gov.au/pub/cat/contents.html

Peter Core
Managing Director
Rural Industries Research and Development Corporation

Acknowledgments

I wish to acknowledge the advice and leadership given by the late Dr Elias Chacko. As leader of the CSIRO Cashew Multi-Divisional Project within the CSIRO Tropical Agri-Exports Project, Dr Chacko initiated the concept of an Australian Cashew Growers' Manual.

The undertaking and successful completion of this project has been a team effort by people from the Australian cashew industry, and research personnel from CSIRO, QDPI, QDNR, NTDPIF, and AGRIC. WA. The institutional support provided by these organisations is acknowledged.

Financial support has been provided by RIRDC, CSIRO Land and Water, and the Agrilink Project of QDPI, and this is gratefully acknowledged.

I am especially grateful to the following people for their advice, discussions, contributions and assistance at various stages of the project:

Literature database –

- John Leonardi, CSIRO Plant Industry, Darwin, who provided much of the reference material on the floral biology of cashew;
- Shaun Hood, QDPI, Nambour, who provided many of the references on insect pests and pest management;
- Ian Duncan, Sydney, who provided the reference material in the 'grey literature' published in India and Africa; and
- Joe Ascenso, Lisbon, Portugal, who provided the reference material in the 'grey literature' from South America.

Cashew Manual –

Special thanks go to Irene Kernot, QDPI, Mareeba, who organised the Information Gathering Workshop and was the coordinating author of the manual;

- John James, Agrilink Project QDPI, Nambour, who facilitated the Information Gathering Workshop;
- The participants of the workshop who became the authors of the manual –
 - Pat O'Farrell, QDPI, Mareeba;
 - John Armour, QDNR, Mareeba;
 - Sam Blaikie, CSIRO Plant Industry, Darwin;
 - Ian Duncan, Australian Cashew Company, Sydney;
 - Andrew Hinton, QDPI, Mareeba;
 - Shaun Hood, QDPI, Nambour;
 - Vinod Kulkarni, NTDPIF, Berrimah;
 - John Leonardi, CSIRO Plant Industry, Darwin;
 - Peter Shearer, Cashews Australia, Dimbulah; and
 - Nick Richards, AGRIC. WA, Kununurra.

Contents

Foreword.....	ii
Acknowledgments	iv
Abbreviations.....	vi
Executive Summary	vii
1. Introduction	1
2. Objectives.....	1
3. Methodology	1
3.1 Literature Database.....	1
3.2 Overview of Cashew Literature.....	2
3.3 Australia Cashew Growers' Manual	2
3.4 Updating the Manual	3
4. Results and Discussion.....	3
4.1 Literature Database.....	3
4.2 Overview of Cashew Literature Relevant to Australia: 1979-1998	6
4.3 Australian Cashew Growers' Manual	6
4.4 Mechanism for Updating the Manual.....	6
5. Implications	7
6. Recommendations	7
7. Intellectual Property	8
8. Communications Strategy	8
9. References	8
Appendix 1.	10
Appendix 2.	133
Appendix 3 The Cashew Information Kit - This kit can be obtained from the Department of Primary Industries, Queensland. The freecall number is 1800 677 640.	

Abbreviations

A\$	Australian Dollars
Agric. WA	Agriculture Western Australia
B	Boron
Ca	Calcium
CAB	Commonwealth Agricultural Bureau
CNSL	Cashew Nut Shell Liquid
CPRS	Coastal Plains Research Station, NT
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cu	Copper
cv.	cultivar; clone; selection; variety
Fe	Iron
g	gram
h	hours
ha	hectare
IPM	Integrated Pest Management
IRR	Internal Rate of Return
K	Potassium
kg	kilogram
kPa	kilo Pascals
L	litres
m	metre
MDIA	Mareeba-Dimbulah Irrigation Area
mg	milligram
Mg	Magnesium
mm	millimetre
Mn	Manganese
Mo	Molybdenum
MPa	Mega Pascal
N	Nitrogen
NaCl	Sodium chloride
NIS	Nut-in-shell
NT	Northern Territory
NTDPIF	Northern Territory Department of Primary Industries and Fisheries
NTU	Northern Territory University
ORIA	Ord River Irrigation Area
QDNR	Queensland Department of Natural Resources
QDPI	Queensland Department of Primary Industries
P	Phosphorus
ppm	parts per million; equivalent to mg kg ⁻¹
R&D	Research and Development
RIRDC	Rural Industries Research and Development Corporation
S	Sulfur
t	metric tonne (1,000 kg)
VAM	Vesicular-arbuscular mycorrhizal fungi
WA	Western Australia
Zn	Zinc

Executive Summary

Background

Over recent years, Australia has imported cashew kernels, valued at up to A\$30 million annually. However, there are large areas of land in northern Australia that are climatically and edaphically suitable for growing cashews. Over the past decade, RIRDC-funded research has led to the development of high-yielding cashew hybrids that produce kernels of superior quality to that available in overseas countries. This combination of suitable soils, a suitable climate, and superior genetic material offers an opportunity to expand the Australian cashew industry, initially to replace imported kernels, and ultimately to become a net exporter of cashew nuts and/or kernels.

Existing and potential cashew growers at the RIRDC Review of Cashew R&D Workshop held in August 1996 at Kuranda, North Queensland, strongly supported the need for a manual of 'best estimate' management practices to guide decision making in the Australian cashew industry. This project aims to provide an Information Support System to assist in the establishment of an Australian cashew industry that is sustainable, economically viable, and environmentally neutral.

Objectives

The project objectives were to foster the establishment and expansion of an Australian cashew industry by providing an Information Support System comprising:

1. a database of published literature on the culture, processing and marketing of cashews;
2. an overview of the published literature relevant to the culture of cashew in Australia;
3. an Australian Cashew Growers' Manual; and
4. a mechanism for regularly updating the manual and maintaining on-going contact within the Australian cashew industry.

Methodology and Outcomes

Database and overview of cashew literature

A comprehensive database of the cashew literature was prepared from library databases provided by CAB, Agricola, Biological Abstracts, and Current Contents. Consultants were employed to search the 'grey literature' in Australia (eg. RIRDC reports) and the less accessible Brazilian, African, and Indian literature for references relevant to the Australian cashew industry. It was decided to restrict content of the database to literature published since 1979 because previously published cashew bibliographies provided lists of published literature up to that year. The recovered references were compiled into a database using Procite® software. Search profiles were developed to extract relevant information into 53 subject matter areas. Output from each subject matter area was forwarded to resource personnel who had agreed to attend the Information Gathering Workshop for the manual.

Key resource people critically reviewed of the literature relevant to their area of specialisation; these overviews were made available to all participants at an Information Gathering Workshop.

Australian Cashew Growers' Manual

A three-step process was used:

1. An Information Gathering Workshop was held, facilitated by QDPI Agrilink Project team members, at which key resource people (members of the Australian cashew industry and cashew researchers from CSIRO, QDPI, QDNR, AGRIC. WA, and NTDPIF) provided input for the manual.
2. Preparation and editing of the various drafts of the manual was undertaken by a joint CSIRO-QDPI editorial team. The first and penultimate drafts were checked by the resource personnel.
3. Marketing of the manual will be undertaken by the QDPI Agrilink Project.

Updating the manual

It is proposed that the content of the manual be updated on a regular basis by the QDPI Agrilink Project. A separate agreement may be needed between RIRDC and QDPI to achieve this objective.

Implications

There are good prospects for the future of an Australian cashew industry:

- World trade exceeds A\$3 billion, and is increasing steadily.
- Australian imports of cashew kernel are valued at A\$20–35 million annually, and demand is increasing steadily.
- CSIRO has produced high-yielding, precocious hybrids that have kernels with superior quality to that available from our overseas competitors.
- Northern Australia has sufficient areas with suitable soil with local water resources to become a net exporter of cashews.
- Recent developments provide for a fully mechanised operation, including harvesting, processing and shelling, within Australia.
- The cultural requirements of the cashew tree under Australian conditions are better understood.

New investors are keen to expand the plantings of cashew from its current size of about 280 ha to over 2,000 ha by 2002. If the experimental yields of 15–35 kg NIS tree⁻¹ obtained from the CSIRO hybrids can be converted into commercial yields of 20 kg tree⁻¹, an Australian cashew industry of 2,000 ha at a planting density of 200 trees ha⁻¹ could be expected to yield about 8,000 tonnes of nut-in-shell annually. Assuming a price of A\$1.63 kg⁻¹ for nut-in-shell, and a shelling percentage of 30% with kernel valued at \$5.45 kg⁻¹, the industry would produce kernel valued at about A\$13 M annually. In 1995, Australia imported about 5,000 tonnes of cashew kernels, valued at about A\$30 M. When these new plantings become mature trees by about the year 2010, they could be expected to replace 20-30% of Australia's imports of cashew kernels, and to establish a firm basis for continued expansion of the industry.

The manual is expected to play a major role in encouraging new investors into the infant Australian cashew industry where it will play an important role as a source of 'best practices' for the establishment and management of new and existing cashew plantations.

Recommendations

The outcomes of this study are:

- A comprehensive database of the more recent cashew literature is available on Procite ® software and in hardcopy format. It could be marketed in either format. However, the market in Australia is expected to be selective, small, and not commercially viable. Nevertheless, it is recommended that the information be made available to the wider community as either a RIRDC Technical Report or as a CSIRO Land and Water Divisional Technical report.
- An overview of the Australian cashew literature was completed and is available in electronic and hardcopy format. It was recommended that the overview be made available to the wider community in the first instance as a Technical Report published either by CSIRO or RIRDC.
- The cashew manual was prepared as a QDPI publication, the Agrilink *Cashew Information Kit*. It is recommended that QDPI be encouraged to market the publication vigorously and widely on the Australian and international scene.
- RIRDC and QDPI are encouraged to ensure that funds are available to regularly update the cashew manual. If necessary, RIRDC and QDPI may need to enter into a separate agreement to progress the updating of the manual.

1. Introduction

The cashew (*Anacardium occidentale* L.) has been described as a small to medium-sized tree found in northern South America (Mitchell and Mori 1987). Cashew produces a nutritious, edible kernel that is highly valued as a food and is used widely in confectionary. It has a long history of cultivation in Central and South America, South-East Asia, India, and tropical Central Africa (Ohler 1979; Gibbon and Pain 1985; Nagy *et al.* 1990) where it is grown by smallholder farmers in small plantations and by large commercial plantations of over 200 hectares with more than 40,000 trees (Ohler 1979; Lima 1988c). Over the past decade, interest in cashew cultivation in Australia has resulted in the establishment of a 200 ha commercial plantation at Dimbulah, North Queensland (P. Shearer, personal communication), and smaller, trial plantings in the Northern Territory at Wildman River, Katherine, Melville Island, and La Belle Downs (AGTRANS RESEARCH 1996).

Despite the increasing interest in the cultivation of cashew in Australia because of the likelihood of long-term price stability on the world market for cashew nuts (NOMISMA 1994), there is no readily available guide to the cultural requirements of cashew under Australian conditions. Existing and potential cashew growers at the RIRDC Review of Cashew R&D Workshop held in August 1996 at Kuranda, North Queensland, strongly supported the need for a manual of 'best estimate' management practices to guide decision making in the Australian cashew industry.

With very limited published cashew research data of Australian origin available, much of the information in such a manual would need to be drawn from overseas experience. Therefore, it became essential to undertake a comprehensive literature search for the more recently published research data, to collate this material into a searchable database, and to make the output of the database available to resource persons for the cashew manual. It was also considered desirable to develop a system to update the manual as new Australian and overseas data became available in the future.

This report describes the compilation of the cashew literature database, and an overview of the recently published literature in the database that is relevant to the Australian cashew industry. It outlines the content of the cashew manual, and describes the system whereby the manual will be updated. For ease of separate publication if desired, the contents of the database, the overview of the Australian cashew literature, and the cashew manual have been attached as separate publications in appendices to this report.

2. Objectives

The project objectives were to foster the establishment and expansion of an Australian cashew industry by providing an Information Support System comprising:

1. A database of the more recently published literature on the culture, processing, uses, and marketing of cashew.
2. A review of the published literature relevant to the culture of cashew in Australia.
3. An Australian Cashew Growers' Manual.
4. A mechanism for regularly updating the manual and maintaining on-going contact within the Australian cashew industry.

3. Methodology

3.1 Literature Database

Library databases provided by CAB, Agricola, Biological Abstracts, and Current Contents were searched for all published literature dealing with all aspects of the cashew tree, its culture, its products and their uses. Unfortunately, these searches provided little material from the 'grey' literature, such as annual reports of institutions, reports on RIRDC-funded projects, and conferences and workshops

where the proceedings are not formally published, eg the RIRDC-funded cashew workshops. To overcome this problem, consultants who are recognised as world authorities on cashew, were hired to search the ‘grey’ literature in Australia, Brazil, India and Africa for input into the database.

With such a long history of cultivation, there is a considerable volume of literature on cashew. Rather than include all the literature recovered in the library searches, it was decided to focus on the material that had been published since 1979, the year of the last major bibliography listings of cashew research literature (Ohler 1979; Divakaran and Haveri 1979). Two exceptions to this rule were made: (1) all references to Australian literature were included regardless of date of publication; and (2) overseas references that were published earlier than 1979 were included when they were deemed to be especially relevant to Australian conditions. The recovered references were compiled into a database using Procite® software. Search profiles were developed to extract relevant information into 53 subject matter areas.

3.2 Overview of Cashew Literature

To ensure that the relevant information was included in the cashew manual, the output from the literature database was sent to people in the Australian cashew industry and research scientists who are, or had been actively involved in cashew research (Table 3.1). These people agreed to review the literature relevant to their area of specialisation, and to present their views at the Information Gathering Workshop as input into a cashew manual.

Table 3.1. Resource people and areas of specialisation for the Australian Cashew Growers’ Manual.

Resource person	Subject Matter Area
Dr N Grundon (CSIRO)	Plant nutrition; Response to fertilisers; Agronomy; Visual deficiency-toxicity symptoms; Root growth; Beneficial soil organisms; Soil test; Mineral element analysis; Soil fertility
Dr E Chacko (CSIRO)	Plant breeding and varietal selection; Plant physiology; Photosynthesis; Floral biology; Plantation management; Propagation
Dr S Blaikie (CSIRO)	Irrigation; Plant physiology; Photosynthesis; Plantation management
Dr J Leonardi (CSIRO)	Plant physiology; Photosynthesis; Floral biology
Mr P O’Farrell (QDPI)	Canopy growth and management; Plant nutrition; Response to fertilisers; Agronomy; Nursery and plantation management; Phenology; Propagation; Top working; Tree spacing; Weed control
Dr J Armour (QDNR)	Plant nutrition; Response to fertilisers; Soil test
Mr A Hinton (QDPI)	Cashew economics; Trade and prices
Dr V Kulkarni (NTDPIF)	Plant breeding and varietal selection; Plant Protection - Diseases
Mr N Richards (Agric. WA)	Irrigation; Plant nutrition; Response to fertilisers; Agronomy
Dr S Hood (QDPI)	Plant protection - Insect pest; Biocontrol of cashew pests
Mr P Shearer (Cashews Australia Ltd)	Marketing; Trade and Prices; Processing; Harvesting; Mechanisation; Plantation management
Mr I Duncan (Australian Cashew Co. Pty Ltd)	Marketing; Processing; Trade and Prices; Harvesting; Plantation management

3.3 Australia Cashew Growers’ Manual

A three-step process was used to coordinate gathering the input data, collating the information into the text, writing, editing, publishing, and marketing of the manual:

1. An Information Gathering Workshop was held, facilitated by QDPI Agrilink Project team members, at which key resource people (Table 3.1) provided input to the manual in the areas of edaphic requirements, cultivars (strains; varieties), nursery management, vegetative propagation, plantation management, plant spacing, canopy management, pest and disease management, irrigation, fertiliser management, harvesting, processing, marketing and economics.
2. Preparation and editing of the various drafts of the manual was undertaken by a joint CSIRO-QDPI editorial team comprising Ms Irene Kernot (Agrilink), Mr Pat O'Farrell (QDPI) and Dr N Grundon (CSIRO). The first and penultimate drafts were forwarded to the resource personnel for checking and corrections. The final draft was edited and prepared for the printers by the QDPI Agrilink team.
3. Marketing the manual will be undertaken by the QDPI Agrilink Project

3.4 Updating the Manual

It is proposed that the contents of the manual be updated on a regular basis by the QDPI Agrilink Project. A separate agreement may be needed between RIRDC and QDPI to achieve this objective.

4. Results and Discussion

4.1 Literature Database

A total of 1322 references were recovered initially and reduced in number according to the selection criteria to about 1250 references that were compiled into a database using Procite® software, and allocated to one or more of the 53 subject matter areas listed in Table 4.1. The full citation plus published abstract, if available, were included in the database. In those instances when no abstract was published, a short summary from the text was included in the database.

Because of the great difficulty experienced in locating the publications in the 'grey' literature, the listing is not considered to be exhaustive. Nevertheless, it is a valuable list that provides a suitable update to the bibliographies of cashew literature published previously (eg Lundquist 1972; Divakaran and Haveri 1979).

The citations, collated into their subject matter areas, have been attached to this report as Appendix 1. This appendix could be printed as a separate report, either in its current format as a RIRDC Technical Report, or with slight modification to the content of the preliminary pages, as a CSIRO Land and Water Technical Report.

It could be argued that the number of citations in each subject matter area of Table 4.1 is a reflection of the amount of research being completed in that subject area, and is thus an index of the importance that the cashew industry worldwide places on that research topic. It would appear that the subjects of greatest research interest are insect pests (212 citations), propagation (135), plant composition (115), response to fertilisers (100), plant breeding and varietal selection (88), and floral biology, pollination and fruit set (87).

It is noteworthy that 152 publications refer to research originating in Australia, which represents about 11.5% of the research reported on cashews over the past two decades. Unfortunately, only 42 of these citations appear in scientific journals or published conference proceedings where they are readily available to the wider scientific community and the world-wide cashew industry; the remainder appear in the 'grey' literature such as workshop reports, and annual reports of government agencies. Another unfortunate feature of some of the publications reporting Australian research is that they are "commercial-in-confidence".

Within the Australian cashew research, the number of citations in each subject matter area reflects the research interests of a small number of productive researchers. Thus, the greatest amount of Australian cashew research has occurred in: Plant protection - insect pests (30 citations); floral

biology, pollination and fruit set (27); plant breeding and varietal selection (24); response to fertilisers (19); irrigation (15); biocontrol of insect pests (13); beneficial soil organisms (10); and root growth (10).

Table 4.1. Subject matter areas and number of citations allocated to each area within the cashew literature database.

Subject matter area	Number of citations
Agroforestry	41
Animal feed	11
Annual Reports, General Reports & miscellaneous reports	23
Beneficial soil organisms	14
Bibliography	4
Biocontrol by cashew products	31
Biocontrol of cashew pests	40
Biometrics	14
Books, texts & conference proceedings	46
Canopy growth & management	38
Cashew economics	23
Climate	4
Feasibility studies	24
Floral biology, pollination & fruit set	87
General agronomy & agronomic requirements	28
Harvesting	6
Health & medical factors	17
Industrial products	57
Intercrops	14
Irrigation	23
Marketing	20
Mechanisation	14
Mineral element concentration	51
Morphology	9
Nursery management	9
Phenology	7
Photosynthesis	13
Plant breeding & varietal selection	88
Plant composition	115
Plant growth regulator	54
Plant physiology	4
Plant protection - animal pest	10
Plant protection - diseases	67
Plant protection - insect pest	212
Plantation management	6
Processing	38
Propagation	135
Response to fertilisers	100
Revegetation	12
Root growth	28
Socioeconomic study	26
Soil conservation	6
Soil fertility	27
Soil test	11
Soil type	9
Species origin & taxonomy	5
Top-working	10
Trade and prices	12
Tree spacing	6
Tree yield	46
Visual deficiency-toxicity symptoms	14
Weed control	13
World and country production	53

4.2 Overview of Cashew Literature Relevant to Australia: 1979-1998

The second object of this study was to publish a review of the recent literature relevant to the culture of cashew in Australia. This matter was discussed at the Information Gathering Workshop for the cashew manual, where all resource personnel presented their findings on the publications they had been asked to review critically. There was unanimous agreement amongst the resource personnel:

1. That there was a very limited number of quality research papers that had been published in each subject matter area since 1979.
2. Because some of the Australian literature was “commercial-in-confidence”, it could not be referred to or used in any critical review that could be published in the scientific literature.
3. Because much of the research of Australian origin had been published in the ‘grey’ literature, it was often general in context or contained such limited data sets that it could not be reviewed critically.
4. The literature in the following subject matter areas of the database had little relevance to the culture of cashew at the current state of development of the industry in Australia: Agroforestry; Animal feed; Annual, general and miscellaneous reports; Bibliography; Biocontrol by cashew products; Biometrics; Feasibility study; Health & medicinal factors; Industrial products; Intercrops; Marketing; Morphology; Plant composition; Plant protection - diseases; Processing; Revegetation; Socioeconomic study; World and country production.
5. Much of the overseas data were very site specific or had only limited application outside its site of origin and so were of limited relevance to Australian conditions.
6. Given these reservations, a critical review could not be prepared that would be of sufficient quality to be acceptable to the external referees and editors of scientific journals.
7. Nevertheless, because over 90% of the literature on Australian cashew research is located in the ‘grey’ literature to which the wider scientific and commercial community have very limited access, an overview of Australian cashew literature should be prepared and made available to this wider scientific and commercial community.
8. Furthermore, broader reviews to include literature from non-cashew sources should be prepared on floral biology, pollination, and fruit set and Integrated Pest Management. Dr Leonardi was encouraged to produce the former, and Drs Hood and Peng were encouraged to collaborate on producing the latter (Dr Peng of NTU has since declined to collaborate in this exercise).

To satisfy the recommendation of preparing an overview of the Australian cashew literature (see 7 above), a document titled *Overview of Australian Cashew Literature* has been prepared and is attached as Appendix 2 to this report. This appendix could be printed as a separate report, either in its current format as a RIRDC Technical Report, or after slight modification to the content of the preliminary pages, as a CSIRO Land and Water Technical Report.

4.3 Australian Cashew Growers’ Manual

The second objective of this study was to prepare and publish a manual for Australian cashew growers that contained ‘best estimate’ information on the establishment and operation of a viable cashew enterprise adapted to Australian conditions. This objective was achieved with the preparation and publication of the *Cashew Information Kit* by the Agrilink Project of the Queensland Department of Primary Industries. A copy of the kit is attached as Appendix 3 to this report.

4.4 Mechanism for Updating the Manual

The final objective of this study was to develop a mechanism for updating the manual and maintaining on-going contact within the Australian cashew industry. Because the QDPI are the copyright holders

of the *Cashew Information Kit*, updating the manual will be undertaken by QDPI Agrilink Project as a normal routine matter. Likewise, contact with people within the cashew industry will be maintained through the usual channels implemented by the Agrilink Project; all people who purchase the *Agrilink Cashew Information Kit* are requested to register their contact details with QDPI so that they may be notified when update material is available, and sent information on new kits.

5. Implications

There are good prospects for the future of an Australian cashew industry:

- World trade exceeds A\$3 billion.
- Current world production is about 600,000 tonnes of nut, and is increasing steadily.
- Australian imports of cashew kernel are valued at A\$20–35 million annually.
- Cashew prefers a tropical, seasonally wet-dry climate, and light textured well drained soils.
- CSIRO has produced high-yielding, precocious hybrids that have kernels with superior quality to that available from our overseas competitors.
- Northern Australia has sufficient areas with suitable soil with local water resources to become a net exporter of cashews.
- Harvesting and cleaning machinery have been developed in Australia that make full machine harvesting possible.
- Recent overseas developments in processing machinery make it economically feasible to establish a shelling facility in Australia.
- The cultural requirements of the cashew tree under Australian conditions are better understood.

New investors are keen to expand the plantings of cashew from its current size of about 280 ha to over 2,000 ha by 2002. If the experimental yields of 15–35 kg NIS tree⁻¹ obtained from the CSIRO hybrids can be converted into commercial yields of 20 kg tree⁻¹, an Australian cashew industry of 2,000 ha at a planting density of 200 trees ha⁻¹ could be expected to yield about 8,000 tonnes of nut-in-shell annually. Assuming a price of A\$1.63 kg⁻¹ for nut-in-shell, and a shelling percentage of 30% with kernel valued at \$5.45 kg⁻¹, the industry would produce nut-in-shell or kernel valued at about A\$13 M annually. In 1995, Australia imported about 5,000 tonnes of cashew kernels, valued at about A\$30 M. When these new plantings become mature trees by about the year 2010, they could be expected to replace 20-30% of Australia's imports of cashew kernels, and to establish a firm basis for continued expansion of the industry.

This manual is expected to play a major role in encouraging new investors into the infant Australian cashew industry where it will play an important role as a source of 'best practices' for the establishment and management of new and existing cashew plantations.

6. Recommendations

The outcomes of this study are:

- **A comprehensive database of the more recent literature on all aspects of the cultivation and use of cashew trees and its products.** The database is collated on software that can be located on personal computers. As such it represents a useful research and resource tool for cashew scientists, extension personnel, and industry, either in electronic or hardcopy format. It could be marketed in either format. However, the market in Australia is expected to be selective, small, and not commercially viable. For this reason, it is recommended that the literature database be made available readily to Australian cashew researchers and the Australian cashew industry as a technical report published by CSIRO Land and Water or as a saleable report published by RIRDC.

- **An overview of the Australian cashew literature.** An overview of the literature on Australian cashew research has been prepared. While this document does not critically review the findings reported in this literature (often because insufficient data are presented in the reports to allow critical review of the data in the context of similar world data), it records and collates into a single volume the findings from Australian cashew research, and attempts to place these findings in the overall context of similar findings of the last 20 years in the world literature on cashew. As such, it is a valuable documentation of the recent findings from Australian cashew research, and it is recommended that the publication be made available to the wider scientific community and cashew industry as a technical report published by CSIRO Land and Water or as a saleable report published by RIRDC.
- **A manual for Australian cashew growers.** The cashew manual, titled *Cashew Information Kit*, has been prepared by the QDPI Agrilink Project and will be offered for sale as a QDPI publication. It is recommended that a copy of this publication be provided to each contributing author, and that further copies be made available to government agencies. QDPI should be encouraged to market the publication vigorously and widely on the Australian and international scene.
- RIRDC and QDPI are encouraged to ensure that funds are available to regularly update the cashew manual. If necessary, RIRDC and QDPI may need to enter into a separate agreement to progress the updating of the manual.

7. Intellectual Property

The intellectual property associated with the outcomes of the study are:

- the literature database of published cashew research, focusing on research originating in Australia, and overseas research mainly for the years 1979-1998;
- the overview of literature included in this report; and
- the *Agrilink Cashew Information Kit* which contains the 'best estimate' information adapted for Australian conditions for the establishment and production of a viable cashew enterprise.

Any risks involved in using this intellectual property will be protected by author acknowledgment of the relevant material in reports and in any papers submitted for publication in a scientific journal.

8. Communications Strategy

Publication to the wider scientific community of the database (Appendix 1) and the overview of the Australian cashew literature (Appendix 2) as technical reports by either RIRDC or CSIRO should be considered.

The publicity and marketing of the *Cashew Information Kit* will be undertaken by QDPI; they are the copyright holders of that publication. Likewise, updating of the information in the kit will be completed by the QDPI.

9. References

- AGTRANS RESEARCH (1996). The Cashew Research and Development Program: Performance and Future Prospects for Industry Development - Background Report, Chapters 1-4. 26p. Report to RIRDC.
- Divakaran, P. M., and Haveri, R. R. (1979). Bibliography on Cashew (*Anacardium occidentale* L.). 92p. (Central Plantation Crops Research Institute: Kasaragod, Kerala, India.)

- Gibbon, D., and Pain, A. (1985). *Crops of the Drier Regions of the Tropics*. 157p. (Longman: London, UK.)
- Lima, V. de P. M. S. (1988). Models of exploitation. *In: Cashew Tree Culture in Northeast of Brazil* (ed. V. de P. M. S. Lima). pp. 74-81. (Foraleza: Brazil).
- Lundquist, D. M. (1972). A bibliography of tree nut production and marketing research, 1965-71. Economic Research Service, US Department of Agriculture, Miscellaneous Publication No. 1255. 37p.
- Mitchell, J. D., and Mori, S. A. (1987). The cashew and its relatives (*Anacardium*: Anacardiaceae). *Memoirs of the New York Botanical Garden English* 42, 76.
- Nagy, S., Shaw, P. E., and Wardowski, W. F. (1990). *Fruits of Tropical and Subtropical Origin. Composition, Properties and Uses*. (Florida Science Source, Inc.: Lake Alfred, Florida, USA.)
- NOMISMA (1994). *The World Cashew Economy*. 2nd Ed. 218p. (L'Inchiostroblu: Bologna, Italia.)
- Ohler, J. G. (1979). *Cashew*. 260p. (Koninklijk Instituut voor de Tropen: Amsterdam, Netherlands.)

Appendix 1.



Cashew Literature Database: 1979-1998

N. J. Grundon

Cashew Literature Database: 1979-1998

N. J. Grundon

CSIRO Land and Water, P.O. Box 780, Atherton, Qld 4883, Australia

Contents

Introduction	15
Agroforestry.....	16
Animal Feed.....	19
Annual Reports, General Reports & Miscellaneous Reports	20
Beneficial Soil Organisms.....	21
Bibliography	22
Biocontrol by Cashew Products.....	23
Biocontrol of Cashew Pests	25
Biometrics	28
Books, Texts & Conference Proceedings	29
Canopy Growth & Management	32
Cashew Economics	34
Climate	36
Feasibility Studies	37
Floral Biology, Pollination & Fruit Set.....	39
General Agronomy & Agronomic Requirements	44
Harvesting.....	46
Health & Medical Factors	47
Industrial Products	48
Intercrops.....	51
Irrigation.....	52
Marketing.....	54
Mechanisation.....	55
Mineral Element Concentration	56
Morphology.....	59
Nursery Management	60
Phenology	61
Photosynthesis	62
Plant Breeding & Varietal Selection	63
Plant Composition.....	68
Plant Growth Regulator	74
Plant Physiology	77
Plant Protection - Animal Pest.....	78
Plant Protection - Disease.....	79
Plant Protection - Insect Pest	83
Plantation Management.....	94
Processing.....	95
Propagation.....	97
Response to Fertilisers	104
Revegetation.....	110
Root Growth	111
Socio-economic Study	113
Soil Conservation	115
Soil Fertility	116
Soil Test.....	118
Soil Type.....	119
Species Origin & Taxonomy	120
Top-working	121
Trade & Prices.....	122
Tree Spacing	123
Tree Yield.....	124
Visual Deficiency & Toxicity Symptoms.....	127
Weed Control.....	128

Introduction

Ready access to recently published research, development and extension information is vital to the continued development of emerging rural industries. In this respect, the Australian cashew industry is greatly disadvantaged. Not only is there only a limited amount of data available from Australian cashew research, but that data together with much data from overseas cashew research are located in the 'grey literature' that is not readily available to local researchers and growers.

At the RIRDC Review of Cashew R&D in 1996, the Australian cashew industry expressed a strong need for a manual of 'best estimate' management strategies adapted to Australian conditions. With very limited published cashew research data of Australian origin available, much of the information in such a manual would need to be drawn from overseas experience. Therefore, it became essential to undertake a comprehensive literature search for the more recently published research data, to collate this material into a searchable database, and to make the output of the database available not only to resource persons for the cashew manual, but to the wider scientific community.

With such a long history of cultivation, there is a considerable volume of literature on cashew dating to prior to 1900. Rather than include all the literature, it was decided to focus on the material that had been published since 1979, the year of the last major bibliographic listing of cashew literature.

Two exceptions to this rule were made: (1) all references to Australian literature were included regardless of date of publication; and (2) overseas references that were published earlier than 1979 were included when they were deemed to be especially relevant to Australian conditions.

A total of 1322 references were recovered initially and reduced in number according to the selection criteria to about 1250 references. The database is compiled using Procite® software, and the citations were allocated to one or more of the 53 subject matter areas. The citations, collated into their subject matter areas, follow.

Agroforestry

1. Aiyelaagbe, I. O. O. (1994). Fruitcrops in the cashew-coconut system of Kenya: Their use, management and agroforestry potential. *Agroforestry Systems* **27**, 1-16.
2. Ajit Bharthuar (1991). People's participation in social forestry project, Orissa - A case study of Jamukali Village. *Indian Journal of Forestry* **14**, 90-7.
3. Amo, R. S. d. and Ramos, P. J. (1993). Use and management of secondary vegetation in a humid-tropical area. *Agroforestry Systems* **21**, 27-42.
4. Behrens, R. (1996). Cashew As an Agroforestry Crop. Prospects and Potentials. 83p. (Margraf Verlag: Weikersheim, Germany.)
5. Buisson, D. (1986). Architectural analysis of some species of tropical fruit trees. [Analyse architecturale de quelques especes d'arbres fruitiers tropicaux.] *Fruits* **41**, 477-98.
6. Chowdhury, M. K. (1992). Kendbona Eco-Development Project - a novel approach to wasteland reclamation. *Indian Forester* **118**, 879-86.
7. Dayanand, J., Kumar, M. U., Kandasamy, R., Jothi, G. and Janardhanan, T. G. (1983). Social Forestry Project in Tamil Nadu. Evaluation of Farm Forestry Project (1960-1980) in Chengalpattu District. pp. 169. (Madras Institute of Development Studies: Madras, India.)
8. Dixit, S. and Veerabhadraiah, V. (1993). A study on the attitude of farmers towards social forestry programmes. *Myforest* **29**, 117-20.
9. Empeaire, L. and Pinton, F. (1986). Dona Flora and the cashews. [Dona Flora et les cajous.] *Journal d'Agriculture Traditionnelle et de Botanique Appliquee* **33**, 193-212.
10. FAO. (1982). Fruit-bearing forest trees: technical notes. FAO Forestry Paper No. 34. 177p.
11. Ghosh, S. N. (1993). Effect of eucalyptus (*Eucalyptus teretecornia*) plants as intercrop in the cashew plantation - a case study in West Bengal. *The Cashew* **7**, 17-9.
12. Ismail, I. (1990). Critical land rehabilitation and conservation programmes in Sragen, Karanganyar and Sleman. [Upaya rehabilitasi dan konservasi lahan-lahan kritis di Sragen, Karanganyar dan Sleman.] *Berita Pusat Penelitian Perkebunan Gula Indonesia* **3**, 6-8.
13. Karch, G. E., Sullivan, G. M., Huke, S. M. and Fox, J. M. (1992). Comparison of agroforestry practices in Senegal using financial analysis. *Financial and Economic Analyses of Agroforestry Systems: Proceedings of a Workshop Held in Honolulu, Hawaii, USA, July 1991*. pp. 109-24. (Nitrogen Fixing Tree Association (NFTA), Paia, USA.)
14. Kato, T. (1991). Modeling site specific monitoring and evaluation systems for two Japanese assisted social forestry programs: a case of RP-Japan Forestry Development Project in central Luzon. The Current State of Japanese Forestry (VII) Its Problems and Future: Contributions to IUFRO, Division 4. pp. 73-85. (Japanese Forest Economic Society: Tokyo, Japan.)
15. Kavathekar, K. Y., Panda, P. K., Sastry, T. C. S., Rajendra Gupta, Rethinam, P., Edison, S., Pareek, O. P., Suneel Sharma, Chadha, K. S., Bhag Mal, Sudhir Kochhar, Kallarackal, J., Somen, C. K., Farooqi, M. I. H., Abrol, I. P., Rekib, A., Upadhyay, V. S., Pathak, P. S., Jhamb, V. N. and Bhatt, V. S. (1991). Trees for life. *Indian Farming* **41**, 1-70.
16. Kumar, B. M., George, S. J. and Chinnamani, S. (1994). Diversity, structure and standing stock of wood in the homegardens of Kerala in peninsular India. *Agroforestry Systems* **25**, 243-62.
17. Kumar, P. H. (1981). Problems and prospects of establishing a plantation forestry with *Casuarina*, cashew and coconut in the coastal belt of India. *Rivista di Agricoltura Subtropicale e Tropicale* **75**, 317-23.
18. Mailly, D., Ndiaye, P., Margolis, H. A. and Pineau, M. (1994). Sand dune stabilization and afforestation with filao (*Casuarina equisetifolia*) in the coastal area of northern Senegal. [Fixation des dunes et reboisement avec le filao (*Casuarina equisetifolia*) dans la zone du littoral nord du Senegal.] *Forestry Chronicle* **70**, 282-90.
19. Milian, N., Herrero, G. and Sanchez, A. (1992). Prueba de especies forestales en zonas degradadas por la mineria a cielo abierto. *Revista Baracoa* **22**, 83-9.
20. Nair, P. K. R. (1980). Agroforestry Species. A Crop Sheets Manual. 336p. (International Council for Research in Agroforestry: Nairobi, Kenya.)
21. Nepstad, D. C., Uhl, C. and Serrao, E. A. S. (1991). Recuperation of a degraded Amazonian

- landscape: forest recovery and agricultural restoration. *Ambio* **20**, 248-55.
22. Palanisamy, K., Yadukumar, N. and Rao, E. V. V. B. (1993). Physiological characteristics of cashew in intercropped system. *Plant Physiology and Biochemistry (New Delhi)* **20**, 99-101.
 23. Patro, C. and Behera, R. N. (1979). Cashew helps to fix sand dunes in Orissa. *Indian Farming* **28**, 31-2.
 24. Peltier, R., Triboulet, C., Njiti, C. F. and Harmand, J. M. (1993). The Sudanian pioneer frontier. Evaluation of cleared areas by remote sensing. Contribution of forestry research and development programmes to sustainable land management. Examples from projects in NE Benoue and SE Benoue in Cameroon. [Les fronts pionniers soudaniens. Evaluation des defrichements par teledetection. Contribution des projets de developpement et de la recherche orestiere a un aménagement durable. Exemples tires des projets Nord-Est Benoue et Sud-Est Benoue au Cameroun.] *Bois et Forets des Tropiques* **236**, 5-22.
 25. Prasad, G. K., Singh, S. K., Das, P. K. and Nath, S. (1996). Performance of MPT species under demonstration plantation in West Bengal. Part I : site factors and growth parameters. *Van Vigyan* **34**, 148-61.
 26. Prasad, R. and Dhuria, S. S. (1989). Reclamation of iron ore mined-out areas: biomass production efficiency of species. *Journal of Tropical Forestry* **5**, 51-6.
 27. Rao, P. S. (1979). The place of cashew in forest land. *Indian Farming* **28**, 13-5.
 28. Reddy, C. V. K. (1979). Shelter belts against storms and cyclones on the coast. *Indian Forester* **105**, 720-6.
 29. Rikken, G. (1993). The Greening of Libertad: Case Study of Self-Help Approach to Natural Resource Management Featuring the Libertad Planters Association. 65p. (Asian Social Institute: Manila, Philippines.)
 30. Rudjiman. (1981). Multiple-purpose species for planting on critical soils on Java. Wiersum, K. F. : Observations of Agroforestry on Java, Indonesia. Report on an Agroforestry Course Organized at Forestry Faculty, Gadjah Mada University, Yogyakarta. pp. 76-89. (Department of Forest Management, Agricultural University: Wageningen, Netherlands.)
 31. Salem, M. A., Sathees Babu, K. and Mohanakumaran, N. (1992). Home-garden agroforestry in Kerala will prove more profitable with planning. *Indian Farming* **42**, 22-4.
 32. Sekar, C. and Karunakaran, K. R. (1994). Economic analysis of cashew plantations under agroforestry conditions of central Tamil Nadu. *Journal of Tropical Forest Science* **6**, 523-8.
 33. Sivanandam, R., Kandaswamy, A. and Ramaswamy, C. (1981). Returns to investment in forest plantations. *Financing Agriculture* **13**, 21-6.
 34. Soerianegara, I. and Mansuri (1994). Factors which determine the success of regreening in Gunung Kidul, Central Java. *Journal of Tropical Forest Science* **7**, 64-75.
 35. Sudha, M. and Reddy, Y. V. R. (1990). Comparative economics of casuarina, cashew vs. annual dryland crop in coastal Andhra Pradesh. *Agricultural Situation in India* **44**, 825-30.
 36. Suhita, C. and Deepankar, C. (1990). Integrating conservation and development: a case study of the socio-economic forestry complex at Arabari, West Bengal. *International Tree Crops Journal* **6**, 193-204.
 37. Taylor, S. (1993). Sustainable aqua-agro-silvo-touro-pastoralism on a few hectares in Goa state, India. *Sylva* **56**, 14-6.
 38. Thuveson, D. (1995). Special issue: Rapid and participatory rural appraisal. Forests, Trees and People Newsletter No. 26/27. 95p.
 39. Torres, F. and Zulberti, E. (1987). Role of woody perennials in animal agroforestry. *Professional Education in Agroforestry. Proceedings of an International Workshop, 5-10 December 1982, Nairobi, Kenya.* pp. 266-316. (International Council for Research in Agroforestry (ICRAF): Nairobi, Kenya.)
 40. Tri, L. Q., Nhan N. van, Huizing, H. G. J. and Van Mensvoort, M. E. F. (1993). Present land use as basis for land evaluation in two Mekong delta districts. *Selected Papers of the Ho Chi Minh City Symposium on Acid Sulphate Soils; Ho Chi Minh City, Viet Nam, March 1992.* pp. 299-320.
 41. Watanabe, H., Sahunalu, P. and Khemmark, C. (1988). Combinations of trees and crops in the

taungya method as applied in Thailand. *Agroforestry Systems* **6**, 169-77.

Animal Feed

1. Adegbola, T. A. and Mecha, I. (1982). The utilization of browse plants by goats in southern Nigeria. *Proceedings of the Third International Conference on Goat Production and Disease*. pp. 533.
2. Anugwa, F. O. I. and Okori, A. U. (1987). The nutritive value of leaves of three Nigerian browse plants eaten by sheep. *Bulletin of Animal Health and Production in Africa* **35**, 223-8.
3. Awolumate, E. O. (1983). Chemical composition and potential uses of processing wastes from some Nigerian cash crops. *Turrialba* **33**, 381-6.
4. Chakraborty, N. (1986). Assessment of feeding value of cashew (*Anacardium occidentale*) skin powder on starting chicks. *Indian Journal of Animal Health* **25**, 133-6.
5. Deholanda, J. S., de Oliveira, A. J. and Ferreira, A. C. (1998). Protein enrichment of casgew waste with yeast for animal alimentation. *Pesquisa Agropecuaria Brasileira* **33**, 787-92.
6. Kadirvel, R., Mohan, B., Natarajan, A. and Bhaskaran, M. (1993). The value of cashew apple (*Anacardium occidentale* L.) meal in broiler rations. *Tropical Agriculture* **70**, 294-6.
7. Lakshmipathi, V., Thirumalai, S., Vishwanathan, M. R. and Venkatakrishnan, R. (1990). Cashew apple-meal as feed for chicks. *Indian Journal of Poultry Science* **25**, 296-7.
8. Onifade, A. A., Tewe, O. O., Fanim, A. O., Okunola, O. O. and Afolabi, A. B. (1998). Replacement value of cashew nutmeal for groundnut-cake in pullet diets - Effect on pre-laying performance and serum biochemical indices. *Indian Journal of Animal Sciences* **68**, 273-5.
9. Raj, A. G. and Kadirvel, R. (1980). The nutritive value of cashew cake in a chick starter mash. *Indian Journal of Poultry Science* **15**, 204-6.
10. Stamford, T. L. M., Vieira, R., Guerra, N. B., de Medeiros, R. B. and Cavalcante, M. L. (1988). Protein enrichment of cashew wastes for animal feeds. *Food and Nutrition Bulletin* **10**, 61-4.
11. Sundaram, R. N. S. (1986). Utilization of cashew apple waste in dairy cattle feed. *Indian Journal of Animal Nutrition* **3**, 124-7.

Annual Reports, General Reports & Miscellaneous Reports

1. Central Food Technological Research Institute, India. (1981). Annual Report April 1980-March 1981. pp. 147. (Mysore, India.)
2. Cocoa Research Institute, Nigeria. (undated). Annual Report 1983. pp. 88. (Ibadania, Niger.)
3. Cocoa Research Institute, Nigeria. (undated). Annual Report 1986. pp. 90. (Ibadania, Niger.)
4. Cocoa Research Institute, Nigeria. (1987). Annual Report 1987. pp. 88. (Ibadania, Niger.)
5. CPCRI, India. (1986). Annual Report of the Central Plantation Crops Research Institute 1985. pp. 213. (Central Plantation Crops Research Institute: Kasaragod, India.)
6. Crisostomo, J. R., Gadelha, J. W. R., Araujo, J. P. P. and Barros, L. M. (1992). Cashew clonal seedlings versus unselected tree seedlings. *Caju Informativo* No. 5. 4p. (Centro Nacional de Pesquisa de Caju: Fortaleza, Brazil.)
7. CSIRO, Australia. (1988). Division of Horticulture. Report 1985-88. pp. 121. (Commonwealth Scientific and Industrial Research Organization, Division of Horticulture: Adelaide, Australia.)
8. CSIRO, Australia. (1991). Division of Horticulture. Report 1989-91. pp. 40. (Commonwealth Scientific and Industrial Research Organization, Division of Horticulture: Adelaide, Australia.)
9. Dayanand, J., Kumar, M. U., Kandasamy, R., Jothi, G. and Janardhanan, T. G. (1983). Social Forestry Project in Tamil Nadu. Evaluation of Farm Forestry Project (1960-1980) in Chengalpattu District. 169p. (Madras Institute of Development Studies: Madras, India.)
10. de la Cruz, F. Jr. (1993). Status of cashew production in the Philippines. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
11. DPIF, NT. (1996). Horticulture Division Technical Annual Report 1994-1995. Northern Territory, Department of Primary Industry and Fisheries Technical Bulletin No. 242. 83.
12. DPIF, NT. (1997). Horticulture Division Technical Annual Report 1995-1996. Northern Territory, Department of Primary Industry and Fisheries Technical Bulletin No. 257. pp. 71.
13. Duncan, I. E. (1994). The Wildman River Cashew Project: An Introductory Profile. 14p. (Wildman River Plantations Pty Ltd:
14. FAO. (1982). Fruit-bearing forest trees: technical notes. FAO Forestry Paper No. 34. 177p.
15. Iyer, R. and Thomas, G. V. (1990). Research Highlights 1989-90. pp. 12. (India, Central Plantation Crops Research Institute: Kasaragod, Kerala, India.)
16. Kirkpatrick, J. (1996). Cashews. A new industry full of promise. *Good Fruit and Vegetables* 7, 11-4.
17. Ministry of Agriculture and Community Development, Sarawak. (1991). Annual Report of the Research Branch, Department of Agriculture, 1990. pp. 192. (Ministry of Agriculture and Community Development: Kuching, Sarawak.)
18. Ministry of Agriculture & Community Development, Malaysia. (undated). Annual Report 1991. pp. 211. (Lee Ming Press: Kuching, Sarawak.)
19. Pereira, J. R., Grandi, J. C. d. and Bartolucci, I. (1985). Agricultural Research Resource Assessment in the SADCC Countries. Volume 2. Country Report: Mozambique. 100p. (Consultative Technical Committee for Agricultural Research, Southern African Development Coordination Conference: Gaborone, Botswana.)
20. Sturtz, J. D. (1984). Anacardiaceae. *In: Tropical Tree Fruits for Australia.* (ed. P. E. Page.) 20-4. (Queensland Department of Primary Industries: Brisbane.)
21. University of Agricultural Sciences, Hebbal, India. (1985). Annual Report 1983-84. pp. 272. (Hebbal, Bangalore, India.)
22. University of Agricultural Sciences, Hebbal, India. (1986). Plant Sciences. University of Agricultural Sciences Twenty-First Annual Report (April 1, 1985 to March 31, 1986). pp. 130-164. (University of Agricultural Sciences: Hebbal, Bangalore, India.)
23. Waite Agricultural Research Institute, Australia. (undated). Biennial Report 1980-81. pp. 216. (Adelaide University: Glen Osmond, South Australia.)

Beneficial Soil Organisms

1. Azizah, C., Yaacob, O., Kamal, A. J. M. and Paramanathan, S. (1983). Distribution of VA mycorrhizal spores in sandy beach soils under cashew. *Pertanika* **6**, 15-20.
2. Haugen, L. M. (1991). Mycorrhizas in Cashews. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
3. Haugen, L. M. and Smith, S. E. (1992). The effect of high temperature and fallow period on infection of mungbean and cashew roots by the vesicular-arbuscular mycorrhizal fungus *Glomus intraradices*. *Plant and Soil* **145**, 71-80.
4. Haugen, L. M. and Smith, S. E. (1993). The effect of inoculation of cashew with NutriLink on vesicular arbuscular mycorrhizal infection and plant growth. *Australian Journal of Agricultural Research* **44**, 1211-20.
5. Jennings, B. (1993). Time of outplanting of cashews in Kununnurra, WA. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
6. Krishna, K. R., Balakrishna, A. N. and Bagyaraj, D. J. (1983). Mycorrhizal symbiosis in cashew. *Current Research, University of Agricultural Sciences, Bangalore* **12**, 17-8.
7. Krishnaraj, P. U. and Gowda, T. K. S. (1990). Occurrence of phosphate-solubilizing bacteria in the endorhizosphere of crop plants. *Current Science* **59**, 933-4.
8. Millington, A. J. (1989). Voyager Enterprises Pty Ltd. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
9. Millington, A. J. (1990). Voyager Enterprises : Cashew Project : Kununurra. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 35-6.
10. Millington, A. J. (1991). An overview of Voyager Enterprises Development Program and Research Support at Kununurra. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
11. Millington, A. J. (1992). Cashew research: Overview Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 1-6.
12. Sivaprasad, P., Sulochana, K. K., Babu George, and Salam, M. A. (1992). Growth and phosphorus uptake of cashew (*Anacardium occidentale* L.) as influenced by inoculation with VA mycorrhizae. *The Cashew* **6**, 16-8.
13. Smith, S. E. (undated). The Role of Mycorrhizas in Cashew Seedling Growth and Establishment. Final Report to RIRDC on Project UA8. 22p. (RIRDC: Canberra, ACT.)
14. Vogelzang, B. (1992). Mycorrhizas in cashew. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 28-33.

Bibliography

1. Divakaran, P. M. and Haveri, R. R. (1979). Bibliography on Cashew (*Anacardium occidentale* L.). 92p. (Central Plantation Crops Research Institute: Kasaragod, Kerala, India.)
2. IDC. (1995). Factors Affecting Cashew Spacing: Local Observations and a Literature Review. 24p. (IDC: South Africa.)
3. Lundquist, D. M. (1972). A bibliography of tree nut production and marketing research, 1965-71. Economic Research Service, US Department of Agriculture, Miscellaneous Publication No. 1255. 37p.
4. Torres, F. and Zulberti, E. (1987). Role of woody perennials in animal agroforestry. *Professional Education in Agroforestry. Proceedings of an International Workshop, 5-10 December 1982, Nairobi, Kenya.* pp. 266-316. (International Council for Research in Agroforestry (ICRAF): Nairobi, Kenya.)

Biocontrol by Cashew Products

1. Carrara, G., Munoz, G. C. and Damho, L. (1984). Larvicidal effect of cashew nut husk bagasse: its possible use in malariology in the antivector control programmes. *Revista Medica de Mocambique* **2**, 78-82.
2. Casadei, E., Bruheim, S. and Latis, T. (1984). Active substances in cashew nut shell with molluscicidal activity: possible use in schistosomiasis control programmes. [Principios activos da casca de castanha de caju com accao moluscocida: possivel emprego no programa de luta contra a esquistossomose.] *Revista Medica de Mocambique* **2**, 35-9.
3. Consoli, R. A. G. B., Mendes, N. M., Pereira, J. P., Santos, B. S. and Lamounier, M. A. (1988). Influence of some plant extracts on the survival of larvae of *Aedes fluviatilis* (Lutz) (Diptera: Culicidae) in the laboratory. [Influencia de diversos derivados de vegetais na sobrevivencia das larvas de *Aedes fluviatilis* (Lutz) (Diptera: Culicidae).] *Memorias do Instituto Oswaldo Cruz* **83**, 87-93.
4. Consoli, R. A. G. B., Mendes, N. M., Pereira, J. P., Santos, B. S. and Lamounier, M. A. (1989). Influence of several plant extracts on the oviposition behaviour of *Aedes fluviatilis* (Lutz) (Diptera: Culicidae) in the laboratory. *Memorias do Instituto Oswaldo Cruz* **84**, 47-51.
5. Echendu, T. N. C. (1991). Ginger, cashew and neem as surface protectants of cowpeas against infestation and damage by *Callosobruchus maculatus*. *Tropical Science* **31**, 209-11.
6. Echendu, T. N. C., Njoku, B. O., Oti, E., Odurukwe, S. O. and Ene, L. S. O. (1988). Preliminary investigations into the use of ginger, neem and cashew nut shell liquid (CNSL) to reduce damage caused to stored cowpeas by *Callosobruchus maculatus*. *Proceedings of the First National Ginger Workshop, Umudike, Nigeria, 17-21 October 1988*. pp. 124-8. (National Root Crops Research Institute: Umdikeia, Niger.)
7. Evans, D. A. and Raj, R. K. (1988). Extracts of Indian plants as mosquito larvicides. *Indian Journal of Medical Research* **88**, 38-41.
8. Franca, F., Cuba, C. A. C., Moreira, E. A., Miguel, O., Almeida, M., de L das Virgens, M. and Marsden, P. D. (1993). Evaluation of effect of the white cashew tree (*Anacardium occidentale* L.) cortex extract in treatment of *Leishmania (Viannia) brasiliensis* infection. [Avaliacao do efeito do extrato de casca de cajueiro branco (*Anacardium occidentale* L.) sobre a infeccao por *Leishmania (Viannia) brasiliensis*] *Revista da Sociedade Brasileira de Medicina Tropical* **26**, 151-5.
9. Franca, F., Lago, E. L. and Marsden, P. D. (1996). Plants used in the treatment of leishmanial ulcers due to *Leishmania (Vannia) braziliensis* in an endemic area of Bahia, Brazil. *Revista da Sociedade Brasileira de Medicina Tropical* **29**, 229-32.
10. Ganesan, T. (1994). Antifungal properties of wild plants. *Advances in Plant Sciences* **7**, 185-7.
11. Garg, S. C. and Kasera, H. L. (1984). Antibacterial activity of the essential oil of *Anacardium occidentale* Linn. *Indian Perfumer* **28**, 95-7.
12. Jain, J. K., Virendra, N. and Gazwal, A. K. (1989). Studies on the efficacy of cashew nut shell liquid as compared to normal creosote against termites in the termite mound. *Journal of the Timber Development Association of India* **35**, 51-4.
13. Jayaraman, K. S. (1985). Longer life for thatched roof. *Nature* **317**, 376.
14. Jurberg, P., Sarquis, O., Dos Santos, J. A. A. and Ferreira R da C R (1995). Effect of niclosamide (Bayluscide WP 70 R), *Anacardium occidentale* hexane extract *Euphorbia splendens* latex on behavior of *Biomphalaria glabrata* (Say, 1818), under laboratory conditions. *Memorias do Instituto Oswaldo Cruz* **90**, 191-4.
15. Kubo, I., Komatsu, S. and Ochi, M. (1986). Molluscicides from the cashew *Anacardium occidentale* and their large-scale isolation. *Journal of Agricultural and Food Chemistry* **34**, 970-3.
16. Kubo, I., Schilcher, H., Phillipson, J. D. and Loew, D. (1993). Non-isoprenoid long chain phenols from the cashew *Anacardium occidentale* (Anacardiaceae) nut shell oil as potential antibacterial agents. *First World Congress on Medicinal and Aromatic Plants for Human Welfare (WOCMAP), Maastricht, Netherlands, 19-25 July 1992*. pp. 199-205.

17. Laurens, A., Fourneau, C., Hocquemiller, R., Cave, A., Bories, C. and Loiseau, P. M. (1997). Antivectorial activities of cashew nut shell extracts from *Anacardium occidentale* L. *Phytotherapy Research* **11**, 145-6.
18. Lepage, E. S. and de Lelis, A. T. (1980). Protecting wood against dry-wood termites with cashewnut shell oil. *Forest Products Journal* **30**, 35-6.
19. Marques, M. R., Albuquerque, L. M. B. and Xavier, F. J. (1992). Antimicrobial and insecticidal activities of cashew tree gum exudate. *Annals of Applied Biology* **121**, 371-7.
20. Mendes, N. M., Oliveira, A. B. d., Guimaraes, J. E., Pereira, J. P. and Katz, N. (1990). Molluscicidal activity of a mixture of 6-n-alkyl salicylic acid (anacardic acid) and two of its complexes with copper (II) and lead (II). [Atividade moluscicida da mistura de acidos 6-n-alquil salicilicos (acido anacardico) e dos seus complexos com cobre (II) e chumbo (II).] *Revista da Sociedade Brasileira de Medicina Tropical* **23**, 217-24.
21. Mohanty, U. L., Dash, A. P., Mohapatra, N., Ranjit M. R. and Goel, S. C. (1994). Bioefficacy of *Anacardium occidentale* L against mosquitoes. *Proceedings of a Conference on Biological Control of Insect Pests, 2-4 October, 1993, Sanatan Dharm College, Muzaffarnagar, India.* pp. 139-42. (Uttar Pradesh Zoological Society: Muzaffarnagar; India.)
22. Muroi, H., Kubo, A. and Kubo, I. (1993). Antimicrobial activity of cashew apple flavor compounds. *Journal of Agricultural and Food Chemistry* **41**, 1106-9.
23. Muroi, H. and Kubo, I. (1993). Bactericidal activity of anacardic acids against *Streptococcus mutans* and their potentiation. *Journal of Agricultural and Food Chemistry* **41**, 1780-3.
24. Ndabaneze, P., Engels, D., Kavamahanga, P. C., van der Maesen, L. J. G., van der Burgt, X. M. and van Medenbach, d. R. J. M. (1996). Study of the effects of plant molluscicides from the natural flora of Burundi on *Biomphalaria pfeifferi*, the intermediate host of Bilharzia. [Etude des effets des plantes molluscicides de la flore naturelle du Burundi sur *Biomphalaria pfeifferi*, hote ntermediaire de la bilharziose.] *The Biodiversity of African Plants. Proceedings of the 14th AETFAT Congress 22-27 August 1994, Wageningen, Netherlands.* pp. 757-60. (Kluwer Academic Publishers: Dordrecht, Netherlands.)
25. Onifade, A. K. and Fawole, B. (1996). Effect of some plant extracts on the pathogenicity of *Meloidogyne incognita* on cowpea. *Global Journal of Pure and Applied Sciences* **2**, 9-15.
26. Petrini de Soria, G., Lourenco, M. I. and Rey, L. (1982). Control of *Bulinus globosus*, vectors of schistosomiasis in Mozambique, with a plant molluscicide. [Controle de populacoes de *Bulinus globosus* transmissores da esquistossomose em Mocambique, com moluscocida vegetal.] *Revista Medica de Mocambique* **1**, 75-8.
27. Rey, L., Lourenco, M. I. and Garcia C. M. (1987). Schistosomiasis: methods of control in communal villages in Mozambique. I. Control of molluscs, therapy and community participation. [Esquistossomose: metodologia de controlo em aldeias comunais de Mocambique. I. Controlo de moluscos, terapeutica e participacao comunitaria.] *Revista Medica de Mocambique* **3**, 1-7.
28. Souza, C. P. d., Mendes, N. M., Jannotti, P. L. K. and Pereira, J. P. (1992). The use of cashew nut shell of caju (*Anacardium occidentale*) as an alternative molluscicide [O uso da casca da castanha do caju, *Anacardium occidentale*, como moluscocida alternativo.] *Revista do Instituto de Medicina Tropical de Sao Paulo* **34**, 459-66.
29. Sullivan, J. T., Richards, C. S., Lloyd, H. A. and Krishna, G. (1982). Anacardic acid: molluscicide in cashew nut shell liquid. *Planta Medica* **44**, 175-7.
30. Suresh, M. and Raj, R. K. (1990). Cardol: the antifilarial principle from *Anacardium occidentale*. *Current Science* **59**, 477-9.
31. Weerasena, O. V. D. S. J., Amarasekara, A. S. and Wijesundera, R. L. C. (1993). Fungicidal activity of synthetically modified cashew nut shell. *Journal of the National Science Council of Sri Lanka* **21**, 253-8.

Biocontrol of Cashew Pests

1. Ambika, B. and Abraham, C. C. (1979). Bio-ecology of *Helopeltis antonii* Sign. (Miridae: Hemiptera) infesting cashew trees. *Entomon* **4**, 335-42.
2. Bakthavatsalam, N. and Sundararaju, D. (1990). Pathogenicity of *Oryctes baculovirus* to cashew stem and root borers. *Journal of Biological Control* **4**, 127-9.
3. Commonwealth Institute of Biological Control (1983). Possibilities for the use of natural enemies in the control of *Helopeltis* spp. (Miridae). *Biocontrol News and Information* **4**, 7-11.
4. CPCRI, India. (1986). Integrated pest management. Annual Report of the Central Plantation Crops Research Institute 1985. pp. 103-115. (Central Plantation Crops Research Institute: Kasaragod, India.)
5. Devasahayam, S. (1989). *Erythmelus helopeltidis* Gahan (Hymenoptera: Mymaridae) a new egg parasite of *Helopeltis antonii* Signoret on cashew. *Journal of the Bombay Natural History Society* **86**, 113.
6. Florence, E. J. M. (1989). Sapstain microorganisms associated with some commercially important timbers of Kerala. *Evergreen (Trichur)* **22**, 6-7.
7. Hood, S. (1993). Biological control of two of the major pests of cashew: the mango tip borer and the cashew leafroller A PhD Project. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
8. Hood, S. (1997). Role of Parasites and Predators in Cashew Pest Control. Development of an IPM Program. Ph D Thesis. (The University of Queensland: Brisbane, Queensland.)
9. Hood, S. (1994). The mango tip borer a major pest of cashew. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 69-74.
10. Houston, W. and Malipatil, M. (1991). Bioecology of cashew insects. RIRDC Research Paper Series. (RIRDC: Canberra, ACT.)
11. Jeevaratnam, K. and Rajapakse, R. H. S. (1981). Biology of *Helopeltis antonii* Sign. (Heteroptera: Miridae) in Sri Lanka. *Entomon* **6**, 247-51.
12. Jena, B. C. (1990). Cashew stem, root and wood borers and their management. *The Cashew* **4**, 5-7.
13. Jena, B. C., Patnaik, N. C. and Satapathy, C. R. (1987). Ants visiting cashew. *The Cashew* **1**, 7-8.
14. Jena, B. C., Satapathy, C. R. and Satapathy, J. M. (1987). Biological control of cashew pests. *The Cashew* **1**, 4.
15. Johnson, J. (1983). A note on some common aphidivorous insects of Kerala. *Pranikee* **4**, 415-8.
16. Khoo, K. C., Ibrahim, Y., Maelzer, D. A., Lim, T. K., Heong, K. L., Lee, B. S., Lim, T. M. and Teoh, C. H. (1982). Entomofauna of cashew in West Malaysia. *Proceedings of the International Conference on Plant Protection in the Tropics. 1-4 March, 1982, Kuala Lumpur, Malaysia.* pp. 289-94. (Malaysian Plant Protection Society: Kuala Lumpur, Malaysia.)
17. Malipatil, M. and Houston, W. (1990). Bioecology of cashew insects at Wildman River, NT. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory.* pp. 22-5.
18. Medeiros, S. A. F. and Menezes, M. (1994). Antagonistic potential of some fungi to *Colletotrichum gloeosporioides* agent of cashew tree (*Anacardium occidentale*) anthracnose. [Potencial antagonico de alguns fungos a *Colletotrichum gloeosporioides* agente da antracnose do cajueiro, *Anacardium occidentale*.] *Fitopatologia Brasileira*. **19**, 84-91.
19. Pan, X. L. and van der Geest, L. P. S. (1990). Insect pests of cashew in Hainan, China, and their control. *Journal of Applied Entomology* **110**, 370-7.
20. Peng, R. K., Christian, K. and Gibb, K. (1994). The effect of the green ant on cashew insect pests with particular reference to the tea mosquito bug. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 75-86.
21. Peng, R. K., Christian, K. and Gibb, K. (1995). The effect of the green ant, *Oecophylla smaragdina* (Hymenoptera, Formicidae), on insect pests of cashew trees in Australia. *Bulletin*

- of *Entomological Research* **85**, 279-84.
22. Peng, R. K., Christian, K. and Gibb, K. (1996). Control efficiency of the green ant, *Oecophylla smaragina*, in relation to the control threshold of the tea mosquito bug, *Helopeltis perniciosa*, in Northern Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 63-70.
 23. Peng, R. K., Christian, K. and Gibb, K. (1996). The Effect of Native Vegetation on the Cashew Arthropod Fauna With Particular Reference to the Most Important Pest - *Helopeltis perniciosa*. 70p. (Northern Territory University: Darwin.)
 24. Peng, R. K., Christian, K. and Gibb, K. (1996). The effect of native vegetation on the diversity of arthropods in cashew plantations with particular reference to the insect pests and their natural enemies. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 71-83.
 25. Peng, R. K., Christian, K. and Gibb, K. (1997). Control threshold analysis for the tea mosquito bug, *Helopeltis perniciosa* (Hemiptera: Miridae) and preliminary results concerning the efficiency of control by the green ant, *Oecophylla smaragdina* (Hymenoptera: Formicidae) in Northern Australia. *International Journal of Pest Management* **43**, 233-7.
 26. Peng, R. K., Christian, K. and Gibb, K. (1997). Distribution of the green ant, *Oecophylla smaragdina* (F) (Hymenoptera: Formicidae), in relation to native vegetation and the insect pests in cashew plantations in Australia. *International Journal of Pest Management* **43**, 203-11.
 27. Pillai, G. B., Dubey, O. P. and Vijaya Singh (1976). Pests of cashew and their control in India - a review of current status. *Journal of Plantation Crops* **4**, 37-50.
 28. Rajapakse, R. H. S. and Jeevaratnam, K. (1982). Use of a virus against the root and stem borer *Placaederus ferrugineus* L. (Coleoptera: Cerambycidae) of the cashew. *Insect Science and Its Application* **3**, 49-51.
 29. Remaudiere, G. and Autrique, A. (1984). *Toxoptera odinae* (Van der Goot), an Asiatic aphid recently discovered in Africa. [*Toxoptera odinae* (Van der Goot), puceron asiatique récemment decouvert en Afrique.] *Comptes Rendus des Seances de l'Academie d'Agriculture de France* **70**, 379-85.
 30. Rickson, F. R. and Rickson, M. M. (1998). The cashew nut, *Anacardium occidentale* (Anacardiaceae), and its perennial association with ants - Extrafloral nectary location and the potential for ant defense. *American Journal of Botany* **85**, 835-49.
 31. Rubber Research Institute of India (1991). Abstract of papers. *National Seminar on Biological Control in Plantation Crops*. p. 31. (Rubber Research Institute of India: Kottayam, India.)
 32. Satapathy, C. R., Chinnaswamy, K. P. and Joseph, L. M. (1995). Pathogenicity of *Aspergillus tamarii* Kita on tea mosquito bug, *Helopeltis antonii* Sign. *Insect Environment* **1**, 9-11.
 33. Sathiamma, B. and Saraswathy, N. (1990). Mycosis on tea mosquito *Helopeltis antonii* S. *Indian Journal of Entomology* **52**, 516.
 34. Sundararaju, D. (1984). Cashew pests and their natural enemies in Goa. *Journal of Plantation Crops* **12**, 38-46.
 35. Sundararaju, D. (1992). Biological control of tea mosquito bug and other sucking pests of cashew. Annual Report 1991-'92, National Research Centre for Cashew. pp. 40-44. (Central Plantation Crops Research Institute: Kasagarod, Kerala; India.)
 36. Sundararaju, D. and Bhaktavathsalam, N. (1990). Cashew pest management for coastal Karnataka. *The Cashew* **4**, 3-6.
 37. Thomas, K. M. and Abraham, C. C. (1983). Relative susceptibility of cashew types to infestation by the tea mosquito bug *Helopeltis antonii* Sign (Hemiptera: Miridae). *National Seminar on Breeding Crop Plants for Resistance to Pests and Diseases*. 45-6.
 38. Veena, T. and Ganeshaiyah, K. N. (1991). Non-random search pattern of ants foraging on honeydew of aphids on cashew inflorescences. *Animal Behaviour* **41**, 7-15.
 39. Vijay Singh (1991). Effect of the protein fractions from cashewnut kernels (*Anacardium occidentale* L.) on the development of some stored grain pests. *Journal of Insect Science* **4**, 127-30.
 40. Vijay Singh and Pant, J. C. (1989). Effect of fat content and fat free portion from cashewnut,

Anacardium occidentale Linn, kernels on growth and survival of some stored grain pests.
Journal of Insect Science **2**, 14-9.

Biometrics

1. Faluyi, M. A. (1986). Investigations on seedling vigour in cashew (*Anacardium occidentale* L.). *Plant Breeding* **97**, 237-45.
2. Faluyi, M. A. (1987). Genetic variability among nut yield traits and selection in cashew (*Anacardium occidentale* L.). *Plant Breeding Z Pflanzenzucht* **98**, 257-61.
3. George, S. P., Gopimony, R. and Gangadharan, P. (1984). Seedling progeny analysis in selected cashew types. *Agricultural Research Journal of Kerala* **22**, 124-8.
4. Manoj, P. S. and George, T. E. (1993). Heterosis in cashew (*Anacardium occidentale* L.). *The Cashew* **7**, 7-9.
5. Manoj, P. S., George, T. E. and Krishnan, S. (1993). Evaluation of F1 hybrids of cashew (*Anacardium occidentale* L.). *The Cashew* **7**, 3-4.
6. Manoj, P. S., George, T. E. and Krishnan, S. (1994). Correlation studies and path coefficient analysis in cashew (*Anacardium occidentale* L.) hybrids. *The Cashew* **8**, 10-4.
7. Manoj, P. S., George, T. E. and Krishnan, S. (1994). Variability in cashew (*Anacardium occidentale* L.) as influenced by hybridization. *The Cashew* **8**, 14-5.
8. Nair, R. B. and Prabhakaran, P. V. (1983). Optimum size and shape of plots in field experiments with cashew. *Agricultural Research Journal of Kerala* **21**, 27-34.
9. Prabhakaran, P. V. and Nair, R. B. (1983). Efficiency of covariance analysis in manurial trials on cashew. *Agricultural Research Journal of Kerala* **21**, 83-6.
10. Pugalendhi, L., Shah, H. A., Manoharan, V. and Manivannan, K. (1990). Studies on seedling vigour in cashew. *South Indian Horticulture* **38**, 129-32.
11. Rossetti, A. G., Barros, L. D. and Dealmeida, J. I. L. (1996). Optimum plot size for field experiments on precocious dwarf cashew tree. *Pesquisa Agropecuaria Brasileira* **31**, 843-52.
12. Sankaranarayanan, R., Shah, H. A. and Sambandamoorthy, S. (1996). Hybridisation studies in cashew. *The Cashew* **10**, 18-23.
13. Sena, D. K., Lenka, P. C., Jagadev, P. N. and Sashikala, B. (1994). Genetic variability and character association in cashewnut (*Anacardium occidentale* L.). *Indian Journal of Genetics and Plant Breeding* **54**, 304-9.
14. Shearer, B. and Fletcher, R. (1993). Establishment of sampling sizes for kernel counts in seedling cashew trees at Cashews Australia, Dimbulah. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)

Books, Texts & Conference Proceedings

1. Alvim, P. d. T. and Kozlowski, T. T. (1977). *Ecophysiology of Tropical Crops*. 502p. (Academic Press: New York, USA.)
2. Axtell, B. L. and Fairman, R. M. (1992). *Minor oil crops Part I - Edible oils*. FAO Agricultural Services Bulletin No. 94. 241p. (FAO: Rome.)
3. Bajaj, Y. P. S. (1996). *Biotechnology in Agriculture and Forestry 35. Trees IV*. 427p. (Springer-Verlag: Berlin, Germany.)
4. Behrens, R. (1996). *Cashew As an Agroforestry Crop. Prospects and Potentials*. 83p. (Margraf Verlag: Weikersheim, Germany.)
5. Bhaskara Rao, E. V. V. and Hameed Khan, H. (1985). *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. 314p.
6. Bose, T. K. and Mitra, S. K. (1996). *Fruits: Tropical and Subtropical*. 838p. (Naya Prokash: Calcutta, India.)
7. Bose, T. K., Mitra, S. K. and Sadhu, M. K. (1988). *Mineral Nutrition of Fruit Crops*. 773p. (Naya Prokash: Calcutta, India.)
8. Buatsi, S. (1988). *Technology Transfer. Nine Case Studies*. 81p. (Intermediate Technology Publications, with UNESCO: London, UK.)
9. Calabrese, F. (1978). *Frutticoltura Tropicale e Subtropicale*. 498p. (Cooperativa Libreria Universitaria Editrice: Bologna, Italy.)
10. Chadha, K. L. and Rethinam, P. (1994). *Advances in Horticulture: Plantation and Spice Crops - Volume 9. Part 1*. 653p. (Malhotra Publishing House: New Delhi, India.)
11. Ferrao, J. E. M. (1995). *The Cashew (Anacardium occidentale L.)*. [O Cajueiro (*Anacardium occidentale L.*)] 298p. (Centro de Documentacao e Informacao, Instituto de Investigacao Cientifica Tropical: Lisbon, Portugal.)
12. Garner, R. J. and Chaudhri, S. A. (1976). *Commonwealth Bureau of Horticulture and Plantation Crops Horticultural Review No. 4*. 566p. (United Nations Food and Agriculture Organization.: Farnham Royal; Commonwealth Agricultural Bureaux, UK.)
13. Gibbon, D. and Pain, A. (1985). *Crops of the Drier Regions of the Tropics*. 157p. (Longman: London, UK.)
14. Giuliani, F. (1993). *Cashew Cultivation. [Anacardicoltura]*. 263p. (Istituto Agronomico per l'Oltremare: Firenze, Italy.)
15. Jaynes, R. A. (1979). *Nut Tree Culture in North America*. 466p. (Northern Nut Growers Association: Hamden, USA.)
16. Kavathekar, K. Y., Panda, P. K., Sastry, T. C. S., Rajendra Gupta, Rethinam, P., Edison, S., Pareek, O. P., Suneel Sharma, Chadha, K. S., Bhag Mal, Sudhir Kochhar, Kallarackal, J., Somen, C. K., Farooqi, M. I. H., Abrol, I. P., Rekib, A., Upadhyay, V. S., Pathak, P. S., Jhamb, V. N. and Bhatt, V. S. (1991). *Trees for life. Indian Farming* **41**, 1-70.
17. Kroll, R. (1996). *Les Petits Fruits*. 142p. (Editions Maisonneuve et Larose: Paris, France.)
18. Kumar, N., Khader, J. B. M. M. A., Rangaswami, P. and Irulappan, I. (1993). *Introduction to Spices, Plantation Crops, Medicinal and Aromatic Plants*. 278p. (Rajalakshmi Publications: Nagercoil, Tamil Nadu, India.)
19. Lima, V. d. P. M. S. (1988). *Cashew Tree Culture in Northeast Brazil. [a Cultura do Cajueiro No Nordeste do Brazil.]* 306p. (Fortaleza: Brazil.)
20. Lopes, N. A. (1981). *The Cashew Industry in North East Brazil and Other Major Producing Countries. [A Agroindustria do Caju No Nordeste do Brasil e em Outros Paises Grandes Produtores.]* 472p. (Banco do Nordeste do Brasil: Fortaleza, Brazil.)
21. Millington, A. J. (1982). *Cashews - Australia's potential for a major tropical tree crop. Tree Crops: the Third Component, Proceedings of the First Australian Conference on Tree and Nut Crops*. pp. 43-8. (Cornucopia Press: Perth, Western Australia.)
22. Mohan, K. V. J., Khader, K. B. A., Nagabhushanam, S., Devasahayam, S. and Joshi, Y. (1982). *Cashew - Package of practices*. Central Plantation Crops Research Institute Pamphlet No 8. 17p. (Central Plantation Crops Research Institute: Kasaragod, Kerala, India.)

23. Nagy, S., Shaw, P. E. and Wardowski, W. F. (1990). Fruits of Tropical and Subtropical Origin. Composition, Properties and Uses. (Florida Science Source, Inc.: Lake Alfred, Florida, USA.)
24. Nair, M. K., Bhaskara Rao, E. V. V., Nambiar, K. K. N. and Nambiar, M. C. (1979). Monograph on Plantation Crops - 1 Cashew (*Anacardium occidentale* L.). 153p. (Central Plantation Crops Reserach Institute: Kerala, India.)
25. Nambiar, M. C. and Pillai, P. K. T. (1985). Cashew. *In: Fruits of India : Tropical and Subtropical.* (ed. T. K. Bose.) 409-38. (Naya Prokash: Calcutta.)
26. Nayar, N. M., Bavappa, K. V. A., Sukumaran, C. K., Mathew, J., Zachariah, P. K., Yadava, R. B. R., Nair, R. R., Mathai, C. K., Sethuraj, M. R., Kothandaraman, R., Das, N. K., Baruah, H. K., Pillai, N. G., Lal, S. B., Shanta, P., Rao, P. V. S., Subramaniam, T. R., Abraham, E. V., Choudhuri, J. C. B., Misra, M. P., Joseph, P. T., Krishnaswamy, C., Shankarcharya, N. B., Anandaraman, S., Natarajan, C. P., Govindarajan, V. S. and Nelliath, E. V. (1974). *Proceedings of the First National Symposium on Plantation Crops, December 1972, Trivandrum, India.* 220p. Keralan Society for Plantation Crops, India.)
27. Ohler, J. G. (1979). Cashew. 260p. (Koninklijk Instituut voor de Tropen: Amsterdam, Netherlands.)
28. Opeke, L. K. (1982). Tropical Tree Crops. 312p. (John Wiley Sons Ltd.: Chichester, UK.)
29. Opeke, L. K. (1992). Tropical Tree Crops. 327p. (Spectrum Books Ltd.: Ibadan, Nigeria.)
30. Piteira, M. C. C. (1996). Pests and Diseases of Cashew. 60p. (Setubal.)
31. Raj, K. N., Bavappa, K. V. A., Balasubramanian, D., Kannan, K. P., Aiyadurai, S. G., Chandramouly, V. and Nambiar, M. C. (1976). Report of the Committee on Cashew Cultivation. 35p. (Indian Council of Agriculture Research: New Delhi, India.)
32. Ram, C. S. V. (1979). *PLACROSYM II. Proceedings of the Second Annual Symposium on Plantation Crops. Plant Protection (Entomology, Microbiology, Nematology, Plant Pathology and Rodentology).* 555p. (PLACROSYM Standing Committee: Kottayam, India.)
33. Ram, C. S. V., Ram, C. S. V., Yaraguntaiah, R. C., Radha, K., Lily, V. G., Joseph, K. V., Jayasankar, N. P., Mohanan, R. C., Anandaraj, M., Joshi, Y., George, M., Nambiar, K. K. N., Sarma, Y. R., Subbaiah, C. C., Bopaiah, B. M., Paul, P. G., Wilson, K. I., Raj, J. S., Philip, S., Sadanandan, A. K., Pillai, N. G., Cecil, S. R., Joseph, T., Brahma, R. N., Vijayan, M., Mathew, J., Abraham, K., Sankaran, K. V., Rehman, M. U., Rai, R., Kumaresan, D. and George, K. V. (1980). Plant pathology II. *Proceedings of the Second Annual Symposium on Plantation Crops. Plant Protection (Entomology, Microbiology, Nematology, Plant Pathology and Rodentology).* pp. 313-441. (PLACROSYM Standing Committee: Kasaragod, Kerala, India.)
34. Rikken, G. (1993). The Greening of Libertad: Case Study of Self-Help Approach to Natural Resource Management Featuring the Libertad Planters Association. 65p. (Asian Social Institute: Manila, Philippines.)
35. Robinson, R. A. (1987). Host Management in Crop Pathosystems. 263p. (Macmillan Publishing Company: New York, USA.)
36. Rosengarten, F. Jr. (1984). The Book of Edible Nuts. 384p. (Walker and Company: New York, USA.)
37. Samson, J. A. (1980). Tropical Fruits. 250p. (Longman Group: London, UK.)
38. Samson, J. A. (1986). Tropical Fruits 2nd Edition. 335p. (Longman Group UK Limited: Harlow, UK.)
39. Schaffer, B. and Andersen, P. C. (1994). Handbook of Environmental Physiology of Fruit Crops. Volume II: Sub-Tropical and Tropical Crops. 310p. (CRC Press Inc.: Boca Raton, USA.)
40. School of Genetics, Tamil Nadu Agricultural University, India (1983). *National Seminar on Breeding Crop Plants for Resistance to Pests and Diseases. May 25-27 1983. Coimbatore, Tamil Nadu, India.* 78p. (Tamil Nadu Agricultural University: Coimbatore, India.)
41. Schroder, R. (1991). Coffee, Tea and Cardamom. Tropical Condiments and Spices. History, Distribution, Cultivation, Harvesting, Processing. [Kaffee, Tee Und Kardamom. Tropische Genussmittel Und Gewurze. Geschichte, Verbreitung, Anbau, Ernte, Aufbereitung.] 255p. (Verlag Eugen Ulmer GmbH & Co.: Stuttgart, Germany.)
42. Smith, P. D. (1992). Agricultural Research and Development in Zanzibar: an Analysis of the Literature. 318p. (Centre for Arid Zone Studies, University College of North Wales: Bangor,

- Gwynedd, UK.)
43. Sunderlal, B., Sankaram, A., Ghanim, A., Paroda, R. S., Solanki, K. R., Saxena, S. K., Venkateswarlu, J., Rai, B., Tiwari, R. C., Tiwari, R., Chadha, K. L. and Bahuguna, S. (1991). Trees for life. *Indian Farming* **41**, 1-42.
 44. Thuvesson, D. (1995). Special issue: Rapid and participatory rural appraisal. *Forests, Trees and People Newsletter* No. 26/27. 95p.
 45. Valeriano, C. (1972). The cashew tree. [O cajueiro.] *Bol. Inst. Biol. Bahia* **11**, 19-58.
 46. Wait, A. J. and Jamieson, G. I. (1986). The cashew: its botany and cultivation. *Queensland Agricultural Journal* **112**, 253-7.

Canopy Growth & Management

1. Abraham, M. and Abdul Salam, M. (1995). Canopy analysis in cashew (*Anacardium occidentale* L.). *The Cashew* **9**, 26-8.
2. Ascenso, J. C. (1986). Potential of the cashew crop. 2. *Agriculture International* **38**, 368-71.
3. Bhagavan, S. and Mohan, K. V. J. (1988). Determination of representative leaves for measuring leaf area in cashew (*Anacardium occidentale*) germplasm. *Indian Journal of Agricultural Sciences* **58**, 570-1.
4. Bhagavan, S. and Subbaiah, C. C. (1983). A non-destructive method to estimate leaf area in cashew seedlings. *Journal of Plantation Crops* **11**, 135-8.
5. Bhagavan, S. and Subbaiah, C. C. (1985). An easy technique for predicting the seedling vigour in cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 294-5.
6. Carvalho, P. R. (1995). Technical recommendations for cashew tree selection (extension leaflet). Boletim Informativo N° 1. 4p. (SAM: Monapo, Moçambique.)
7. Chattopadhyay, N. and Ghosh, S. N. (1994). Studies on the effect of time and extent of pruning in increasing the yield of cashew. *Journal of Plantation Crops* **22**, 111-4.
8. Chattopadhyay, N., Ghosh, S. N. and Kundu, S. (1992). Growth behavior of some promising types of cashew in laterite tract of West Bengal. *Environment and Ecology* **10**, 645-8.
9. Falade, J. A. (1984). Variability in soils and cashew tree size. *Journal of Plantation Crops* **12**, 30-7.
10. Gangadhara, N. M., Swamy, K. R. M. and Palanisamy, K. (1995). Studies on screening of cashew types for dwarfing character. *The Cashew* **9**, 18-24.
11. George, M. V., Vijayakumar, K. and Amarnath, C. H. (1989). Forecasting of cashew yield from plantations. *Journal of Plantation Crops* **16**, 493-7.
12. Ghosh, S. N. (1993). Effect of eucalyptus (*Eucalyptus teretecornia*) plants as intercrop in the cashew plantation - a case study in West Bengal. *The Cashew* **7**, 17-9.
13. Halle, F., Olderman, R. A. A. and Tomlinson, P. B. (1978). *Tropical Trees and Forests. An Architectural Analysis*. 441p. (Springer-Verlag: Berlin.)
14. Heading, F. (1992). Cashew establishment and management techniques on Kununurra clay. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 25-7.
15. IDC. (1995). *Factors Affecting Cashew Spacing: Local Observations and a Literature Review*. 24p. (IDC: South Africa.)
16. International Board for Plant Genetic Resources. (1986). *Cashew Descriptors*. (IBPGR Secretariat, Rome: Italy.)
17. Kulkarni, V. and Hamilton, D. (1994). Evaluation of Brazilian cashew seedlings at CPRS Darwin A preliminary report. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 11-3.
18. Kumar, D. P. and Udupa, K. S. (1996). The association between nut yield and yield attributing characters in cashew. *The Cashew* **10**, 11-7.
19. Latha, A., John, P. S. and George, M. (1996). Effect of NPK fertilisation on the growth of cashew. *The Cashew* **10**, 8-10.
20. Martin, P. J. and Kasuga, L. J. (1995). Variation in cashew tree yields in south-east Tanzania and the implication for management of cashew smallholdings. *Tropical Agriculture* **72**, 261-8.
21. Meneses, J. Jr., Almeida, F. A. G., Hernandez, F. F. F. and Almeida, F. C. G. (1993). Effect of NPK fertilization on the growth of dwarf early cashew (*Anacardium occidentale* L. var. *nanum*). [Influencia da adubacao NPK sobre o crescimento do cajueiro anao precoce (*Anacardium occidentale* L. var. *nanum*).] *Revista de la Facultad de Agronomia, Universidad Central de Venezuela* **19**, 289-99.
22. Misra, L. P. and Singh, R. (1991). Effect of paclobutrazol on cashew (*Anacardium occidentale* L.) grafts in nursery. *Indian Journal of Plant Physiology* **34**, 102-5.
23. Mohan, E. and Rao, M. M. (1995). Effect of growth regulators and pruning on the growth and

- yield of cashew. *Environment and Ecology* **13**, 675-9.
24. Mohan, E. and Room Singh (1991). Effect of time and severity of pruning in cashew. *Journal of Plantation Crops* **18**, 7-10.
 25. Murthy, K. N., Kumar, K. V., Bhagavan, S., Subbaiah, C. C. and Kumaran, P. M. (1985). A rapid non-destructive method of estimating leaf area in cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, pp. 46-8.
 26. Nawale, R. N. and Salvi, M. J. (1990). The inheritance of certain F1 characters in F1 hybrid progenies of cashewnut. *The Cashew* **4**, 11-4.
 27. Nayak, M. G. (1996). Training and pruning practices for cashew. *The Cashew* **10**, 5-9.
 28. Parameswaran, N. K., Damodaran, V. K. and Prabhakaran, P. V. (1984). Factors influencing yield in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **16**, 9-15.
 29. Prasada, R. G. S. L. H. V. and Siby, S. (1994). Estimation of leaf area in tree crops. *Journal of Plantation Crops* **22**, 44-6.
 30. Rajagopalan, A., Prasada Rao, G. S. H. V. and Sailaja Devi, T. (1992). Leaf area index - a measure of vigour in softwood grafts of cashew. *The Cashew* **6**, 10.
 31. Richards, N. K. (1992). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths of Northern Territory, Australia. *Scientia Horticulturae* **52**, 125-42.
 32. Richards, N. K. (1993). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 50-65. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
 33. Sawke, D. P., Gunjate, R. T. and Limaye, V. P. (1985). Effect of nitrogen, phosphorus and potash fertilization on growth and production of cashewnut. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 95-9.
 34. Sherrard, J. A., Atyeo, R., Cross, E. and Millington, A. J. (1993). Irrigation of cashew on Kununurra clay soil in the Ord River Irrigation Area. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
 35. Shivadhar Singh, Singh, G. and Shyam Singh (1989). A simple method for measuring leaf area in different crop plants. *Journal of the Andaman Science Association* **5**, 146-8.
 36. Toohill, B. (1991). Cashew research and development at Ord River Irrigation Area (ORIA), north east WA. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
 37. Uthaiyah, B. C., Sridhara Herle, P., Khan, M. M., Hiremath, I. G., Kumar, D. P. and Balakrishna, K. (1989). Pre-bearing performance of some cashew types in coastal Karnataka. *The Cashew* **3**, 9-11.
 38. van Eijnatten, C. L. M. and Abubaker, A. S. (1983). New cultivation techniques for cashew (*Anacardium occidentale* L.). *Netherlands Journal of Agricultural Science* **31**, 13-25.

Cashew Economics

1. AGTRANS RESEARCH. (1996). The Cashew Research and Development Program: Performance and Future Prospects for Industry Development - Background Report, Chapters 1-4. 26p.
2. Cann, B., Baker, I. and Kuppelwieser, W. (1987). An economic assessment of cashew production in the Northern Territory Top End. Department of Industries and Development, Australia, Technical Bulletin No. 110. 30p.
3. Damodaran, A. A. D. (1995). Economic and institutional aspects of replanting operations. *Planters' Chronicle FEB*, 55-9.
4. Deshmukh, M. T., Sawke, D. P., Borude, S. G., Hurni, H. and Tato, K. (1992). Effects of platform bench terraces on the growth and yield of mango and cashew grafts. Erosion, Conservation, and Small-Scale Farming. pp. 477-482. (Geographica Bernensia, c/o Group for Development and Environment: Berne, Switzerland.)
5. Ellis, F. (1981). Marketing costs and the processing of cashewnuts in Tanzania: an analysis of the marketing margin and the potential level of the producer price. Development Studies Discussion Paper, University of East Anglia No. 89. 50p.
6. Hinton, A. (1998). Cashew Production in North Queensland: Estimating Profitability. 21p. (Department of Primary Industries, Queensland: Brisbane.)
7. Kumar, D. P., Khan, M. M. and Melanta, K. R. (1996). Effect of growth regulators on sex expression, fruit set, fruit retention and yield of cashew (*Anacardium occidentale* L.) grown under different levels of nutrients. *Journal of Plantation Crops* **24**, 610-27.
8. Oliver, M., Ngo, H. and Kuppelwieser, W. (1992). Cashew production in the Northern Territory Top End: an economic evaluation. Northern Territory, Department of Primary Industry and Fisheries Technical Bulletin No. 198. 25p.
9. Pessoa, P. F. A. P., Lima, L. A. A. and Pimentel, C. R. M. P. (1992). Economic feasibility of alternative technologies in cashew plantation management. Caju Informativo No 5. 2p. (Centro Nacional de Pesquisa do Caju: Fortaleza, Brazil.)
10. Pillai, K. B. and Nair, K. R. (1980). The structure of costs and returns in the cashew industry in Kerala. *Social Scientist* **9**, 30-40.
11. Raikar, N. A. and Murthy, H. G. S. (1991). Processing of cashewnuts in Karnataka. *Agricultural Situation in India* **46**, 127-31.
12. Raikar, N. A., Murthy, H. G. S. and Kunnal, L. B. (1990). Price spread of cashew in Karnataka. *Indian Journal of Agricultural Marketing* **4**, 173-7.
13. Rao, P. S. (1979). The place of cashew in forest land. *Indian Farming* **28**, 13-5.
14. Salam, M. A. (1997). Cashew plantation - establishment and management. *The Cashew* **11**, 13-32.
15. Sekar, C. and Karunakaran, K. R. (1994). Economic analysis of cashew plantations under agroforestry conditions of central Tamil Nadu. *Journal of Tropical Forest Science* **6**, 523-8.
16. Sivanandam, R., Kandaswamy, A. and Ramaswamy, C. (1981). Returns to investment in forest plantations. *Financing Agriculture* **13**, 21-6.
17. Srinivas, T. and Raju, V. T. (1995). Economics of processing of cashewnut. *Bihar Journal of Agricultural Marketing* **3**, 284-8.
18. Sudha, M. and Reddy, Y. V. R. (1990). Comparative economics of casuarina, cashew vs. annual dryland crop in coastal Andhra Pradesh. *Agricultural Situation in India* **44**, 825-30.
19. Swamy, K. R. M., Rao, E. V. V. B., Nagaraja, B. and Nayak, M. G. (1993). Establishment and management of cashew scion bank. *The Cashew* **7**, 3-6.
20. Thivavarnvongs, T., Sakai, N. and Kitani, O. (1995). Development of compact sized cashew nut shelling machinery (Part 2). Testing and evaluation of manual and semi-automatic shellers. *Journal of the Japanese Society of Agricultural Machinery* **57**, 85-93.
21. Tsakiris, A. (1990). Review of current method of disease control in cashew. *Research and Training Newsletter* **5**, 7-9.
22. van Eijnatten, C. L. M. and Abubaker, A. S. (1983). New cultivation techniques for cashew (*Anacardium occidentale* L.). *Netherlands Journal of Agricultural Science* **31**, 13-25.
23. Vidyachandra, B. and Hanamashetti, S. I. (1984). Response of cashew to nitrogen, phosphorus

and potash application. *Indian Cashew Journal* **16**, 17-8.

Climate

1. Prasada, R. and Gopakumar, C. S. (1994). Climate and cashew. *The Cashew* **8**, 3-9.
2. Snyman, J. C. (1995). Unprecedented cold damage in Messina last winter. [Ongekende koueskade in Messina afgelope winter.] *Inligtingsbulletin Instituut vir Tropiese en Subtropiese Gewasse* **270**, 6-8.
3. Veeraraghavan, P. G. and Pushpalatha, P. B. (1990). Rainfall and crop production in cashew. *The Cashew* **4**, 8-10.
4. Veeraraghavan, P. G. and Vasavan, M. G. (1979). Influence of rainfall on the productivity of cashew. *Indian Cashew Journal* **12**, 23-4.

Feasibility Studies

1. Alexander, M. and Possingham, J. V. (1974). The potential for horticulture in tropical Australia. *Journal of the Australian Institute of Agricultural Science* **40**, 36-42.
2. Anonymous (1997). More cash returns from cashews. *Spore*, 4.
3. Bleeker, P. and Laut, P. (1987). A soil survey and land evaluation for oil palm and cashew nut of the Lockhart River Valley, Cape York, Queensland. CSIRO Division of Water and Land Resources, Divisional Report No. 87/1. 67p.
4. Bowles, P. and MacPhail, F. (1990). Nucleus estates in Sulawesi: a lifeline for smallholders? *Revue Canadienne d'Etudes du Developpement* **11**, 375-80.
5. Duncan, I. E. (1994). The Wildman River Cashew Project: An Introductory Profile. 14p. (Wildman River Plantations Pty Ltd: Darwin)
6. Faenza, V. (1982). Operative long-range plan for cashew rehabilitation and expansion in Tanzania. *Rivista di Agricoltura Subtropicale e Tropicale* **76**, 179-89.
7. Gunn, R. H. and Cocks, K. D. (1971). Potentialities for cashew in Northern Australia. *The Journal of the Australian Institute of Agricultural Science* **37**, 25-31.
8. Hackett, C. (1990). Crop environment matrix: a simple device for coarsely assessing the ecophysiological suitability of environments for crop production. *Tropical Agriculture* **67**, 159-63.
9. Itharattana, K. (1996). Market prospects for upland crops in Thailand. Working Paper - CGPRT No. 21. pp. 104. (Regional Co-ordination Centre for Research and Development of Coarse Grains, Pulses, Roots and Tuber Crops in the Humid Tropics of Asia and the Pacific (CGPRT Centre: Bogor, Indonesia.)
10. Kanan, K. P. (1983). Cashew Development in India: Potentialities and Constraints. 152p. (Agricole Publishing Academy: New Delhi, India.)
11. King, R. B., Baillie, I. C., Abell, T. M. B., Dunsmore, J. R., Gray, D. A., Pratt, J. H., Versey, H. R., Wright, A. C. S. and Zisman, S. A. (1992). Land Resource Assessment of Northern Belize. Bulletin Natural Resources Institute No. 43. pp. 1-174. (Natural Resources Institute (NRI): Chatham, UK.)
12. Lim, T. K. and Abdullah, A. R. (1980). Cashew cultivation in Malaysia. *Planter* **56**, 266-72.
13. Lu, X. Z. (1991). Soil problems in relation to tropical crop development and soil amendment measures in China. *Tropical Agriculture Research Series* **24**, 30-9.
14. Moncur, M. W. and Wait, A. J. (1986). Tabular descriptions of crops grown in the tropics 15 Cashew (*Anacardium occidentale* L). Institute of Biological Resources, Division of Water and Land Resources, CSIRO, Technical Memorandum No.86/20. 54p.
15. Panther, D. (1984). Cashew Plantation Management, Production, and Commercialisation in the Dinderesso National Forest. 12p. (US Agency for International Development: Bobo-Dioulass, Burkina Faso.)
16. Ramos, A. D. and Frota, P. C. E. (1990). Land use capacity for cashew growing. Boletim de Pesquisa N° 1. 32p. (Centro Nacional de Pesquisa de Caju: Fortaleza, Brazil.)
17. Rao, M. S. (1985). Land suitability of the Madurai District using remote sensing data, Tamil Nadu. *Geographer* **32**, 81-92.
18. Roe, D. J. (1992). Cashew (*Anacardium occidentale*): species adaptability to South African conditions. *Inligtingsbulletin Instituut vir Tropiese en Subtropiese Gewasse* **238**, 18-23.
19. Tosakul, K. (1986). Cashew nuts dash a new export crop. *Bangkok Bank Monthly Review* **27**, 397-400.
20. University of Oxford, Food Studies Group (1992). Agricultural Diversification and Intensification Study: Final Report - Volume 1: Findings and Policy Implications. 216p. (Food Studies Group, International Development Centre: Oxford; UK.)
21. University of Oxford, Food Studies Group (1992). Agricultural Diversification and Intensification Study: Final Report - Volume 2: Farming Systems: Characteristics and Trends. 173p. (Food Studies Group, International Development Centre: Oxford; UK.)
22. University of Oxford, Food Studies Group (1992). Agricultural Diversification and Intensification

- Study: Final Report - Volume 3: Summary of Key Results. 38p. (Food Studies Group, International Development Centre: Oxford; UK.)
23. van Eijnatten, C. L. M. (1979). A review of information on cashew in Kenya and suggestions for its further development as a cash crop in Coast Province. CARS Communication No. 3. 27p.
 24. Wait, A. J. and Jamieson, G. I. (1985). Prospects for a cashew industry in Queensland. *Queensland Agricultural Journal* **111**, 315-6.

Floral Biology, Pollination & Fruit Set

1. Akinwale, S. A. (1992). Allopollen exchange in cashew (*Anacardium occidentale* L.). *Plant Cell Incompatibility Newsletter* **24**, 7-9.
2. Akinwale, S. A. (1992). Implications of pollen characters to the systematic delimitation of cashew (*Anacardium occidentale* L.). *Plant Cell Incompatibility Newsletter* **24**, 1-6.
3. Ashok, T. H. and Thimmaraju, K. R. (1983). Note on sex expression in cashew (*Anacardium occidentale* L.). *Indian Journal of Horticulture* **40**, 58-9.
4. Carvalho, P. R. (1995). Technical recommendations for cashew tree selection (extension leaflet). Boletim Informativo N° 1. 4p. (SAM: Monapo, Moçambique.)
5. Chacko, E. K. (undated). Improving productivity of cashews in Northern Australia. A Final Report Prepared by CSIRO Division of Horticulture for the Rural Industries Research and Development Corporation. 108p. (CSIRO Division of Horticulture: Adelaide.)
6. Chacko, E. K. (1990). Summary of research work by CSIRO. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 14-8.
7. Chacko, E. K. (1991). Summary of cashew research at the CSIRO Division of Horticulture, Darwin, NT. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
8. Chacko, E. K. (1992). Cashew research at the CSIRO Division of Horticulture A status report (1992). *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 77-83, 94-102.
9. Chakraborty, D. K. (1985). Blossom bud differentiation in cashew (*Anacardium occidentale* L.). *Haryana Journal of Horticultural Sciences* **14**, 168-74.
10. Chakraborty, D. K., Sadhu, M. S. and Bose, T. K. (1981). Studies on sex-expression in cashew (*Anacardium occidentale* L.). *Progressive Horticulture* **13**, 1-3.
11. Chattopadhyay, N. and Ghosh, S. N. (1993). Studies on the floral biology of some cashew types under Jhargram conditions. *The Cashew* **7**, 5-7.
12. Chattopadhyay, P. K. (1982-1983). Cashew fruit set and retention as influenced by chemical spraying. *Udyanika* **5**, 45-7.
13. Elsy, C. R., Namboodiri, K. M. N., Vidyadharan, K. K. and Oommen, A. (1987). Effect of hand pollination on cashew yield. *The Cashew* **1**, 13-7.
14. Elsy, C. R., Namboodiri, K. M. N., Vidyadharan, K. K. and Oommen, A. (1986). Role of pollen and pollinating agents in cashew yield. *Cashew Causerie* **8**, 3-4.
15. Elsy, C. R., Namboodiri, K. M. N., Vidyadharan, K. K. and Oommen, A. (1987). Time of flower opening in cashew. *The Cashew* **1**, 2-4.
16. Foltan, H. and Ludders, P. (1994). Flowering and sex expression in cashew (*Anacardium occidentale* L.). *Symposium on Tropische Nutzpflanzen, Hamburg, Germany, 22-24 Sep. 1993*. pp. 203-7.
17. Foltan, H. and Ludders, P. (1995). Flowering, fruit set, and genotype compatibility in cashew. *Angewandte Botanik* **69**, 215-20.
18. Freitas, B. M. (1994). Beekeeping and cashew in north-eastern Brazil: the balance of honey and nut production. *Bee World* **75**, 160-8.
19. Freitas, B. M. (1995). The Pollination Efficiency of Foraging Bees on Apple (*Malus Domestica* Borkh) and Cashew (*Anacardium occidentale* L.). Thesis. 196p. (University of Wales College of Cardiff: UK.)
20. Freitas, B. M. (1997). Changes with time in the germinability of cashew (*Anacardium occidentale*) pollen grains found on different body areas of its pollinator bees. *Revista Brasileira de Biologia* **57**, 289-94.
21. Freitas, B. M., Lima, F. d. A. M., Martins, F. R., Villarroel, A. B. S., Fernandes, A. A. O. and Moura, A. A. A. (1996). Foraging behaviour and pollination efficiency of the bee species *Apis mellifera* and *Centris (Hemiseiella) tarsata* visiting cashew flowers. [Comportamento de pastejo e eficiencia de polinizacao das especies de abelhas *Apis mellifera* e *Centris*

- (Hemisiella) tarsata visitando flores do cajueiro.] *Anais da XXXIII Reuniao Anual da Sociedade Brasileira de Zootecnia, Fortaleza, 21 a 26 de Julho, 1996. Volume 2 - Forragicultura.* pp. 666-8. (Sociedade Brasileira de Zootecnia: Fortaleza, Brazil.)
22. Freitas, B. M. and Paxton, R. J. (1996). The role of wind and insects in cashew (*Anacardium occidentale*) pollination in NE Brazil. *Journal of Agricultural Science* **126**, 319-26.
 23. Freitas, B. M. and Paxton, R. J. (1998). A comparison of two pollinators - the introduced honey bee *Apis mellifera* and an indigenous bee *Centris tarsata* on cashew *Anacardium occidentale* in its native range in NE Brazil. *Journal of Applied Biology* **35**, 109-21.
 24. Hallad, J. S. and Sulikeri, G. S. (1992). Studies on flowering behaviour in different cashew cultivars. *The Cashew* **6**, 8-9.
 25. Hanamashetti, S. I., Khan, M. M., Mahabaleshwar Hegde, Mallik, B. and Sulladmath, U. V. (1986). Flowering and sex ratio in some cashew (*Anacardium occidentale* L.) selections. *Journal of Plantation Crops* **14**, 68-70.
 26. Heard, T. A., Vithanage, V. and Chacko, E. K. (1990). Pollination biology of cashew in the Northern Territory of Australia. *Australian Journal of Agricultural Research* **41**, 1101-14.
 27. Jackson, J. F. and Millington, A. J. (1992). Cashew isozymes and bee pollination. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 103-6.
 28. Jindal, K. K., Gautam, D. R., Karkara, B. K., Chadha, K. L. and Pareek, O. P. (1993). Pollination and pollinizers in fruits. *Advances in Horticulture: Fruit Crops - Volume 1.* pp. 463-480. (Malhotra Publishing House: New Delhi, India.)
 29. Joseph, K. T. (1979). The cashew flower. *Indian Cashew Journal* **12**, 7, 9.
 30. Khoo, K. C., Ibrahim, Y., Maelzer, D. A., Lim, T. K., Heong, K. L., Lee, B. S., Lim, T. M. and Teoh, C. H. (1982). Entomofauna of cashew in West Malaysia. *Proceedings of the International Conference on Plant Protection in the Tropics. 1-4 March, 1982, Kuala Lumpur, Malaysia.* pp. 289-94. (Malaysian Plant Protection Society: Kuala Lumpur, Malaysia.)
 31. Konhar, T. and Arun Mech (1988). Effect of growth regulators on flowering, fruit set and fruit retention in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 17-9.
 32. Kulkarni, V. and Hamilton, D. (1994). Evaluation of Brazilian cashew seedlings at CPRS Darwin A preliminary report. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 11-3.
 33. Kumar, A. V., Prasad, S. V. and Rao, G. R. (1982). Influence of growth regulators on germination of pollen of three tree species. *Indian Journal of Plant Physiology* **25**, 158-66.
 34. Kumar, D. P., Khan, M. M. and Melanta, K. R. (1996). Effect of growth regulators on sex expression, fruit set, fruit retention and yield of cashew (*Anacardium occidentale* L.) grown under different levels of nutrients. *Journal of Plantation Crops* **24**, 610-27.
 35. Kumar, D. P. and Udupa, K. S. (1996). The association between nut yield and yield attributing characters in cashew. *The Cashew* **10**, 11-7.
 36. Kumaran, P. M., Nayar, N. M., Murthy, K. N. and Vimala, B. (1985). A study of variation in flowering characters of cashew germplasm. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979,* pp. 20-4.
 37. Leonardi, J., Chacko, E. K. and Vithanage, V. (1993). Studies on pollination, pollen tube growth and fruit set in cashew. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
 38. Leonardi, J., Chacko, E. K., Vithanage, V. and Turnbull, C. G. N. (1994). Studies on premature flower and nut abscission in cashew (*Anacardium occidentale* L.). *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 52-9.
 39. Leonardi, J., Chacko, E. K., Vithanage, V. and Turnbull, C. G. N. (1994). Distribution of C-assimilates in vegetative and reproductive organs of cashew (*Anacardium occidentale* L.). *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 60-8.
 40. Maelzer, D. A. and Goodhand, S. (1991). Pollination of cashew-nuts at Kununurra, W.A. *Working*

- Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated.)
41. Maelzer, D., Goodhand, S. and Millington, A. J. (1992). The pollination of cashew nuts at Kununurra, Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 63-71.
 42. Mariappan, S., Prabakaran, J. and Sambandamoorthy, S. (1995). Effect of growth regulators on sex expression and fruit set in cashew (*Anacardium occidentale* L.). *The Cashew* **9**, 11-3.
 43. Masawe, P. A. L., Cundall, E. P. and Caligari, P. D. S. (1996). Distribution of cashew flower sex-types between clones and sides of tree canopies in Tanzania. *Annals of Botany* **78**, 553-8.
 44. Millington, A. J. (1989). Voyager Enterprises Pty Ltd. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory.* (not paginated.)
 45. Millington, A. J. (1990). Voyager Enterprises : Cashew Project : Kununurra. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory.* pp. 35-6.
 46. Millington, A. J. (1991). An overview of Voyager Enterprises Development Program and Research Support at Kununurra. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated.)
 47. Millington, A. J. (1992). Cashew research: Overview Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 1-6.
 48. Millington, A. J., Jackson, J. and Toohill, B. (1992). Self fertilised varieties for cashew plantation establishment by seed. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 72-6.
 49. Mohamad, B. M. and Mardan, M. (1985). Effect of the presence of *Apis cerana* colonies on cashew fruit set. *Proceedings of the Third International Conference on Apiculture in Tropical Climates, Nairobi, Kenya, 5-9 November 1984.* pp. 140-4.
 50. Mohan, E. and Rao, M. M. (1995). Effect of growth regulators and pruning on the growth and yield of cashew. *Environment and Ecology* **13**, 675-9.
 51. Mohan, K. V. J., Kumaran, P. M., Murthy, K. N., Nayar, N. M. and Vishveshwara, S. (1982). Anthesis and anther dehiscence of cashew flower. *Genetics, Plant Breeding and Horticulture. Proceedings of the Fourth Annual Symposium on Plantation Crops (Placrosym IV), Mysore 3minus5 December 1981.* pp. 360-7. (Placrosym Standing Committee: Mysore, India.)
 52. Moncur, M. W. and Wait, A. J. (1986). Floral ontogeny of the cashew, *Anacardium occidentale* L. (Anacardiaceae). *Scientia Horticulturae* **30**, 203-11.
 53. Nair, G. S. (1980). Floral biology and hybridization technique in cashew. *Indian Cashew Journal* **13**, 15-7.
 54. Narayan, C. and Ghosh, S. N. (1996). Fruit set and fruit drop in cashew in Jhargram conditions. *Environment and Ecology* **14**, 144-6.
 55. Nath, P. K., Lenka, P. C. and Konhar, T. (1993). Studies on the effect of urea and NAA on flowering and fruit set of cashew (*Anacardium occidentale*) cultivars. *Orissa Journal of Horticulture* **21**, 11-6.
 56. Nawale, R. N., Salvi, M. J. and Limaye, V. P. (1984). Studies on the fruit set and fruit drop in cashew (*Anacardium occidentale* L.). *Cashew Causerie* **6**, 5-7.
 57. Panda, J. M. and Pal, H. K. (1982). Increasing production of perfect flowers in cashew by treatment with gibberellic acid and maleic hydrazide. *Science and Culture* **48**, 66-7.
 58. Pappiah, C. M., Vijayakumar, M. and Hameed, A. S. (1980). Effect of ethrel (2-chloro ethyl phosphonic acid) on flowering and yield of cashewnut (*Anacardium occidentale* L.). *South Indian Horticulture* **28**, 1-4.
 59. Parameswaran, N. K., Damodaran, V. K. and Prabhakaran, P. V. (1984). Factors influencing yield in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **16**, 9-15.
 60. Parameswaran, N. K., Damodaran, V. K. and Prabhakaran, P. V. (1984). Relationship between yield and duration of different phases in flower opening in cashew (*Anacardium occidentale*

- L.). *Indian Cashew Journal* **16**, 15-9.
61. Patnaik, H. P., Das, M. S. and Panda, J. M. (1985). Studies on the fruit set and fruit drop in cashew (*Anacardium occidentale* L.) under Orissa conditions. *Cashew Causeerie* **7**, 7-9.
 62. Pavithran, K., Shaffi, M. and Indira, E. P. (1985). Development, differentiation and evolution of sex-dimorphism in cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, pp. 17-9.
 63. Pinheiro, F. F. M., Crisóstomo, J. R., Parente, J. I. G., Melo, F. I. O. and Almeida, J. I. L. (1993). Flowering and Fruiting of Common and Dwarf Cashew. Bol Pesquisa No 08. 24p. (Centro Nacional de Pesquisa de Agroindustria Tropical: Fortaleza, Brazil.)
 64. Reddi, E. U. B. (1991). Pollinating agent of cashew - wind or insects? *Indian Cashew Journal* **20**, 13-8.
 65. Reddi, E. U. B. (1987). Under-pollination: a major constraint of cashewnut production. *Proceedings, Indian National Science Academy, B* **53**, 249-51.
 66. Reddy, M. A., Krishnappa, K. S., Chandregowda, M. and Thirumala Raju, G. T. (1989). Studies on the sex ratio in cashew selections. *The Cashew* **3**, 6-8.
 67. Sapkal, B. B., Hulamani, N. C. and Nalwadi, U. G. (1994). Flowering and sex-ratio in some cashew (*Anacardium occidentale* L.) selections. *The Cashew* **8**, 7-10.
 68. Sedgley, M., Ashari, S., Wunnachit, W., Wan Mohamad, W. O., Rosli Mohamad, Siti Hajar Ahmad, and Khoo Khay Chong (1992). The application of scientific techniques to fruit and nut production in the tropics. *Recent Advances in Horticultural Science in the Tropics, Universiti Pertanian, Malaysia, 7-9 August 1990*. pp. 61-7.
 68. Sena, D. K., Lenka, P. C. and Rath, S. (1995). Studies on floral characters of different cashew types. *The Cashew* **9**, 5-7.
 70. Shearer, B. and Fletcher, R. (1994). Formulation of a sampling procedure for use in flower and fruiting studies in cashew. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 41-51.
 71. Sherlija, K. K. and Unnikrishnan, K. (1996). Biochemical changes in shoot apex of cashew during transition from vegetative to reproductive phase. *Phytomorphology* **46**, 25-30.
 72. Sherrard, J. A., Atyeo, R., Cross, E. and Millington, A. J. (1993). Irrigation of cashew on Kununurra clay soil in the Ord River Irrigation Area. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
 73. Sheshagiri, K. S. (1996). Studies on the flowering period and sex ratio in cashew (*Anacardium occidentale* L.): Selections in hill zone of Karnataka. *The Cashew* **10**, 11-4.
 74. Shivanandam, V. N., Reddy, M. A. N., Gowda, M. C. and Shankaranarayana, V. (1986). Flower bud development, anthesis and anther dehiscence in cashew (*Anacardium occidentale* L.) selections under Chintamani conditions. *Indian Cashew Journal* **18**, 21-3.
 75. Sing, S. K., Syamal, M. M. and Maurya, A. N. (1992). Effect of NAA and Ethrel on vegetative growth, flowering, fruiting and yield of cashewnut. *The Cashew* **6**, 11-2.
 76. Subbaiah, C. C. (1983). Fruiting and abscission patterns in cashew. *Journal of Agricultural Science, Cambridge* **100**, 423-7.
 77. Subbaiah, C. C. (1984). A polyethylene glycol based medium for *in vitro* germination of cashew pollen. *Canadian Journal of Botany* **62**, 2473-5.
 78. Subramanian, S., Shah, H. A. and Thangavelu, S. (1996). Studies on flowering behaviour and the sex ratio in different cashew types at Regional Research Station Vridhachalam. *Cashew* **10**, 20-2.
 79. Thamburaj, S., Jayapal, R. and Pillai, O. A. A. (1980). Studies on growth and development of fruit in cashew (*Anacardium occidentale* Linn). *South Indian Horticulture* **28**, 26-7.
 80. Thimmaraju, K. R., Reddy, M. A. N., Reddy, B. G. S. and Sulladmath, U. V. (1980). Studies on the floral biology of cashew (*Anacardium occidentale* L.). *Mysore Journal of Agricultural Sciences* **14**, 490-7.
 81. Wickramasinghe, R. H. (1983). Bee keeping and its management on coconut, rubber, cashew, citrus, gingelly, fruit, timber and other plantations. *Journal of the National Institute of*

- Plantation Management* **2**, 94-104.
82. Wunnachit, W., Jenner, C. F. and Sedgley, M. (1992). Floral and extrafloral nectar production in *Anacardium occidentale* L. (Anacardiaceae): an andromonoecious species. *International Journal of Plant Sciences* **153**, 413-20.
 83. Wunnachit, W., Jenner, C. and Sedgley, M. (1992). Pollen vigour and composition in relation to andromonoecy in cashew (*Anacardium occidentale* L.: Anacardiaceae). *Sexual Plant Reproduction* **5**, 264-9.
 84. Wunnachit, W., Pattison, S. J., Giles, L., Millington, A. J. and Sedgley, M. (1992). Pollen tube growth and genotype compatibility in cashew in relation to yield. *Journal of Horticultural Science* **67**, 67-75.
 85. Wunnachit, W. and Sedgley, M. (1992). Characteristics of cashew pollen. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 58-9.
 86. Wunnachit, W. and Sedgley, M. (1992). Floral structure and phenology of cashew in relation to yield. *Journal of Horticultural Science* **67**, 769-77.
 87. Wunnachit, W. and Sedgley, M. (1992). Pollination and yield of cashew. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 60-2.

General Agronomy & Agronomic Requirements

1. Almaguer, V. G., Chi, B. J. Y. and Campbell, R. J. (1994). Cultivation of cashew (*Anacardium occidentale*) in Campeche State, Mexico. [El cultivo del marañon (*Anacardium occidentale*) en el Estado de Campeche, Mexico.] XXXX Annual Meeting of the Interamerican Society for Tropical Horticulture, Campeche, Mexico, 13-18 Nov. 1994. pp. 176-85.
2. Alvim, P. d. T. and Kozłowski, T. T. (1977). Ecophysiology of Tropical Crops. 502p. (Academic Press: New York, USA.)
3. Axtell, B. L. and Fairman, R. M. (1992). Minor oil crops Part I - Edible oils. FAO Agricultural Services Bulletin No. 94. 241p. (FAO:
4. Carvalho, P. R. (1995). Management of cashew tree plantations (extension leaflet). Boletim Informativo N° 2. 6p. (SAM: Monapo, Mocambique.)
5. Carvalho, P. R. (1995). Land preparation and establishment of cashew plantings (extension leaflet). Boletim Informativo N° 3. 5p. (SAM: Monapo, Moçambique.)
6. Chacko, E., Baker, I. and Downton, J. (1990). Towards a sustainable cashew industry for Australia. *Agricultural Science* **3**, 39-43.
7. Delwaulle, J. C. (1979). Forest plantations in dry tropical Africa. Techniques and species to use. [Plantations forestieres en Afrique tropicale seche. Techniques et especes a utiliser.] *Bois et Forets des Tropiques*, 3-23.
8. Deorukhakar, A. C., Veerkar, P. D., Talathi, J. M. and Thakare, G. G. (1995). Yield gap and constraints in technology adoption of cashew nut cultivation in the Konkan Region (Maharashtra). *The Cashew* **9**, 13-7.
9. Duncan, I., Fitzgerald, C. and Knight, P. (1991). An overview of Britannia operations at Wildman River. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
10. Faenza, V. (1982). Operative long-range plan for cashew rehabilitation and expansion in Tanzania. *Rivista di Agricoltura Subtropicale e Tropicale* **76**, 179-89.
11. Foord, G. (1996). Developing cashew management systems for Katherine, NT. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 60-2.
12. Gunjate, R. T. (1997). Cashew plantation management: problems, perspective and approach. *Cashew* **11**, 15-9.
13. Heading, F. (1992). Cashew establishment and management techniques on Kununurra clay. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 25-7.
14. IDC. (1995). Factors Affecting Cashew Spacing: Local Observations and a Literature Review. 24p. (IDC: South Africa.)
15. Jennings, B. (1992). Time of outplanting of cashews. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 20-4 (a).
16. Jennings, B. (1993). Time of outplanting of cashews in Kununurra, WA. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
17. Menon, M. A. and Sulladmath, U. V. (1981). Mineral nutrition of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **14**, 7-13.
18. Nambiar, M. C. (1976). Technology for increasing cashew production and productivity. *Increasing Production and Productivity of Cashew in India: Proceedings of the Conference on Cashew Production, 15 September, 1976, Ernakulum, India*. pp. 21-4. (Central Plantation Crops Research Institute: Kasaragod, India.)
19. National Research Centre for Cashew, I. (1992). Annual Report 1991-92. pp. 72. (Central Plantation Crops Research Institute: Kasaragod, Kerala, India.)
20. National Research Centre for Cashew, I. (1994). Annual Report 1993-94. pp. 108. Puttur, Karnataka; India.)
21. Nayar, N. M. (1979). Cashew research in India. *Indian Farming* **28**, 3-5.

22. Ooi, S. C. (1988). Some considerations in the choice of fruit development in the South Pacific. *Alafua Agricultural Bulletin* **13**, 17-26.
23. Singh, J. and Kashyap, R. (1993). Production technology for dryland fruits of Madhya Pradesh. *Advances in Horticulture and Forestry* **3**, 69-75.
24. Tandon, H. L. S. (1988). Fertiliser Management in Plantation Crops - a Guidebook. 83p. (Fertiliser Development and Consultation Organisation: New Delhi, India.)
25. Uddin, M. K. (1980). Cashew: a promising species for the sungrass infested areas of Bangladesh. *Bano Biggyan Patrika* **9**, 61-4.
26. van Eijnatten, C. L. M. (1979). A review of information on cashew in Kenya and suggestions for its further development as a cash crop in Coast Province. CARS Communication No. 3. 27p.
27. Venugopal, K. and Khader, K. B. A. (1991). Effect of soil and climate on the productivity of cashew. *Indian Cashew Journal* **20**, 19-24.
28. Wait, A. J. and Jamieson, G. I. (1984). Cashews - Industry prospects in Queensland. *Farm Note AGDEX 246/00*, 3p.

Harvesting

1. Duncan, I. (1992). Brief summary of Wildman River Project. Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia. pp. 116-20.
2. Duncan, I., Fitzgerald, C. and Knight, P. (1991). An overview of Britannia operations at Wildman River. Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland. (not paginated.)
3. Heading, F. (1992). Cashew establishment and management techniques on Kununurra clay. Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia. pp. 25-7.
4. Kuppelwieser, W. (1989). Variety selection in cashew plantations in northern Australia (in the Darwin area). [Über die Sortenselektion im Kaschunussanbau in Nordaustralien (Umgebung Darwin).] *Erwerbsobstbau* **31**, 216-20.
5. Millington, A. J. (1989). Voyager Enterprises Pty Ltd. Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory. (not paginated.)
6. Nagy, S., Shaw, P. E. and Wardowski, W. F. (1990). Fruits of Tropical and Subtropical Origin. Composition, Properties and Uses. (Florida Science Source, Inc.: Lake Alfred, Florida, USA.)

Health & Medical Factors

1. Ahmad, R., Sheikh, T. U., Ahmad, A. and Ahmad, M. (1993). Medicinal importance of essential oils. *Hamdard Medicus* **36**, 101-15.
2. Almaguer, V. G., Chi, B. J. Y. and Campbell, R. J. (1994). Cultivation of cashew (*Anacardium occidentale*) in Campeche State, Mexico. [El cultivo del marañon (*Anacardium occidentale*) en el Estado de Campeche, Mexico.] *XXXX Annual Meeting of the Interamerican Society for Tropical Horticulture, Campeche, Mexico, 13-18 Nov. 1994*, pp. 176-85.
3. Burks, A. W., James, J. M., Hiegel, A., Wilson, G., Wheeler, J. G., Jones, S. M. and Zuerlein, N. (1998). Atopic dermatitis and food hypersensitivity reactions. *Journal of Pediatrics* **132**, 132-6.
4. Diogenes, M. J. N., Demorais, S. M. and Carvalho, F. F. (1996). Contact dermatitis among cashew nut workers. *Contact Dermatitis* **35**, 114-5.
5. Evans, F. J. and Schmidt, R. J. (1980). Plants and plant products that induce contact dermatitis. *Planta Medica* **38**, 289-316.
6. Fernandez, C., Fiandor, A., Martinezgarate, A. and Quesada, J. M. (1995). Allergy to pistachio - crossreactivity between pistachio nut and other Anacardiaceae. *Clinical and Experimental Allergy* **25**, 1254-9.
7. Garg, S. C. and Kasera, H. L. (1984). Neuropharmacological studies of the essential oil of *Anacardium occidentale*. *Fitoterapia* **55**, 131-6.
8. George, J. and Kuttan, R. (1997). Mutagenic, carcinogenic and cocarcinogenic activity of cashewnut shell liquid. *Cancer Letters* **112**, 11-6.
9. Hill, D. J., Hosking, C. S., Zhie, C. Y., Leung, R., Baratwidjaja, K., Iikura, Y., Iyngkaran, N., Gonzalezandaya, A., Wah, L. B. and Hsieh, K. H. (1997). The frequency of food allergy in Australia and Asia. *Environmental Toxicology and Pharmacology* **4**, 101-10.
10. Krishnapillay, B., Marzalina, M. and Haris, M. (1993). Seeds and fruits of some common tropical species used as medicine by folk healers. *Buletin FRIM* **3**, 9-11.
11. Kubo, I., Ochi, M., Vieira, P. C. and Komatsu, S. (1993). Antitumour agents from the cashew (*Anacardium occidentale*) apple juice. *Journal of Agricultural and Food Chemistry* **41**, 1012-5.
12. Mota, M. L. R., Thomas, G. and Barbosa, F. J. M. (1985). Anti-inflammatory actions of tannins isolated from the bark of *Anacardium occidentale* L. *Journal of Ethnopharmacology* **13**, 289-300.
13. Rasanen, L., Mäkinenkiljunen, S. and Harvima, R. J. (1998). Pectin and cashew nut allergy - Cross-reacting allergens. *Allergy* **53**, 626-8.
14. Repo-Carrasco, R. (1992). Andean crops and infant nourishment. Institute of Development Studies, University of Helsinki, Report No. B 25. 133p. (Institute of Development Studies, University of Helsinki: Helsinki, Finland.)
15. Stricker, W. E., Anorve-Lopez, E. and Reed, C. E. (1986). Food skin testing in patients with idiopathic anaphylaxis. *Journal of Allergy and Clinical Immunology* **77**, 516-9.
16. Swarnalakshmi, T., Gomathi, K., Sulochana, N., Baskar, E. A. and Parmar, N. S. (1981). Anti-inflammatory activity of (-)-epicatechin, a bioflavonoid isolated from *Anacardium occidentale* Linn. [seed coat]. *Indian Journal of Pharmaceutical Sciences* **43**, 205-8.
17. Tariq, S. M., Stevens, M., Matthews, S., Ridout, S., Twiselton, R. and Hide, D. W. (1996). Cohort study of peanut and tree nut sensitisation by age of 4 Years. *British Medical Journal (Clinical Research Edition)* **313**, 514-7.

Industrial Products

1. Adams, M. R. and Flynn, G. (1982). Fermentation ethanol: an industrial profile. Report of the Tropical Products Institute, No. G169. 26p.
2. Aderiye, B. I. and Mbadiwe, U. V. (1993). Alcohol production in submerged cashew pomace. *Plant Foods for Human Nutrition* **43**, 273-8.
3. Akaranta, O., Donbebe, W. and Odozi, T. O. (1996). Plywood adhesives based on red-onion-skin extract modified with cashewnut-shell liquid. *Bioresource Technology* **56**, 279-80.
4. Almaguer, V. G., Chi, B. J. Y. and Campbell, R. J. (1994). Cultivation of cashew (*Anacardium occidentale*) in Campeche State, Mexico. [El cultivo del marañon (*Anacardium occidentale*) en el Estado de Campeche, Mexico.] *XXXX Annual Meeting of the Interamerican Society for Tropical Horticulture, Campeche, Mexico, 13-18 Nov. 1994*. pp. 176-85.
5. Alva, K. S., Nayak, P. L., Kumar, J. and Tripathy, S. K. (1997). Enzymatic polymerization of phenolic biomonomers derived from cashew nut shell liquid. *Journal Of Macromolecular Science-Pure And Applied Chemistry* **A34**, 665-74.
6. Asoegwu, S. N. (1989). The industrial potential of some of Nigeria's fruits and vegetables. National Horticultural Research Institute, Ibadan; Occasional Paper No. 20. 10p. (OQEH: Ibadan, Nigeria.)
7. Bhat, K. M., Bhat, K. V. and Dhamodaran, T. K. (1985). Wood and bark properties of branches of selected tree species growing in Kerala. KPRI Research Report No. 29. 34p.
8. Bhat, K. M., Bhat, K. V. and Dhamodaran, T. K. (1989). Fibre length variation in stem and branches of eleven tropical hardwoods. *IAWA Bulletin* **10**, 63-70.
9. Bhat, K. M., Bhat, K. V. and Dhamodaran, T. K. (1989). Radial patterns of density variation in eleven tropical Indian hardwoods. *Holzforschung* **43**, 45-8.
10. Bhat, K. M., Bhat, K. V. and Dhamodaran, T. K. (1990). Wood specific gravity in stem and branches of eleven timbers from Kerala. *Indian Forester* **116**, 541-6.
11. Bhat, K. M., Bhat, K. V. and Rugmini, P. (1983). Variation in wood and bark properties of cashew. *Journal of the Indian Academy of Wood Science* **14**, 12-7.
12. Bhat, K. V. and Bhat, K. M. (1983). Anatomical changes associated with interlocked grain in *Anacardium occidentale* L. *IAWA Bulletin* **4**, 179-82.
13. Bhunia, H. P., Jana, R. N., Basak, A., Lenka, S. and Nando, G. B. (1998). Synthesis of polyurethane from cashew nut shell liquid (CNSL), a renewable resource. *Journal of Polymer Science Part A-Polymer Chemistry* **36**, 391-400.
14. Chawla, J. S. and Negi, J. S. (1983). Water cooked pulp for fibre boards. *Holzforschung Und Holzverwertung* **35**, 61-5.
15. Coomarasamy, A., Li Jiu Long, Samaraweera, A. M. I., Silva, L. B. K. and Kasinathan, S. (1984). Antioxidants from cashew nut shell liquid. *Proceedings of the International Rubber Conference. 75 Years of Rubber Research in Sri Lanka, September 1984, Colombo. Volume 2 (Part II)*. pp. 243-57. (Rubber Research Institute of Sri Lanka: Agalawatta, Sri Lanka.)
16. de Pinto, G. L., Martinez, M., Mendoza, J. A., Ocando, E. and Rivas, C. (1995). Comparison of three Anacardiaceae gum exudates. *Biochemical Systematics and Ecology* **23**, 151-6.
17. Dunn, P. D., Clancy, J., Rice, G., Wereko-Brobby, C. Y. and Breeze, E. M. (1986). The potential for alcohol as a fuel in spark ignition engines in Tanzania. *Renewable Energy Development in Africa. Proceedings of the International Conference on Research and Development of Renewable Energy Technologies in Africa, Held in Mauritius, 25-29 March 1985. Volume 2*. pp. 357-62. (Commonwealth Science Council, Commonwealth Secretariat: London, UK.)
18. George, J. and Ramakrishnan, V. (1996). Rice husk particle board. *Wood News* **6**, 6-9.
19. Handa, W. and Kato, T. (1996). Effects of Cu powder, BaSO₄ and cashew dust on the wear and friction characteristics of automotive brake pads. *Tribology Transactions* **39**, 346-53.
20. Huong, N. L., Nieu, N. H., Tan, T. T. M. and Griesser, U. J. (1996). Cardanol-phenol-formaldehyde resins - thermal analysis and characterization. *Angewandte Makromolekulare Chemie* **243**, 77-85.
21. Inyang, U. E. and Abah, U. J. (1997). Chemical composition and organoleptic evaluation of juice

- from steamed cashew apple blended with orange juice. *Plant Foods for Human Consumption* **50**, 295-300.
22. Jain, J. K. and Virendra, N. (1991). Arsenated and borated cashewnut shell liquid: low cost environmentally safe preservatives. *Journal of the Timber Development Association of India* **37**, 25-7.
 23. Layokun, S. K., Obawole, A. B., Fatile, I. A. and Solomon, B. O. (1986). Investigation of cashew apple juice as a substrate for single cell protein production. *Journal of Food Science* **51**, 237-8.
 24. Mahanta, I. C., Pani, A. K. and Narain, A. (1994). Utility of cashew refuse for mushroom spawn production. *Orissa Journal of Agricultural Research* **7**, 51.
 25. Mahanwar, P. A. and Kale, D. D. (1996). Effect of cashew nut shell liquid (CNSL) on properties of phenolic resins. *Journal of Applied Polymer Science* **61**, 2107-11.
 26. Marques, M. E. and Xavier, F. J. (1991). Enzymatic and inhibitory activities of cashew tree gum exudate. *Phytochemistry* **30**, 1431-3.
 27. Martins, M. A., Mothe, C. G. and Tavares, M. I. B. (1996). NMR study of CNSL-EVA blends compatibility. *Polymer Testing* **15**, 91-7.
 28. Mehra, M. L. (1978). Hardboards from *Eucalyptus grandis* bark. *Journal of the Timber Development Association of India* **24**, 28-33.
 29. Menon, A. R. R. (1997). Flame-retardant characteristics of natural rubber modified with a bromo derivative of phosphorylated cashew nut shell liquid. *Journal of Fire Sciences* **15**, 3-13.
 30. Menon, A. R. R. (1997). Stress-relaxation characteristics of natural rubber modified with phosphorylated cashew nut shell liquid prepolymer. *Journal of Applied Polymer Science* **65**, 2183-9.
 31. Menon, A. R. R. and Pillai, C. K. S. (1995). Phosphorylated cardanol prepolymer as a multi functional additive for natural rubber compounding. A comparison with coumarone indene resin. *The Cashew* **9**, 18-22.
 32. Menon, A. R. R., Pillai, C. K. S. and Nando, G. B. (1998). Physicomechanical properties of filled natural rubber vulcanizates modified with phosphorylated cashew nut shell liquid. *Journal of Applied Polymer Science* **68**, 1303-11.
 33. Menon, A. R. R., Pillai, C. K. S. and Nando, G. B. (1996). Thermal degradation characteristics of natural rubber vulcanizates modified with phosphorylated cashew nut shell liquid. *Polymer Degradation and Stability* **52**, 265-71.
 34. Menon, A. R. R., Pillai, C. K. S. and Nando, G. B. (1998). Vulcanization of natural rubber modified with cashew net shell liquid and its phosphorylated derivative - A comparative study. *Polymer* **39**, 4033-6.
 35. Mitra, B. C., Basak, R. K. and Sarkar, M. (1998). Studies on jute-reinforced composites, its limitations, and some solutions through chemical modifications of Fibers. *Journal of Applied Polymer Science* **67**, 1093-100.
 36. Morales, R. and Landires, M. d. S. d. (1988). Biotechnology in cashew (*Anacardium occidentale*, L.) processing. [Biotechnology en la industrializacion del maranon (*Anacardium occidentale*, L.)]. *Ciencia Agropecuaria* **5**, 51-9.
 37. Mothe, C. G. and Tavares, M. I. B. (1997). Study of phenolic resin-eva blends by thermal analysis. *Journal of Thermal Analysis* **49**, 477-81.
 38. Murthy, B. G. K. and Sivasamban, M. A. (1985). Recent trends in CNSL utilization. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 201-7.
 39. Muturi, P. and Arunga, R. O. (1988). Cashewnut shell liquid: a review of production and research in Kenya. *Tropical Science* **28**, 201-18.
 40. Nagy, S., Shaw, P. E. and Wardowski, W. F. (1990). Fruits of Tropical and Subtropical Origin. Composition, Properties and Uses. (Florida Science Source, Inc.: Lake Alfred, Florida, USA.)
 41. Nomura, M., Tada, T., Henmi, A., Fujihara, Y. and Shimomura, K. (1995). Synthesis of 6-[(8Z,11Z)-8,11,14-pentadecatrienyl]salicylic acid derivatives and their inhibition properties toward tyrosinase or Hyaluronidase. *Nippon Kagaku Kaishi* **Dec**, 986-93.
 42. Ortiz, N. A. J., Cooke, R. D. and Quiros, M. R. A. (1982). The processing of a date-like caramel

- from cashew apple. *Tropical Science* **24**, 29-38.
43. Osho, A. (1995). Evaluation of cashew apple juice for single cell protein and wine production. *Nahrung-Food* **39**, 521-9.
 44. Panda, R. and Panda, H. (1991). Antifouling coatings based on cashew nutshell liquid (CNSL) modified rosin. *Paint and Ink International* **4**, 30-2.
 45. Pearce, F. (1990). Brazil, where the ice cream comes from. *New Scientist* **127**, 45-8.
 46. Pessoa, P. F. A. P. and Bandeira, C. T. (1993). Cashew tree gum: a new income alternative for the northeast cashew industry. *Caju Informativo* No 6. 2p. (Centro Nacional de Pesquisa do Caju: Fortaleza, Brazil.)
 47. Pillai, G. K. S. (1993). High performance /functional polymers from cardanol. **7**, 18-22.
 48. Rao, M. S. S. (1985). Scope for development of alcoholic beverage from cashew apple. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 160-4.
 49. Sadala, D. V. and Mkyula, L. L. (1995). Preparation and characterization of activated carbons from cashew nut shell liquid and shells. *Pakistan Journal of Scientific and Industrial Research* **38**, 186-91.
 50. Sahoo, S. K., Swain, S. K., Mohapatra, D. K., Nayak, P. L. and Lenka, S. (1995). Polymers from renewable resources. 6. Synthesis and characterization of thermosetting resins derived from cashewnut shell liquid formaldehyde substituted aromatic compounds. *Angewandte Makromolekulare Chemie* **233**, 1-13.
 51. Selvaraj, M. and Guruviah, S. (1997). The electrochemical aspects of the influence of different binders on the corrosion protection afforded by zinc-rich paints. *Jocca-Surface Coatings International* **80**, 12.
 52. Sereda, L., Nunes, R. C. R. and Visconte, L. L. Y. (1997). Effect of phenolic resin on processing and mechanical properties of pp-nbr blends. *Polymer Bulletin* **39**, 647-51.
 53. Soares, J. B. and Casimiro, A. R. S. (1982). *Cajuina*. 20p. (Fundação Nucleo de Tecnologia Industrial, Secretaria de Estado de Industria e Comercio: Fortaleza, Brazil.)
 54. Suhaila, M. and Zahariah, H. (1995). Extraction and characterisation of pectin from various tropical agrowastes. *ASEAN Food Journal* **10**, 43-50.
 55. Trongpanich, K., Hiraga, C. and Subhadrabandhu, S. (1992). Jam from cashew apples: mixed jam. *Frontier in Tropical Fruit Research: An International Symposium on Tropical Fruit. Pattaya City, Thailand. 20-24 May, 1991*. pp. 864-70.
 56. van Eijnatten, C. L. M. (1979). Charcoal from coconut palms and cashew trees. *CARS Communication* No. 6. 5p.
 57. Zakaria, M. B. and Rahman, Z. A. (1996). Rheological properties of cashew gum. *Carbohydrate Polymers* **29**, 25-7.

Intercrops

1. Abdul Wahab Nafis (1984). Bris soil temperature. *MARDI Research Bulletin* **12**, 171-9.
2. Adeyemi, A. A. (1989). Cultural weed control in cashew plantations: Use of intercrops to reduce weed incidence in cashew plots. *Proceedings: Integrated Pest Management in Tropical and Subtropical Cropping Systems '89, Volume 3. Bad Durkheim, Germany, February 8-15 1989.* pp. 827-42. (DLG Verlag GmbH: Frankfurt am Main; Germany.)
3. Aiyelaagbe, I. O. O. (1994). Fruitcrops in the cashew-coconut system of Kenya: Their use, management and agroforestry potential. *Agroforestry Systems* **27**, 1-16.
4. Chalapathgi, K. (1989). Evaluation of fodder grasses as inter crop in cashew in Dakshin Kannada. *The Cashew* **3**, 17-8.
5. Chowdhury, M. K. (1992). Kendbona Eco-Development Project - a novel approach to wasteland reclamation. *Indian Forester* **118**, 879-86.
6. Ghosh, S. N. (1993). Effect of eucalyptus (*Eucalyptus teretecornia*) plants as intercrop in the cashew plantation - a case study in West Bengal. *The Cashew* **7**, 17-9.
7. Harishukumar, P. (1981). Cultural and manurial practices in cashew. *Indian Cashew Journal* **13**, 19-20.
8. Karch, G. E., Sullivan, G. M., Huke, S. M. and Fox, J. M. (1992). Comparison of agroforestry practices in Senegal using financial analysis. *Financial and Economic Analyses of Agroforestry Systems: Proceedings of a Workshop Held in Honolulu, Hawaii, USA, July 1991.* pp. 109-24. (Nitrogen Fixing Tree Association (NFTA): Paia, USA)
9. Le Quang Tri (1993). Present land use as a basis for land evaluation in the Mekong Delta. *ITC Journal* **4**, 377-85.
10. Ngowi, J. and Stocking, M. (1989). Assessing land suitability and yield potential for coconuts in Tanzania. *Applied Geography* **9**, 21-33.
11. Palanisamy, K., Yadukumar, N. and Rao, E. V. V. B. (1993). Physiological characteristics of cashew in intercropped system. *Plant Physiology and Biochemistry (New Delhi)* **20**, 99-101.
12. Paningbatan, E. P., Maglinao, A., Vila, M., Huelgas, G., Sajjapongse, A. and Elliott, C. R. (1995). The management of sloping lands for sustainable agriculture in the Philippines. ASIALAND: the Management of Sloping Lands for Sustainable Agriculture in Asia (Phase 2, 1992-1994). pp. 123-164. (International Board for Soil Research and Management Inc. (IBSRAM): Bangkok, Thailand.)
13. Sekar, C. and Karunakaran, K. R. (1994). Economic analysis of cashew plantations under agroforestry conditions of central Tamil Nadu. *Journal of Tropical Forest Science* **6**, 523-8.
14. Tri, L. Q., Nhan N. van, Huizing, H. G. J. and Van Mensvoort, M. E. F. (1993). Present land use as basis for land evaluation in two Mekong delta districts. *Selected Papers of the Ho Chi Minh City Symposium on Acid Sulphate Soils; Ho Chi Minh City, Viet Nam, MARCH 1992.* pp. 299-320.

Irrigation

1. Blaikie, S. J. and Chacko, E. K. (1996). A preliminary study of the effect of irrigation method on leaf water relations, gas exchange and yield of cashew in northern Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 43-51.
2. Blaikie, S. J. and Chacko, E. K. (1998). Sap flow, leaf gas exchange and chlorophyll fluorescence of container-grown cashew (*Anacardium occidentale* L.) trees subjected to repeated cycles of soil drying. *Australian Journal of Experimental Agriculture* **38**, 305-11.
3. Dasari, N. R. (1992). Cashew research in the Northern Territory. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 7.
4. Ghosh, S. N. (1995). Studies on effect of watering during flowering and fruiting on yield of cashew. *The Cashew* **9**, 5-8.
5. Grundon, N. J., Blaikie, S. J. and Chacko, E. K. (1996). The CSIRO cashew multi-divisional project. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 25-9.
6. Heading, F. (1992). Cashew establishment and management techniques on Kununurra clay. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 25-7.
7. Kamal, J. M., Yaacob, O., Husin, A. and Paramanathan, S. (1984). Fertility status of sandy beach ridges in Peninsular Malaysia. *Proceedings of the Fifth ASEAN Soil Conference Soil Science As a Tool for Rural Development Volume I*. pp. 1-10. (Department of Land Development: Thailand.)
8. Luvall, J. C. and Uhl, C. (1990). Transpiration for several woody successional species and for a pasture in the upper Amazon basin in Venezuela. *Acta Amazonica* **20**, 29-38.
9. Millington, A. J. (1990). Voyager Enterprises : Cashew Project : Kununurra. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 35-6.
10. O'Farrell, P. J. (1994). QDPI Research at Cashews Australia, Dimbulah. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 23-31.
11. Rao, A. S. (1987). Interception losses of rainfall from cashew trees. *Journal of Hydrology, Netherlands* **90**, 293-301.
12. Richards, N. K. (1993). Cashew response to water and nutrients in a sandy red earth soil of the Northern Territory. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 17-38. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
13. Richards, N. K. (1991). Cashew yield profiles in the Northern Territory. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
14. Richards, N. K. (1990). Summary of cashew research at Wildman River : Northern Territory DPIF. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 5-7.
15. Schaper, H. and Chacko, E. K. (1992). Diurnal variations in gas exchange and water relations of cashew leaves (*Anacardium occidentale* L.). *Gartenbauwissenschaft* **57**, 88-92.
16. Schaper, H. and Chacko, E. K. (1993). Effect of irradiance, leaf age, chlorophyll content and branch-girdling on gas exchange of cashew (*Anacardium occidentale* L.) leaves. *Journal of Horticultural Science* **68**, 541-50.
17. Schaper, H., Chacko, E. K. and Blaikie, S. J. (1996). Effect of irrigation on leaf gas exchange and yield of cashew in northern Australia. *Australian Journal of Experimental Agriculture* **36**, 861-8; SEE REPRINT under Blaikie & Chacko "Effect of irrigation method on water relations and yield of cashew in northern Australia".

18. Sherrard, J. A., Atyeo, R., Cross, E. and Millington, A. J. (1993). Irrigation of cashew on Kununurra clay soil in the Ord River Irrigation Area. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
19. Sherrard, J. A., Millington, A. J. and Atyeo, R. (1992). Procedures for development of an irrigation management system for flood irrigation of cashew on Kununurra clay in the semi-arid tropics of Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 130-5.
20. South Africa, Water Research Commission (1995). Moisture stress in crops evaluated with remotely piloted aircraft. *International Water Irrigation Review* **15**, 22-3.
21. Subbaraj, D., Ramaswamy, P. P. and Arunachalam, G. (1993). Efficiency of qemisorb agricultural polymers for water retention in tree cropped Theri [sand dune] lands (Typic Ustipsamments). *South Indian Horticulture* **41**, 379-80.
22. van Eijnatten, C. L. M. and Karisa, S. J. (1980). Proposal for the development of nursery activities on perennial crops in Coast Province and its cost of implementation. CARS Communication No. 9. 38p.
23. Yormah, T. B. R. and Egbenda, P. O. (1995). An assessment of the soil-conditioning capacity of gums exuded by some trees in Sierra Leone: I. Hydraulic conductivity measurements. *International Agrophysics* **9**, 55-65.

Marketing

1. Das, H. C. L. (1995). New global economic environment and India's farm exports potential. *Bihar Journal of Agricultural Marketing* **3**, 378-87.
2. Duncan, I. (1989). World cashew market: Summary report and conclusions. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
3. Duncan, I. (1992). World Cashew Market: 1992. pp. 100. (RIRDC: Canberra, ACT.)
4. Duncan, I. (1993). World cashew market. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
5. Gunnerod, P. K. (1994). Tropical nuts: strong demand in the United Kingdom. *International Trade Forum* **2**, 24-7.
6. Information Services, Tanzania. (1979). Agriculture and Livestock. 46p. (Government Printer: Dar es Salaam, Tanzania.)
7. ISO. (1988). International Standard: Cashew Kernels - Specification. pp. 1-4. (ISO, Rome:)
8. Itharattana, K. (1996). Market prospects for upland crops in Thailand. Working Paper - CGPRT No. 21. 104p. (Regional Co-ordination Centre for Research and Development of Coarse Grains, Pulses, Roots and Tuber Crops in the Humid Tropics of Asia and the Pacific (CGPRT Centre: Bogor, Indonesia.)
9. Jaffee, S. (1994). Private trader response to market liberalization in Tanzania's cashew nut industry. Policy Research Working Papers - World Bank No. WPS1277. 42p. (World Bank: Washington, D.C, USA.)
10. Jaffee, S. (1995). Private sector response to market liberalization in Tanzania's cashew nut industry. *In: Marketing Africa's High Value Foods: Comparative Experiences of an Emergent Private Sector*. (ed. S. Jaffee and J. Morton.) pp. 153-98. (Kendall-Hunt Publishing Company: Dubuque, Iowa, USA.)
11. Jaffee, S. and Morton, J. (1995). *Marketing Africa's High-Value Foods: Comparative Experiences of an Emergent Private Sector*. 503p. (Kendall-Hunt Publishing Company: Dubuque, Iowa, USA.)
12. Lopes, M. R., Jank, M. S. and Montrigaud, M. E. B. A. (1995). Agricultural NAFTA and its implications for Brazil. [O NAFTA agricola e suas implicacoes para o Brazil.] *Agroanalysis* **15**, 8-12.
13. Lopes, N. A. (1981). The Cashew Industry in North East Brazil and Other Major Producing Countries. [A Agroindustria do Caju No Nordeste do Brasil e em Outros Paises Grandes Produtores.] 472p. (Banco do Nordeste do Brasil: Fortaleza, Brazil.)
14. Ooi, S. C. (1988). Some considerations in the choice of fruit development in the South Pacific. *Alafua Agricultural Bulletin* **13**, 17-26.
15. Peethambaran, C. K. (1992). Cashew in Mozambique. *The Cashew* **6**, 11-5.
16. Raikar, N. A., Murthy, H. G. S. and Kunnal, L. B. (1990). Price spread of cashew in Karnataka. *Indian Journal of Agricultural Marketing* **4**, 173-7.
17. Roperos, N. I. (1992). Major Philippine fresh fruit exports: status and prospects in the international market. *Philippine Journal of Crop Science* **17**, 105-14.
18. Srinivas, T. and Raju, V. T. (1994). Margins and price spread in marketing of cashew in Andhra Pradesh. *Bihar Journal of Agricultural Marketing* **2**, 235-40.
19. Trivedi, B. B. (1990). The consumers cooperative stores - Port Blair - a case study. *Indian Cooperative Review* **28**, 99-123.
20. Ummat, R. C. and Kothari, P. (1990). Promoting agro-exports. *Alternative Appropriate Technologies in Agriculture* **4**, 73-89.

Mechanisation

1. Ajav, E. A. (1996). The design and testing of a low-cost cashew-nut cracker for peasant farmers. *Tropical Agriculture* **73**, 180-6.
2. Ascenso, J. C. (1986). Potential of the cashew crop. 2. *Agriculture International* **38**, 368-71.
3. Baker, I. (1989). Summary of cashew processing project. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
4. Baker, I. (1990). Cashew processing. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 29-31.
5. Baker, I. (1991). Cashew testa removal. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
6. Baker, I. and Kuppelwieser, W. (1989). Cashew research activities. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
7. Heading, F. (1992). Cashew establishment and management techniques on Kununurra clay. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 25-7.
8. Jain, R. K. and Kumar, S. (1997). Development of a cashew nut sheller. *Journal of Food Engineering* **32**, 339-45.
9. Millington, A. J. (1992). Cashew research: Overview Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 1-6.
10. Pinson, G. S., Melville, D. J. and Cox, D. R. S. (1991). Decortication of tropical oilseeds and edible nuts. Overseas Development Natural Resources Institute Bulletin No.42. 38p.
11. Sabarez, H. T. and Noomhorm, A. (1993). Performance testing of an experimental screw conveyor dryer for roasting cashew nuts. *Postharvest Biology and Technology* **2**, 171-8.
12. Thivavarnvongs, T. (1989). The design synthesis of a semi-automatic cashew nut sheller. American Society of Agricultural Engineers Paper No. 89-6615. 6p.
13. Thivavarnvongs, T., Okamoto, T. and Kitani, O. (1995). Development of compact sized cashew nut shelling machinery (Part 1). Syntheses of effective manual and semi-automatic shelling methods. *Journal of the Japanese Society of Agricultural Machinery* **57**, 57-65.
14. Thivavarnvongs, T., Sakai, N. and Kitani, O. (1995). Development of compact sized cashew nut shelling machinery (Part 2). Testing and evaluation of manual and semi-automatic shellers. *Journal of the Japanese Society of Agricultural Machinery* **57**, 85-93.

Mineral Element Concentration

1. Allen, K. G. D., Klevay, L. M. and Springer, H. L. (1977). The zinc and copper content of seeds and nuts. *Nutrition Reports International* **16**, 227-30.
2. Ankaiah, S. and Rao, P. V. (1983). Studies on the age of leaf, time of absorption and concentration of urea spray on cashew. *Indian Cashew Journal* **15**, 19-21.
3. Anuar, A. R., Yaacob, O., Mohd. Radzi, M. N. and Subhadrabandhu, S. (1992). The nutritional status and the tree phenology of selected fruit trees in three different agro-ecological zones of Malaysia. *Frontier in Tropical Fruit Research. Proceedings of International Symposium Held on 20-24 May 1991, Pattaya City, Thailand*. pp. 545-52.
4. Augustin, A. and Unnithan, V. K. G. (1982). An attempt on maturity of cashew apple. *Indian Cashew Journal* **14**, 9-11.
5. Awolumate, E. O. (1983). Chemical composition and potential uses of processing wastes from some Nigerian cash crops. *Turrialba* **33**, 381-6.
6. Beena Bhaskar (1992). Uptake Pattern of Major and Minor Nutrients in Selected Cashew Types. MScAgr Thesis. 142p. (Kerala Agricultural University: Vellanikkara, Thrissur, Kerala, India.)
7. Beena Bhaskar, Salam, M. A. and Wahid, P. A. (1995). Nutrient offtake in cashew. *The Cashew* **9**, 9-16.
8. Bera, P. K., Bhattacharyya, A. K., Roy, G. C. and Mazumdar, B. C. (1988). Pre-harvest sprayings with solutions of urea, zinc sulphate and NAA on cashewnut trees. *Indian Biologist* **20**, 27-30.
9. Bose, T. K., Mitra, S. K. and Sadhu, M. K. (1988). Mineral Nutrition of Fruit Crops. 773p. (Naya Prokash: Calcutta, India.)
10. Correa, L. d. S., Nascimento, V. M. d. and Neves, L. H. (1991). Variations in leaf N, P, K, Ca and Mg contents in three types of cashew (*Anacardium occidentale* L.) during one year. [Variacoes dos teores foliares de N, P, K, Ca e Mg em tres tipos de cajueiro (*Anacardium occidentale* L.) durante um ano.] *Cientifica Jaboticabal* **19**, 19-29.
11. Falade, J. A. (1978). Effects of macronutrients on mineral distribution in cashew (*Anacardium occidentale* L.). *Journal of the Science of Food and Agriculture* **29**, 81-6.
12. Falade, J. A. (1978). Effects of macronutrients on the growth and dry matter accumulation of cashew (*Anacardium occidentale* L.). *Turrialba* **28**, 123-7.
13. Furr, A. K., MacDaniels, L. H., St. John, L. E. Jr., Gutenmann, W. H., Pakkala, I. S. and Lisk, D. J. (1979). Elemental composition of tree nuts. *Bulletin of Environmental Contamination and Toxicology* **21**, 392-6.
14. George, T. E., Veeraraghavan, P. G. and Rao, D. S. (1984). Studies on the leaf nutrient content of cashew (*Anacardium occidentale* L.) in relation to methods of fertilizer application. *Indian Cashew Journal* **16**, 11-3.
15. Gopikumar, K. and Aravindakshan, M. (1986). Sand culture studies in cashew. *Indian Cashew Journal* **18**, 9-14.
16. Haag, H. P., Sarruge, J. R., Oliveira, G. D. d. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*). I. Macronutrient deficiency - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.). I. Deficiencia dos macronutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 185-90.
17. Haag, H. P., Sarruge, J. R., Oliveira, G. D. d., Scoton, L. C. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*) III. The uptake of nutrients - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.) III. Absorcao de nutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 197-204.
18. Kamal, A. J., Rahman, W. A. and Yaacob, O. (1985). The effect of liming and phosphorus application on the leaf nutrient contents of cashew on tin tailing and bris soils in Malaysia. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 91-4.
19. Kesavan, V. (1996). NPK nutrition of cashew on Cununurra Clay at the Ord River Irrigation Area, Kununurra, Western Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. p. Supplement.

20. Kumar, P. H. (1982). Nutrient distribution in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **14**, 13-7.
21. Kumar, P. H., Nair, B. P. and Murthy, K. N. (1982). Standardisation of leaf sample size for NPK analysis in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **14**, 13-4.
22. Kumar, P. H., Nair, B. P., Rakhiappan, P., Nagabhushanam, S. and Mohan, E. (1982). Variation in mineral composition of leaves of cashew (*Anacardium occidentale* L.) as affected by season, position and age. *Indian Cashew Journal* **14**, 7-10.
23. Kumar, P. H., Rakhiappan, P., Nair, B. P., Mohan, E. and Nagabhushanam, S. (1985). Effect of season, position and age of leaf on the major nutrient composition of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 293-4.
24. Kumar, P. H. and Sreedharan, C. (1987). Correlation studies between leaf nutrients and fruit (pseudo apple) quality characters in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 15-6.
25. Kumar, P. H. and Sreedharan, R. (1987). Determination of critical concentrations of N and P in cashew leaf. *Indian Cashew Journal* **18**, 22-3.
26. Latha, A., John, P. S. and George, M. (1996). Effect of NPK fertilisation on the growth of cashew. *The Cashew* **10**, 8-10.
27. Latha, A., John, P. S., George, M. and Krishnan, S. (1994). Productivity of cashew as influenced by chlorophyll and leaf nitrogen content. *Journal of Tropical Agriculture* **32**, 86-8.
28. Latis, T. and Chibiliti, G. (1988). Foliar diagnosis of nutrient deficiencies in cashew: a study conducted in the Western Province of Zambia. *Rivista di Agricoltura Subtropicale e Tropicale* **82**, 677-89.
29. Marchal, J. (1987). Miscellaneous tropical fruit. *In: Plant Analysis As a Guide to the Nutrient Requirements of Temperate and Tropical Crops*. (ed. P. Martin-Prevel, J. Gagnard, and P. Gautier.) pp. 440-53. (Lavoisier Abonnements: Paris, France.)
30. Martin-Prevel, P., Gagnard, J. and Gautier, P. (1984). Cashew. *In: Plant Analysis: As a Guide to the Nutrient Requirements of Temperate and Tropical Crops*. (ed. P. Martin-Prevel, J. Gagnard, and P. Gautier.) pp. 445-53. (Lavoisier Publishing Inc: New York.)
31. Martin-Prevel, P., Marchal, J., Lefebvre, A. and Cottenie, A. (1976). Foliar analysis and mineral nutrition of cashew in Madagascar. [Analyse foliaire et nutrition minerale de l'anacardier a Madagascar.] *Comptes-Rendus, 4e Colloque International sur le Controle de l'Alimentation des Plantes Cultivees. Gent, September 1976, Vol. II*. pp. 641-51. (Rijksuniversiteit: Gent, Belgium.)
32. Meena, B. A., Umaphathy, K. P., Pankaja, N. and Prakash, J. (1987). Soluble and insoluble oxalates in selected foods. *Journal of Food Science and Technology, India* **24**, 43-4.
33. Menon, M. A. and Sulladmath, U. V. (1981). Mineral nutrition of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **14**, 7-13.
34. Mohapatra, A. R., Kumar, K. V. and Bhat, N. T. (1973). A study on nutrient removal by the cashew tree. *Indian Cashew Journal* **9**, 19-20.
35. Padhy, S. K., Rath, S. and Kar, M. (1994). A note on the effect of sulphur dioxide fumigation on cashewnut. *Orissa Journal of Horticulture* **22**, 80-3.
36. Reddy, A. V., Rao, P. V. N., Ankaiah, S. and Rao, I. V. S. (1982). Cashew NPK nutrition in relation to growth under graded doses of nitrogen fertilization. *Indian Cashew Journal* **14**, 15-9, 21.
37. Reddy, S. E. and Reddy, K. S. (1987). Partitioning of nitrogen, phosphorus and potassium in cashew (*Anacardium occidentale* L.) trees. *Indian Cashew Journal* **18**, 17-21.
38. Richards, N. K. (1993). Cashew tree yield, growth and macronutrient status, as influenced by fertilizer applications. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 1-16. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
39. Richards, N. K. (1993). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths. Cashew Research in Northern Territory,

- Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 50-65. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
40. Richards, N. K. (1994). Leaf Analysis As a Guide to Nitrogen, Phosphorus and Potassium Status, and Yield and Growth of Cashew in the Killuppa Soil of the Northern Territory. MAgSc Thesis. 153p. (The University of Queensland: Brisbane, Queensland.)
 41. Robinson, D. and Kesavan, V. (1994). The effect of N P K nutrition on the early growth and yield of cashew on Cununurra Clay soil. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 32-40.
 42. Robinson, D., Kesavan, V. and Millington, A. J. (1993). N, P, K nutrition of cashews on Kununurra clay at the Ord River Irrigation Area. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
 43. Rovira, L. A. and Brasil Sob, M. O. C. (1976). Study on the effect of macronutrient deficiency on the growth and mineral composition of cashew plants grown in nutrient solutions. [Estudio de las deficiencias de los macronutrientes sobre el crecimiento y la composicion mineral del merey (*Anacardium occidentale* L.) cultivado en soluciones nutritivas.] *Agronomia Tropical* **26**, 143-54.
 44. Sanyal, D. and Mitra, S. K. (1991). Standardisation of leaf sampling technique for mineral composition of cashew cv. Red Hazari. *The Cashew* **5**, 8-11.
 45. Sarruge, J. R., Haag, H. P., Oliveira, G. D. d. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*) II. Micronutrient deficiency - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.) II. Deficiencias dos micronutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 191-5.
 46. Subbaiah, C. C., Manikandan, P. and Joshi, Y. (1986). Yellow leaf spot of cashew: a case of molybdenum deficiency. *Plant and Soil* **94**, 35-42.
 47. Thomson, C. D. and Robinson, M. F. (1989). Food concentrations and dietary intakes of selenium in Otago, New Zealand. *Trace Elements in New Zealand: Environmental, Human and Animal.* pp. 113-7.
 48. Toohill, B., McFadden, D. and Millington, A. J. (1992). Nutrient analysis of various parts of cashew leaves. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 42-8.
 49. Yaacob, O. and Kamal, A. J. M. (1983). The nutrition of cashew on the sandy soils of Malaysia. *Communications in Soil Science and Plant Analysis* **14**, 679-88.
 50. Yaacob, O., Ngah, W. A. R. and Kamal, A. J. (1985). Effect of rainfall, age and position on the nutrient content of cashewnut leaf on tin tailing in Malaysia. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* pp. 85-90.
 51. Zech, W. (1984). Investigations on the occurrence of potassium and zinc deficiencies in plantations of *Gmelina arborea*, *Azadirachta indica* and *Anacardium occidentale* in semi-arid areas of West Africa. *Potash Review* **22/31**, 1-5.

Morphology

1. de la Cruz, F. Jr. and Fletcher, R. (1996). Identification of morphological characteristics associated with nut yield components in cashew (*Anacardium occidentale* L.). *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 6-17.
2. de la Cruz, F. Jr. and Fletcher, R. (1994). Variability among cashew trees at Cashews Australia, Dimbulah. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 18-22.
3. Gangadhara, N. M., Swamy, K. R. M. and Palanisamy, K. (1995). Studies on screening of cashew types for dwarfing character. *The Cashew* **9**, 18-24.
4. International Board for Plant Genetic Resources. (1986). *Cashew Descriptors*. (IBPGR Secretariat: Rome)
5. Melanta, K. R., Sulladmath, U. V. and Syamasunder, J. (1989). Root anatomy of cashew (*Anacardium occidentale* L.). *Mysore Journal of Agricultural Sciences* **23**, 501-3.
6. Nair, G. M., Venkaiah, K. and Shah, J. J. (1983). Ultrastructure of gum-resin ducts in cashew (*Anacardium occidentale*). *Annals of Botany* **51**, 297-305.
7. Sivadasan, M. (1985). Primary vascularization in cashew (*Anacardium occidentale* L.). *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 9-16.
8. Sy, M. O., Martinelli, L. and Scienza, A. (1991). *In vitro* organogenesis and regeneration in cashew (*Anacardium occidentale* L.). *International Symposium on Plant Biotechnology and Its Contribution to Plant Development, Multiplication and Improvement Geneva, Switzerland 19-20 April 1991*. pp. 267-8.
9. Usha, K. E. (1996). Screening of cashew seedlings at nursery stage for the use as dwarfing rootstock. *The Cashew* **10**, 9-10.

Nursery Management

1. Adams, B. R. (1975). Container production of cashew seedling rootstocks - seed germination in beds as an alternative to direct sowing. *Acta Horticulturae*, 99-108.
2. Harishukumar, P. (1981). Cultural and manurial practices in cashew. *Indian Cashew Journal* **13**, 19-20.
3. Jennings, B. (1992). Time of outplanting of cashews. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 20-4 (a).
4. Jennings, B. (1993). Time of outplanting of cashews in Kununnurra, WA. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
5. McFadden, D. (1992). Cashew propagation improvements, grafting age, planting age and potting media. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 14-9.
6. Melanta, K. R. and Sulladmath, U. V. (1990). Studies on propagation of cashew (*Anacardium occidentale* L.) by cuttings. *Mysore Journal of Agricultural Sciences* **24**, 79-82.
7. Rao, M. B. N., Satyanarayana, G., Raj, A. S., Gnanakumari, N. and Padmanabham, V. (1990). Effect of some propagation structures on rooting of stem cuttings of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **20**, 17-20.
8. Shetty, K. K. and Melanta, K. R. (1990). Hardening of cashew (*Anacardium occidentale* L.) air layers in planting media to improve field establishment. *Mysore Journal of Agricultural Sciences* **24**, 375-8.
9. Smith, M. W. and Bowman, L. (1994). Cashew rootstocks : Why and how. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 14-7.

Phenology

1. Almeida, F. A. G., Silva, A. Z., Almeida, F. C. G., Albuquerque, J. J. L. d. and Meneses, J. Jr. (1995). Comparative phenology of two dwarf cashew progenies under irrigation. [Fenologia comparativa de duas progenies de cajueiro anao sob condicoes de irrigacao.] *Revista de la Facultad de Agronomia, Universidad Central de Venezuela* **21**, 157-78.
2. Anuar, A. R., Yaacob, O., Mohd. Radzi, M. N. and Subhadrabandhu, S. (1992). The nutritional status and the tree phenology of selected fruit trees in three different agro-ecological zones of Malaysia. *Frontier in Tropical Fruit Research. Proceedings of International Symposium Held on 20-24 May 1991, Pattaya City, Thailand.* pp. 545-52.
3. Conticini, L. (1982). Cashew phenological guide. [Guida fenologica dell'anacardio (*Anacardium occidentale* L.).] *Rivista di Agricoltura Subtropicale e Tropicale* **76**, 221-42.
4. McFadden, D. and Toohill, B. (1992). Phenology of cashew trees at the Ord River Irrigation Area (ORIA) North East Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 126-9.
5. O'Farrell, P. J. (1992). Summary of cashew research at Cashews Australia Dimbulah, North Queensland. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 8-10.
6. O'Farrell, P. J. (1993). A report on Queensland Department of Primary Industries cashew research and development program in Northern Queensland. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
7. O'Farrell, P. J., Armour, J. D. and Reid, D. J. (1996). Preliminary results on the effect of nitrogen on the growth and nut yield of cashew cv 9/14 in North Queensland. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland.* pp. 52-9.

Photosynthesis

1. Balasimha, D. (1991). Photosynthetic characteristics of cashew trees. *Photosynthetica* **25**, 419-23.
2. Balasimha, D. and Yadukumar, N. (1993). Effect of plant density on photosynthesis in cashew. *Indian Journal of Plant Physiology* **36**, 5-7.
3. Blaikie, S. J. and Chacko, E. K. (1996). A preliminary study of the effect of irrigation method on leaf water relations, gas exchange and yield of cashew in northern Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 43-51.
4. Blaikie, S. J. and Chacko, E. K. (1998). Sap flow, leaf gas exchange and chlorophyll fluorescence of container-grown cashew (*Anacardium occidentale* L.) trees subjected to repeated cycles of soil drying. *Australian Journal of Experimental Agriculture* **38**, 305-11.
5. Chacko, E. K. (undated). Improving productivity of cashews in Northern Australia. A Final Report Prepared by CSIRO Division of Horticulture for the Rural Industries Research and Development Corporation. pp. 108. (CSIRO Division of Horticulture:
6. Chacko, E. K. (1990). Summary of research work by CSIRO. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 14-8.
7. Chacko, E. K. (1991). Summary of cashew research at the CSIRO Division of Horticulture, Darwin, NT. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
8. Leonardi, J., Chacko, E. K., Vithanage, V. and Turnbull, C. G. N. (1994). Distribution of C-assimilates in vegetative and reproductive organs of cashew (*Anacardium occidentale* L.). *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 60-8.
9. Palanisamy, K., Kumaran, P. M. and Thimmappaiah (1994). Photosynthetic characteristics of released varieties and purple variety of cashew. *The Cashew* **8**, 19-22.
10. Palanisamy, K. and Yadukumar, N. (1993). Photosynthesis in relation to radiation and leaf position in cashew trees. *Photosynthetica (Prague)* **29**, 113-6.
11. Schaper, H. (1991). Leaf Gas Exchange As Influenced by Environmental and Plant Internal Factors in Cashew (*Anacardium occidentale* L.). Ph D thesis. 96p. (Institut fur Obstbau undgemusebau der Rheinischen Friedrich-Wilhelms-Universitat: Bonn, Germany.)
12. Schaper, H. and Chacko, E. K. (1993). Effect of irradiance, leaf age, chlorophyll content and branch-girdling on gas exchange of cashew (*Anacardium occidentale* L.) eaves. *Journal of Horticultural Science* **68**, 541-50.
13. Schaper, H., Chacko, E. K. and Blaikie, S. J. (1996). Effect of irrigation on leaf gas exchange and yield of cashew in northern Australia. *Australian Journal of Experimental Agriculture* **36**, 861-8.

Plant Breeding & Varietal Selection

1. Abubaker, A. S. (1985). Improving cashew nut production through selection and an improved planting method. *Proceedings of the Ninth African Symposium on Horticultural Crops Mahe, Seychelles July 27-29, 1983*. pp. 393-5.
2. Anonymous (1993). 'Kanaka' and Dhana' - New promising varieties of cashew for Kerala. **7**, 3-4.
3. Anonymous (1995). Priyanka - a new high yielding cashew hybrid (H-1591) from Kerala Agricultural University. *The Cashew* **9**, 3.
4. Anupunt, P., Nopkoonwong, U. and Subhadrabandhu, S. (1992). Cashew varietal study and selection in the northeast, Thailand. *Frontier in Tropical Fruit Research. Proceedings of International Symposium Held on 20-24 May 1991, Pattaya City, Thailand*. pp. 249-53.
5. Anupunt, P., Nopkoonwong, U. and Subhadrabandhu, S. (1992). Germplasm collection of cashew. *Frontier in Tropical Fruit Research. Proceedings of International Symposium Held on 20-24 May 1991, Pattaya City, Thailand*. pp. 174-7.
6. Anupunt, P., Nopkoonwong, U. and Subhadrabandhu, S. (1992). Yield trial of commercial varieties and selected clones of cashew. *Frontier in Tropical Fruit Research. Proceedings of International Symposium Held on 20-24 May 1991, Pattaya City, Thailand*. pp. 220-5.
7. Bajaj, Y. P. S. (1996). Biotechnology in Agriculture and Forestry 35. Trees IV. 427p. (Springer-Verlag: Berlin, Germany.)
8. Baker, I. and Kuppelwieser, W. (1989). Cashew research activities. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
9. Barros, L. d. M. (1980). The active bank of cashew germplasm. [Banco ativo de germoplasma de caju.] *Simposio de Recursos Geneticos Vegetais. Sessao I. Bancos Ativos de Germoplasma. 21--25 de Maio de 1979, Brasilia-DF*. pp. 73-4. (CENARGEN/EMBRAPA: Brasilia, Brazil.)
10. Bavappa, K. V. A. and Nair, M. K. (1989). Varietal improvement in plantation crops. *Journal of Plantation Crops* **16**, 349-50.
11. Bettencourt, E., Hazekamp, T. and Perry, M. C. (1992). Directory of Germplasm Collections. 6. I. Tropical and Subtropical Fruits and Tree Nuts. Annona, Avocado, Banana and Plantain, Breadfruit, Cashew, *Citrus*, Date, Fig, Guava, Mango, Passionfruit, Papaya, Pineapple and Others. 337p. (IBPGR: Rome, Italy.)
12. Bhaskara Rao, E. V. V. (1989). Released cashew varieties. *The Cashew* **3**, 16-7.
13. Chacko, E. K. (undated). Improving productivity of cashews in Northern Australia. A Final Report Prepared by CSIRO Division of Horticulture for the Rural Industries Research and Development Corporation. pp. 108. (CSIRO Division of Horticulture: Adelaide.)
14. Chacko, E. K. (1990). Summary of research work by CSIRO. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 14-8.
15. Chacko, E. K. (1991). Summary of cashew research at the CSIRO Division of Horticulture, Darwin, NT. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
16. Chacko, E. K. (1992). Cashew research at the CSIRO Division of Horticulture A status report (1992). *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 77-83, 94-102.
17. Chacko, E. K. (1993). Cashew research at CSIRO Division of Horticulture. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
18. Chacko, E. K. (1994). Cashew hybridisation during 1988 - 92 (CSH-36H) and evaluation of progenies planted at four test sites in Northern Australia. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 1-10.
19. Chacko, E. K. (1997). Evaluating cashew hybrids in Northern Australia. RIRDC Research Paper Series No 97/56. pp. 43. (RIRDC: Canberra, ACT.)
20. Chacko, E. K., O'Farrell, P., Loveys, B. and Blaikie, S. (1996). Breeding and evaluation of

- cashew hybrids - A status report. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. p. Supplement.
21. Chandregowda, M., Krishnappa, K. S., Narayana Reddy, M. A. and Thirumala Raju, G. T. (1989). Performance of certain cashew selections under Chintamani conditions. *The Cashew* **3**, 7-8.
 22. Conticini, L. and Partel, L. (1983). AC4, a cashew clone selected in Tanzania. *Rivista di Agricoltura Subtropicale e Tropicale* **77**, 503-7.
 23. Damodaran, V. K. (1979). Agro-technology for increased cashew nut production. *Indian Farming* **28**, 29-31.
 24. Damodaran, V. K. (1977). F1 population variability in cashew. *Journal of Plantation Crops* **5**, 89-91.
 25. Dasari, N. R. (1992). Cashew research in the Northern Territory. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 7.
 26. Depaiva, J. R., Barros, L. D., Crisostomo, J. R., Dearaujo, J. P. P., Rossetti, A. G., Cavalcante, J. J. V. and Felipe, E. M. (1998). Inbreeding depression in early dwarf type progenies of cashew var. Nanum. *Pesquisa Agropecuaria Brasileira* **33**, 425-31.
 27. Dhamodaran, V. K., Raghavan, P. G. V. and Vasavan (1978). Cashew breeding. *Agricultural Research Journal of Kerala* **16**, 9-13.
 28. Duncan, I. (1992). Brief summary of Wildman River Project. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 116-20.
 29. Duncan, I., Fitzgerald, C. and Knight, P. (1991). An overview of Britannia operations at Wildman River. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
 30. Faluyi, M. A. (1986). Investigations on seedling vigour in cashew (*Anacardium occidentale* L.). *Plant Breeding* **97**, 237-45.
 31. Faluyi, M. A. (1987). Genetic variability among nut yield traits and selection in cashew (*Anacardium occidentale* L.). *Plant Breeding Z Pflanzenzucht* **98**, 257-61.
 32. George, M. V., Amarnath, C. H., Bhagavan, S. and Vijayakumar, K. (1989). Field evaluation of forecasting model for cashew yield in large plantations. *The Cashew* **3**, 8-10.
 33. George, S. P., Gopimony, R. and Gangadharan, P. (1984). Seedling progeny analysis in selected cashew types. *Agricultural Research Journal of Kerala* **22**, 124-8.
 34. George, T. E., Pushpalatha, P. B. and Veeraraghavan, P. G. (1991). Improved cashew varieties and hybrids developed by Kerala Agricultural University. *The Cashew* **5**, 7-8.
 35. Ghosh, S. N. and Hore, J. K. (1992). Evaluation of some cashew cultivars under red and laterite zone of west Bengal. *Environment and Ecology* **10**, 755-7.
 36. Hallad, J. S., Sulikeri, G. S. and Hulamani, N. C. (1993). Physico-chemical properties of cashew (*Anacardium occidentale* L.) apples of different cultivars. *The Cashew* **7**, 10-1.
 37. Iyer, R. D. (1995). Biotech-breeding for plantation crop improvement. *Journal of Plantation Crops* **23**, 1-18/90.
 38. Kologi, S. D., Sulikeri, G. S. and Nagaraj, A. F. (1977). Chrompet - Madras selection of cashewnut is promising. *Current Research, University of Agricultural Sciences, Bangalore* **6**, 201-2.
 39. Krishnappa, K. S., Gowda, M. C., Reddy, M. A. N. and Raju, G. T. T. (1989). Initial evaluation of certain cashew (*Anacardium occidentale* L.) selections under eastern dryzone of Karnataka. *Indian Cashew Journal* **19**, 19-21.
 40. Kumar, D. P. and Hegde, M. (1994). 'Ullal-3' - a new cashew variety for Karnataka. *The Cashew* **8**, 11-4, 17.
 41. Kumar, D. P. and Hegde, M. (1997). 'Ullal-4' and 'UN-50' promising cashew varieties for coastal Karnataka. *Cashew* **11**, 8-12.
 42. Kuppelwieser, W. (1989). Variety selection in cashew plantations in northern Australia (in the Darwin area). [Uber die Sortenselektion im Kaschunussanbau in Nordaustralien (Umgebung Darwin).] *Erwerbsobstbau* **31**, 216-20.

43. Kuppelwieser, W. (1991). Some results and comments derived from cashew research at CPRS and BARC. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated.)
44. Manoj, P. S. and George, T. E. (1993). Heterosis in cashew (*Anacardium occidentale* L.). *The Cashew* **7**, 7-9.
45. Manoj, P. S., George, T. E. and Krishnan, S. (1993). Evaluation of F1 hybrids of cashew (*Anacardium occidentale* L.). *The Cashew* **7**, 3-4.
46. Manoj, P. S., George, T. E. and Krishnan, S. (1994). Variability in cashew (*Anacardium occidentale* L.) as influenced by hybridization. *The Cashew* **8**, 10-3.
47. Manoj, P. S., George, T. E. and Krishnan, S. (1994). Correlation studies and path coefficient analysis in cashew (*Anacardium occidentale* L.) hybrids. *The Cashew* **8**, 13-4.
48. Mathew, P. A. and Nagabhushanam, S. (1989). Promising cashew accessions in Goa. *Indian Cashew Journal* **19**, 17-8.
49. Menon, K. N., Ravindran, P. N. and Nair, B. P. (1985). Specific gravity of seeds as a mass selection criteria in cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 279.
50. Millington, A. J. (1992). Cashew research: Overview Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 1-6.
51. Millington, A. J. (1993). Cashew review: Voyager, Kununurra 1992 -93. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
52. Mohan, K. V. J., Bhagavan, S. and Kumaran, P. M. (1987). Classification of cashew (*Anacardium occidentale* L.) accessions in germplasm using index score method. *Turrialba* **37**, 369-73.
53. Nalini, P. V., Pushpalatha, P. B. and Chandy, K. C. (1994). A special type of cashew nut sans shell liquid. *The Cashew* **8**, 15-6.
54. Nalini, P. V., Pushpalatha, P. B. and Chandy, K. C. (1994). Hybrids for nut size. *The Cashew* **8**, 23-4.
55. Nalini, P. V. and Santhakumari, S. (1991). Study on performance of selected types of cashew at Cashew Research Station Anakkayam, Kerala. *The Cashew* **5**, 3-6.
56. Nambiar, M. C. (1985). All India Co-ordinated Cashewnut Improvement Project - its aims and achievements. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* pp. 7-9. (Central Plantation Crops Research Institute: Kasaragod, India.)
57. Nawale, R. N. and Salvi, M. J. (1990). The inheritance of certain F1 characters in F1 hybrid progenies of cashewnut. *The Cashew* **4**, 11-4.
58. Neto, S. P. S., Maruta, I., Takaiwa, F., Oono, K., Matsumoto, K. and Gomes, J. A. (1995). Identification of cashew (*Anacardium occidentale* L.) seedlings with RAPD markers. *International Symposium on Tropical Fruits. Improving the Quality of Tropical Fruits, Vitoria, Brazil, 7-12 November, 1993.* pp. 21-6.
59. O'Farrell, P. J. (1992). Summary of cashew research at Cashews Australia Dimbulah, North Queensland. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 8-10.
60. O'Farrell, P. J. (1993). A report on Queensland Department of Primary Industries cashew research and development program in Northern Queensland. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
61. O'Farrell, P. J. (1994). QDPI Research at Cashews Australia, Dimbulah. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 23-31.
62. O'Farrell, P. J. (1996). Evaluation of growth habit, yield, and nut weight and shelling percentage of cashew hybrids planted at three test sites, (Wildman River, NT, Melville Island, NT, and Dinbulah NQ) A report of the hybrid evaluations at Dimbulah, NQ. *Working Papers of the*

- Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland.* pp. 18-24.
63. Owayie, A. R. (1996). The yield potential of cashew pseudoapple-colour types - A preliminary comparative assessment. *Discovery and Innovation* **8**, 7-10.
 64. Pimentel-Gomes, F. (1992). A visit to CNPCa (National Research Centre for Cashew). [Uma visita ao CNPCa (Centro Nacional de Pesquisa do Caju).] *Revista de Agricultura Piracicaba* **67**, 219-22.
 65. Pinto, A. C. Q., Genu, P. J. C. and Ferreira, F. R. (1986). Evaluation of cashew in the 'Cerrados' Region of the Federal District of Brazil. *Pesquisa Agropecuaria Brasileira* **21**, 1185-92.
 66. Pugalendhi, L., Shah, H. A., Manoharan, V. and Manivannan, K. (1990). Studies on seedling vigour in cashew. *South Indian Horticulture* **38**, 129-32.
 67. Ramadas, S., Thatham, D. V. and Vishveshwara, S. (1982). Variability and correlation of certain characters in cashewnut. *Genetics, Plant Breeding and Horticulture. Proceedings of the Fourth Annual Symposium on Plantation Crops (Placrosym IV), Mysore 3-5 December 1981.* pp. 229-36. (Placrosym Standing Committee: Mysore, India.)
 68. Rao, E. V. V. B. (1987). Characterization and evaluation of genetic resources in plantation crops. *Newsletter, IBPGR Regional Committee for Southeast Asia*, 97-8.
 69. Rao, E. V. V. B. (1989). Plantation crops genetic resources research in India. *Journal of Plantation Crops* **16**, 303-12.
 70. Reddy, M. A. N., Shivanandam, V. N., Gowda, M. C. and Shankaranarayana, V. (1986). Physico-chemical characteristics of cashew (*Anacardium occidentale* L.) selections under Chintamani conditions. *Indian Cashew Journal* **18**, 17-9.
 71. Salleh, H., Chai, T. B. and Bakri, M. L. (1989). Seasonal variation in yield performance of 16 cashew clones on bris soil. *MARDI Research Journal* **17**, 167-71.
 72. Salleh, H., Chai, T. B., Wahab, N. A., Bakri, M. L. and Abidah, T. A. (1989). Identification of promising materials from a seedling population of cashew based on nut number and nut weight. *MARDI Research Journal* **17**, 155-66.
 73. Salvi, P. V. (1979). Cashew hybrids for increased production. *Indian Farming* **28**, 11-2.
 74. Sankaranarayanan, R., Shah, H. A. and Sambandamoorthy, S. (1996). Hybridisation studies in cashew. *The Cashew* **10**, 18-23.
 75. Sapkal, B. B., Hulamani, N. C., Nalwadi, U. G. and Sulikeri, G. S. (1991). Some cashew selections for transitional belt of Karnataka. *South Indian Horticulture* **39**, 379-80.
 76. Sarkar, B. B., Baidya, S., Nandy, H., Paul, J. M. and Bhattacharjee, A. K. (1993). Evaluation of cashew germplasm in Tripura. *The Cashew* **7**, 5-9.
 77. Satyanarayana Reddy, K., Radha Krishna Murthy, P. and Eswara Reddy, S. (1989). Performance of six released cashew varieties of Andhra Pradesh Agricultural University. *The Cashew* **3**, 15-8.
 78. School of Genetics, Tamil Nadu Agricultural University, India (1983). *National Seminar on Breeding Crop Plants for Resistance to Pests and Diseases. May 25-27 1983. Coimbatore, Tamil Nadu, India.* pp. 78. (Tamil Nadu Agricultural University: Coimbatore, India.)
 79. Sena, D. K., Lenka, P. C., Jagadev, P. N. and Sashikala, B. (1994). Genetic variability and character association in cashewnut (*Anacardium occidentale* L.). *Indian Journal of Genetics and Plant Breeding* **54**, 304-9.
 80. Shete, M. B., Karale, A. R., Kale, P. N. and Kadam, D. D. (1993). Variations in seedling progeny of cashew. *South Indian Horticulture* **41**, 106-7.
 81. Swamy, K. R. M., Thimmappaiah, and Kumaran, P. M. (1990). Evaluation of cashew germplasm accessions. *The Cashew* **4**, 6-11.
 82. Thailand, Department of Agriculture (1987). The Department of Agriculture approves new crop varieties. *Research Monitor, Department of Agriculture, Thailand* **1**, 1-3, 8-9.
 83. Toohill, B. and Johnston, P. (1992). Evaluation of cashew varieties in sandy and clay soils of Kununurra. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 11-3.
 84. Veeraraghavan, P. G. (1990). Highlights of research and extension activities of the Cashew Research Station, Madakkathara, (Kerala). *The Cashew* **4**, 10-3.

85. Veeraraghavan, P. G., Pushpalatha, P. B., Salam, M. A., Nalini, P. V. and Suma, A. (1991). Two more cashew varieties from Kerala Agricultural University. *The Cashew* **5**, 11-3.
86. Vithanage, V. and Thomas, M. R. (1992). DNA finger-printing of cashew cultivars - A preliminary study. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 84-93.
87. Wait, A. J. (1991). Cashew plant selection. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
88. Watson, B. J. (1991). Australian cashew research. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)

Plant Composition

1. Abid Saleem, Mohammad Hussain, Shah, S. S. H. and Mandzoor Nazli (1991). Studies on the nutritive value of some edible nuts available in the local market of Peshawar. *Sarhad Journal of Agriculture* **7**, 53-5.
2. Ankaiah, S. and Rao, P. V. (1983). Comparative study of chlorophyll and other pigments in relation with yield in cashew. *Indian Cashew Journal* **15**, 17-8.
3. Antarkar, M. A., Joshi, G. D. and Prabhu Desai, V. G. (1991). Influence of different storage conditions on PLW and chemical composition of cashew apple. *The Cashew* **5**, 10-4.
4. Augustin, A. and Unnithan, V. K. G. (1982). An attempt on maturity of cashew apple. *Indian Cashew Journal* **14**, 9-11.
5. Awolumate, E. O. (1983). Chemical composition and potential uses of processing wastes from some Nigerian cash crops. *Turrialba* **33**, 381-6.
6. Bera, P. K. and Mazumdar, B. C. (1993). Comparative effect of spraying cashewnut trees with three types of auxin solutions on the qualitative constituents of their apples and kernels during development. *Indian Biologist* **25**, 72-4.
7. Beuchat, L. R. (1978). Relationship of water activity to moisture content in tree nuts. *Journal of Food Science* **43**, 754-5.
8. Beuchat, L. R. and Worthington, R. E. (1978). Fatty acid composition of tree nut oils. *Journal of Food Technology* **13**, 355-8.
9. Bilgrami, K. S., Sinha, K. K. and Singh, A. (1983). Chemical changes in dry fruits during aflatoxin elaboration by *Aspergillus flavus* Link ex Fries. *Current Science* **52**, 960-4.
10. Bose, S. and Biswas, M. (1985). The structure of the gum of *Anacardium occidentale*. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 208-18.
11. Bressani, R., Elias, L. G., Molina, M. R. and Navarrete, D. (1977). Composition and potential use of some tropical fruits. *Archivos Latinoamericanos de Nutricion* **27**, 475-93.
12. Buttrose, M. S. and Lott, J. N. A. (1978). Inclusions in seed protein bodies in members of the Compositae and Anacardiaceae: comparison with other dicotyledonous families. *Canadian Journal of Botany* **56**, 2062-71.
13. Cardozo, M. S. and Li, B. W. (1994). Total dietary fiber content of selected nuts by two enzymatic gravimetric methods. *Journal of Food Composition and Analysis* **7**, 37-43.
14. Cecchi, H. M. and Rodriguez-Amaya, D. B. (1981). Carotenoid composition and vitamin A value of fresh and pasteurized cashew-apple (*Anacardium occidentale* L.) juice. *Journal of Food Science* **46**, 147-9.
15. Chakraborty, N. (1986). Assessment of feeding value of cashew (*Anacardium occidentale*) skin powder on starting chicks. *Indian Journal of Animal Health* **25**, 133-6.
16. Chandran, T. V. and Damodaran, V. K. (1985). Physico-chemical qualities of cashew apples of high yielding types. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 165-72.
17. Chattopadhyay, N. and Ghosh, S. N. (1991). Studies on storage life of cashew apple of different cultivars. *Horticultural Journal* **4**, 65-9.
18. Chattopadhyay, N. and Ghosh, S. N. (1993). Extension of storage life of cashew apple. *The Cashew* **7**, 12-4.
19. Chattopadhyay, N. and Hore, J. K. (1994). Studies on physico-chemical characteristics of cashew apple (*Anacardium occidentale* L.). *Orissa Journal of Agricultural Research* **7**, 67-70.
20. Chattopadhyay, P. K., Pal, B., Roy, R. N., Sadhu, M. K. and Bose, T. K. (1983). Some aspects of developmental physiology of cashew (*Anacardium occidentale* L.) fruit. *Indian Agriculturist* **27**, 149-54.
21. Chempakam, B. (1983). Distribution of ascorbic acid and ascorbic acid oxidase activity in the developing cashew apple (*Anacardium occidentale* L.). *Journal of Horticultural Science* **58**, 447-8.
22. Clarke, A. E., Anderson, R. L. and Stone, B. A. (1979). Form and function of arabinogalactans

- and arabinogalactan-proteins. *Phytochemistry* **18**, 521-40.
23. Coimbra-Filho, A. F. and Mittermeier, R. A. (1976). Exudate-eating and tree-gouging in marmosets. *Nature, UK* **262**, 630.
 24. de Pinto, G. L., Martinez, M., Mendoza, J. A., Ocando, E. and Rivas, C. (1995). Comparison of three Anacardiaceae gum exudates. *Biochemical Systematics and Ecology* **23**, 151-6.
 25. Depaula, R. C. M., Heatley, F. and Budd, P. M. (1998). Characterisation of *Anacardium occidentale* exudate polysaccharide. *Polymer International* **45**, 27-35.
 26. Evans, F. J. and Schmidt, R. J. (1980). Plants and plant products that induce contact dermatitis. *Planta Medica* **38**, 289-316.
 27. Falade, J. A. (1981). Vitamin C and other chemical substances in cashew apple. *Journal of Horticultural Science* **56**, 177-9.
 28. Fernandez, C., Fiandor, A., Martinezgarate, A. and Quesada, J. M. (1995). Allergy to pistachio - crossreactivity between pistachio nut and other Anacardiaceae. *Clinical and Experimental Allergy* **25**, 1254-9.
 29. Freitas, B. M., Lima, F. d. A. M., Martins, F. R., Villarroel, A. B. S., Fernandes, A. A. O. and Moura, A. A. A. (1996). Bee plants: volume, concentration and total sugar of nectar secreted by flowers of distinct genetic material of cashew (*Anacardium occidentale* L.). [Pasto apicola: volume, concentracao e acucar total do nectar secretado por flores de distintos materiais geneticos de cajueiro (*Anacardium occidentale* L.).] *Anais da XXXIII Reuniao Anual da Sociedade Brasileira de Zootecnia, Fortaleza, 21 a 26 de Julho, 1996. Volume 2 - Forragicultura*. pp. 395-7. (Sociedade Brasileira de Zootecnia: Fortaleza, Brazil.)
 30. Haldankar, P. M., Joshi, G. D., Salvi, M. J. and Ingawale, M. T. (1986). Physico-chemical characteristics of cashew apple. *Journal of Maharashtra Agricultural Universities* **11**, 249-50.
 31. Hallad, J. S., Sulikeri, G. S. and Hulamani, N. C. (1993). Physico-chemical properties of cashew (*Anacardium occidentale* L.) apples of different cultivars. *The Cashew* **7**, 10-1.
 32. Hammonds, T. W. (1977). The distribution of cashew nut shell liquid type compounds in the cashew plant. *Tropical Science* **19**, 155-9.
 33. Hariharan, M. and Unnikrishnan, K. (1985). Effect of gibberellic acid on variations in free amino acid and total protein contents in developing kernel of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 25-31.
 34. Inyang, U. E. and Abah, U. J. (1997). Chemical composition and organoleptic evaluation of juice from steamed cashew apple blended with orange juice. *Plant Foods for Human Consumption* **50**, 295-300.
 35. Kawanishi, K., Aoki, K., Hashimoto, Y. and Matsunobu, A. (1991). Free primary alcohols in oils and waxes from germs, kernels and other components of nuts, seeds, fruits and cereals. *Journal of the American Oil Chemists' Society* **68**, 869-72.
 36. Kogel, I. and Zech, W. (1985). The phenolic acid content of cashew leaves (*Anacardium occidentale* L.) and of the associated humus layer, Senegal. *Geoderma* **35**, 119-25.
 37. Kostyukovskii, Y. a. L., Malamed, D. B. and Nesterin, M. F. (1981). A method for the determination of aflatoxins in plant products. *Prikladnaya Biokhimiya i Mikrobiologiya* **17**, 759-65.
 38. Kubo, I., Kinoshita, I. and Yokokawa, Y. (1994). Tyrosinase inhibitors from *Anacardium occidentale* fruits. *Journal of Natural Products* **57**, 545-51.
 39. Kubo, I., Ochi, M., Vieira, P. C. and Komatsu, S. (1993). Antitumour agents from the cashew (*Anacardium occidentale*) apple juice. *Journal of Agricultural and Food Chemistry* **41**, 1012-5.
 40. Kumar, D. P., Khan, M. M. and Melanta, K. R. (1996). Effect of nutrition and growth regulators on apple characters and yield in cashew (*Anacardium occidentale* L.). *Cashew* **10**, 17-24.
 41. Kumar, G. K. and Aravindakshan, M. (1985). Studies on some qualitative aspects of cashew apple. *Indian Cashew Journal* **17**, 19-21.
 42. Kumar, G. P., Sudheesh, S., Ushakumari, B., Valsa, A. K., Vijayakumar, S., Sandhya, C. and Vijayalakshmi, N. R. (1997). A comparative study on the hypolipidemic activity of eleven

- different pectins. *Journal of Food Science and Technology (Mysore)* **34**, 103-7.
43. Kumar, P. H. and Sreedharan, C. (1986). Nut characteristics as influenced by different levels of NPK in cashews (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 15-7.
 44. Kumar, P. H. and Sreedharan, C. (1987). Correlation studies between leaf nutrients and fruit (pseudo apple) quality characters in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **19**, 15-6.
 45. Lakshmipathi, V., Thirumalai, S., Vishwanathan, M. R. and Venkatakrishnan, R. (1990). Cashew apple-meal as feed for chicks. *Indian Journal of Poultry Science* **25**, 296-7.
 46. Layokun, S. K., Obawole, A. B., Fatile, I. A. and Solomon, B. O. (1986). Investigation of cashew apple juice as a substrate for single cell protein production. *Journal of Food Science* **51**, 237-8.
 47. Li, B. W., Zhao, Z. K. and Jekot, J. J. (1997). Effect of lipid extraction methods on total dietary fiber and nonstarch polysaccharide contents of selected nuts and seeds. *Journal of AOAC International* **80**, 98-101.
 48. Lin, J. H., Hu, B. H. and Chen, W. D. (1991). Distillation and GC-MS-DS determination of cashew nut shell liquid. *Chemistry and Industry of Forest Products* **11**, 33-9.
 49. Maciel, M. I., Hansen, T. J., Aldinger, S. B. and Labows, J. N. (1986). Flavor chemistry of cashew apple juice. *Journal of Agricultural and Food Chemistry* **34**, 923-7.
 50. MacLeod, A. J. and de Troconis, N. G. (1982). Volatile flavour components of cashew 'apple' (*Anacardium occidentale*). *Phytochemistry* **21**, 2527-30.
 51. Maia, G. A., Brown, W. H., Whiting, F. M. and Stull, J. W. (1976). Cashew phospholipids. *Journal of Food Science* **41**, 961-2.
 52. Mandal, U. and Mazumdar, B. C. (1995). Protein content of some nuts sold in different markets in the Calcutta City. *Applied Nutrition* **20**, 35-6.
 53. Marques, M. E. and Xavier, F. J. (1991). Enzymatic and inhibitory activities of cashew tree gum exudate. *Phytochemistry* **30**, 1431-3.
 54. Meena, B. A., Umapathy, K. P., Pankaja, N. and Prakash, J. (1987). Soluble and insoluble oxalates in selected foods. *Journal of Food Science and Technology, India* **24**, 43-4.
 55. Menestrina, J. M., Iacomini, M., Jones, C. and Gorin, P. A. J. (1998). Similarity of monosaccharide, oligosaccharide and polysaccharide structures in gum exudate of *Anacardium occidentale*. *Phytochemistry* **47**, 715-21.
 56. Mohr, E. and Wichmann, G. (1987). Cultivation of pilinut *Canarium ovatum* and the composition of fatty acids and triglycerides of the oil. [Uber den Anbau von Pilinuss *Canarium ovatum* und die Fettsauren- und Triglycerid-Zusammensetzung des Ols.] *Fett Wissenschaft Technologie* **89**, 128-9.
 57. Mudambi, S. R. and Rajagopal, M. V. (1977). Technical note: Vitamin C content of some fruits grown in Nigeria. *Journal of Food Technology* **12**, 189-91.
 58. Mudambi, S. R. and Rajagopal, M. V. (1977). Variation in vitamin C content of cashew apple with maturity. *Journal of Food Technology* **12**, 555-7.
 59. Murthy, S. S. N., Anjaneyulu, A. S. R., Row, L. R., Pelter, A. and Ward, R. S. (1982). Chemical examination of *Anacardium occidentale*. Isolation and structure determination of a novel biflavonoid-C-glycoside. *Planta Medica* **45**, 3-10.
 60. Nagabhushana, K. S. and Ravindranath, B. (1995). Efficient medium-scale chromatographic group separation of anacardic acids from solvent-extracted cashew nut (*Anacardium occidentale*) shell liquid. *Journal of Agricultural and Food Chemistry* **43**, 2381-3.
 61. Nagaraja, K. V. (1987). Proteins of high-yielding varieties of cashew (*Anacardium occidentale*). *Qualitas Plantarum Plant Foods for Human Nutrition* **37**, 69-75.
 62. Nagaraja, K. V. (1987). Lipids of high-yielding varieties of cashew (*Anacardium occidentale* L.). *Plant Foods for Human Nutrition* **37**, 307-11.
 63. Nagaraja, K. V., Gowda, P. S. B., Kurup, V. V. K. and John, J. N. (1994). Biochemical changes in cashew in relation to infestation by tea mosquito bug. *Plant Physiology Biochemistry (New Delhi)* **21**, 91-7.
 64. Nagaraja, K. V. and Nampoothiri, V. M. K. (1986). Chemical characterization of high-yielding varieties of cashew (*Anacardium occidentale*). *Qualitas Plantarum Plant Foods for Human*

- Nutrition* **36**, 201-6.
65. Nageswara Rao, M. B., Satanarayana, G. and Shiv Raj, A. (1989). Anatomical aspects of rooting in stem cuttings of cashew. *The Cashew* **3**, 10-1.
 66. Nagy, S., Shaw, P. E. and Wardowski, W. F. (1990). Fruits of Tropical and Subtropical Origin. Composition, Properties and Uses. (Florida Science Source, Inc.: Lake Alfred, Florida, USA.)
 67. Narvaiz, P., Lescano, G. and Kairiyama, E. (1992). Irradiation of almonds and cashew nuts. *Lebensmittel-Wissenschaft Technologie* **25**, 232-5.
 68. Nwanekezi, E. C., Alawuba, O. C. G. and Mkpolulu, C. C. M. (1994). Characterization of pectic substances from selected tropical fruits. *Journal of Food Science and Technology Mysore* **31**, 159-61.
 69. Ooi, S. C. (1988). Some considerations in the choice of fruit development in the South Pacific. *Alafua Agricultural Bulletin* **13**, 17-26.
 70. Ortiz, A. J. and Arguello, O. A. (1985). Some physical characteristics and chemical composition of cashew apple (*Anacardium occidentale* L.). [Algunas características físicas y composición química de la manzana de marañon (*Anacardium occidentale* L.).] *Turrialba* **35**, 1-3.
 71. Osho, A. (1995). Evaluation of cashew apple juice for single cell protein and wine production. *Nahrung-Food* **39**, 521-9.
 72. Pasantes, M. H., Quesada, O., Alcocer, L. and Sanchez, O. R. (1989). Taurine content in foods. *Nutrition Reports International* **40**, 793-801.
 73. Pessoa, P. F. A. P. and Bandeira, C. T. (1993). Cashew tree gum: a new income alternative for the northeast cashew industry. *Caju Informativo* No 6. 2p. (Centro Nacional de Pesquisa do Caju: Fortaleza, Brazil.)
 74. Phang, S. (1976). Polarographic determination of the vitamin C content of some Malaysian fruits. *Malaysian Agricultural Journal* **50**, 442-8.
 75. Piva, G. and Santi, E. (1985). On nutritional value of the protein in the cashew seed. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 177-83.
 76. Primatesta, G. (1978). Nutritional possibilities of cashew nuts. *Industria Alimentari* **17**, 496-501.
 77. Rahman, W., Ishratullah, K., Wagner, H., Seligmann, O., Chari, V. M. and Osterdahl, B.-G. (1978). Prunin-6'-O-p-coumarate, a new acylated flavanone glycoside from *Anacardium occidentale*. *Phytochemistry* **17**, 1064-5.
 78. Raj, A. G. and Kadirvel, R. (1980). The nutritive value of cashew cake in a chick starter mash. *Indian Journal of Poultry Science* **15**, 204-6.
 79. Rangaswamy, J. R. (1988). Spectrophotometric method for determination of phosphine residues in cashew kernels. *Journal Association of Official Analytical Chemists* **71**, 557-9.
 80. Rangaswamy, J. R. and Sasikala, V. B. (1990). Comparative behaviour of cashew kernel and wheat to phosphine fumigation. *Journal of Food Science and Technology Mysore* **27**, 284-9.
 81. Rao, M. B. N., Satyanarayana, G., Raj, A. S., Kumari, N. G. and Padmanabham, V. (1988). Influence of post-ringing period on cofactor activity and total phenol content in ringed shoot cuttings of cashew (*Anacardium occidentale* L.). *Tropical Agriculture* **65**, 370-2.
 82. Rao, M. S. S. (1985). Scope for development of alcoholic beverage from cashew apple. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 160-4.
 83. Renganayaki, P. R. and Karivaratharaju, T. V. (1993). Influence of physiological maturity on seed quality in cashew (*Anacardium occidentale* Linn). *The Cashew* **7**, 10-3.
 84. Repo-Carrasco, R. (1992). Andean crops and infant nourishment. Institute of Development Studies, University of Helsinki, Report No. B 25. 133p. (Institute of Development Studies, University of Helsinki: Helsinki, Finland.)
 85. Roncada, M. J., Wilson, D. and Suguimoto, L. (1977). Ascorbic acid in different Brazilian fruit juices and its relation to cost and daily requirements of vitamin C. [Concentração de ácido ascórbico em sucos de diversas frutas brasileiras e sua relação com preço e necessidades diárias recomendadas de vitamina C.] *Revista de Saude Publica* **11**, 39-46.
 86. Salunkhe, D. K. and Kadam, S. S. (1995). Handbook of Fruit Science and Technology.

- Production, Composition, Storage, and Processing. 611p. (Marcel Dekker Inc.: New York, USA.)
87. Samant, S. K. and Rege, D. V. (1989). Carbohydrate composition of cashew nut and charoli. *Lebensmittel-Wissenschaft Technologie* **22**, 164-8.
 88. Sapkal, B. B., Hulamani, N. C. and Nalwadi, U. G. (1992). Studies on some qualitative aspects of cashew apple. *The Cashew* **6**, 8-10.
 89. Sathe, S. K. (1994). Solubilization and electrophoretic characterization of cashew nut (*Anacardium occidentale*) proteins. *Food Chemistry* **51**, 319-24.
 90. Sathe, S. K., Sze-Tao, K. W. C., Wolf, W. J. and Hamaker, B. R. (1997). Biochemical characterization and *in vitro* digestibility of the major globulin in cashew nut (*Anacardium occidentale*). *Journal of Agricultural and Food Chemistry* **45**, 2854-60.
 91. Sena, D. K., Lenka, P. C., Maharana, T. and Behura, S. (1995). Physio-chemical properties of cashew apples of some promising clones. **9**, 14-6.
 92. Senguttavan, T., Kareem, A. A. and Rafendran, R. (1994). Relative incidence of shoot and blossom webber, *Orthaga exvinacea* Hamps. and the biochemical basis for its preference to cashew types. *Journal of Plantation Crops* **22**, 53-6.
 93. Shanmugavelu, K. G. (1985). Studies on the effect of plant growth regulators on cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 32-9.
 94. Sherlija, K. K. and Unnikrishnan, K. (1996). Biochemical changes in shoot apex of cashew during transition from vegetative to reproductive phase. *Phytomorphology* **46**, 25-30.
 95. Shivashankar, S., Sathyanarayana, M. N., Mathew, A. G. and Natarajan, C. P. (1978). Oligosaccharides of cashewnut. *Journal of Food Science and Technology, India* **15**, 86-7.
 96. Shobha, S. V., Krishnaswamy, P. R. and Ravindranath, B. (1992). Phenolic lipid composition during development of cashew. *Phytochemistry* **31**, 2295-7.
 97. Shobha, S. V., Ramadoss, C. S. and Ravindranath, B. (1992). Regiospecific hydroperoxidation of an anacardic acid (15:2) by soybean lipoxygenase. *Journal of Natural Products* **55**, 818-21.
 98. Spell, E. (1976). The chemical composition and energy value of commercial nuts. [Die chemische Zusammensetzung und der Kaloriengehalt handelsüblicher Nüsse.] *Gordian* **76**, 341-7.
 99. Taguchi, S., Fukushima, S., Sumimoto, T., Yoshida, S. and Nishimune, T. (1995). Aflatoxins in foods collected in Osaka, Japan, from 1988 to 1992. *Journal of AOAC International* **78**, 325-7.
 100. Thomas, K. M. and Abraham, C. C. (1983). Relative susceptibility of cashew types to infestation by the tea mosquito bug *Helopeltis antonii* Sign (Hemiptera: Miridae). *National Seminar on Breeding Crop Plants for Resistance to Pests and Diseases*. pp. 45-6.
 101. Toruan, N. and Hasanah, M. (1984). Effect of ageing by ethanol on the germination and metabolite contents of cashew seed (*Anacardium occidentale* L.). [Pengaruh pengusangan dengan uap etanol terhadap daya kecambah dan kandungan metabolit benih jambu mete.] *Pemberitaan, Penelitian Tanaman Industri, Indonesia* **9**, 44-53.
 102. Toschi, T. G., Caboni, M. F., Penazzi, G., Lercker, G. and Capella, P. (1993). A study on cashew nut oil composition. *Journal of the American Oil Chemists' Society* **70**, 1017-20.
 103. Toyomizu, M., Sugiyama, S., Jin, R. L. and Nakatsu, T. (1993). alpha-Glucosidase and aldose reductase inhibitors: constituents of cashew, *Anacardium occidentale*, nut shell liquids. *Phytotherapy Research* **7**, 252-4.
 104. Tyman, J. H. P. (1978). Long-chain phenols. XIII. Quantitative analysis of the phenolic composition of natural cashew nut-shell liquid (*Anacardium occidentale*) by thin-layer chromatography, densitometry and ultraviolet spectrophotometry. *Journal of Chromatography* **166**, 159-72.
 105. Tyman, J. H. P. (1980). Cultivation, processing and utilisation of the cashew. *Chemistry and Industry*, 59-62.
 106. Tyman, J. H. P., Tychopoulos, V. and Chan, P. (1984). Long-chain phenols. XXV. Quantitative analysis of natural cashew nut-shell liquid (*Anacardium occidentale*) by high-performance liquid chromatography. *Journal of Chromatography* **303**, 137-50.
 107. Tyman, J. H. P., Tychopoulos, V. and Colenutt, B. A. (1981). Long-chain phenols. XXI.

- Quantitative analysis of the phenolic lipids in technical cashew nut-shell liquid, from *Anacardium occidentale*, by high-performance liquid chromatography. *Journal of Chromatography* **213**, 287-300.
108. Ueno, I., Haraikawa, K. and Ueno, Y. (1983). Quantitation of aflatoxin Bsub(1) in foodstuffs by enzyme-linked immunosorbent assay. *Proceedings of the Japanese Association of Mycotoxicology*, 55-8.
109. Umadevi, I. and Daniel, M. (1988). Tannins and related bioflavonoids in certain cultivated/forest crops. *Advances in Forestry Research in India* **1**, 217-20.
110. van de Bovenkamp, P., Andriessen-Bos, J., Germing-Nouwen, C. and Hautvast, J. G. A. J. (1977). Fat content and fatty acid composition of foods 3. Snack foods. [Vetgehalte en vetzuursamenstelling van voedingsmiddelen. 3. Automatiekwaren.] *Voeding* **38**, 418-26.
111. Vijay Singh (1991). Effect of the protein fractions from cashewnut kernels (*Anacardium occidentale* L.) on the development of some stored grain pests. *Journal of Insect Science* **4**, 127-30.
112. Vijay Singh, and Pant, J. C. (1989). Effect of fat content and fat free portion from cashewnut, *Anacardium occidentale* Linn, kernels on growth and survival of some stored grain pests. *Journal of Insect Science* **2**, 14-9.
113. Vilasachandran, T. and Damodaran, V. K. (1981). Evaluation of cashew apples of high yielding types for alcoholic beverages. *Indian Cashew Journal* **13**, 4-7.
114. Visentainer, J. V., Vieira, O. A., Matsushita, M. and Desouza, N. E. (1997). Physico-chemical characterization of acerola (*Malpighia glabra* L) produced in Maringa, Parana state, Brazil. *Archivos Latinoamericanos de Nutricion* **47**, 70-2.
115. Wunnachit, W., Jenner, C. F. and Sedgley, M. (1992). Floral and extrafloral nectar production in *Anacardium occidentale* L. (Anacardiaceae): an andromonoecious species. *International Journal of Plant Sciences* **153**, 413-20.

Plant Growth Regulator

1. Bera, P. K., Bhattacharyya, A. K., Roy, G. C. and Mazumdar, B. C. (1988). Pre-harvest sprayings with solutions of urea, zinc sulphate and NAA on cashewnut trees. *Indian Biologist* **20**, 27-30.
2. Bera, P. K. and Mazumdar, B. C. (1993). Comparative effect of spraying cashewnut trees with three types of auxin solutions on the qualitative constituents of their apples and kernels during development. *Indian Biologist* **25**, 72-4.
3. Chattopadhyay, P. K. (1982-1983). Cashew fruit set and retention as influenced by chemical spraying. *Udyanika* **5**, 45-7.
4. Coester, W. A. and Ohler, J. G. (1976). Cashew propagation by cuttings. *Tropical Agriculture* **53**, 353-8.
5. D'Silva, I. and D'Souza, L. (1992). *In vitro* bud proliferation of *Anacardium occidentale* L. *Beitrage Zur Biologie Der Pflanzen* **67**, 273-9.
6. D'Silva, I. and D'Souza, L. (1992). *In vitro* propagation of *Anacardium occidentale* L. *Plant Cell Tissue and Organ Culture* **29**, 1-6.
7. Damodaran, V. K. (1985). Vegetative propagation of cashew - Review of work done in Kerala. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 51-6.
8. Das, S., Jha, T. B. and Jha, S. (1996). *In vitro* propagation of cashewnut. *Plant Cell Reports* **15**, 615-9.
9. Duarte, O., Nieto, J. M. and Suarez, A. (1991). Treatments for improving seed germination and rooting of cashew (*Anacardium occidentale* L.) cuttings. [Tratamientos para mejorar la germinacion y el enraizamiento de estacas de maranon (*Anacardium occidentale* L.).] XXXVII Annual Meeting of the Interamerican Society for Tropical Horticulture, Vina del Mar, Chile, 7-12 Oct. 1991. pp. 9-14.
10. Dutta, P. and Mitra, S. K. (1989). Effect of pretreatment of stock plants with Ethrel and Cycocel on the rooting of air layers in cashew. *The Cashew* **3**, 5-6.
11. Ghosh, D. K., Bandopadhyay, A. K. and Sen, S. K. (1994). Response of auxinic and non- auxinic chemicals on rooting of cashewnut (*Anacardium occidentale* L.) air layers. *Environment and Ecology* **12**, 79-81.
12. Hariharan, M. and Unnikrishnan, K. (1985). Effect of gibberellic acid on variations in free amino acid and total protein contents in developing kernel of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 25-31.
13. Hegde, M., Kulasekaran, M., Shanmugavelu, K. G. and Jayasankar, S. (1990). *In vitro* culture of cashew seedlings and multiple plantlets from mature cotyledons. *Indian Cashew Journal* **20**, 19-24.
14. Hore, J. K. and Sen, S. K. (1993). Effect of non-auxinic compounds and NAA on adventitious root formation in layers of cashew. *Journal of Plantation Crops* **21**, 114-5.
15. Hore, J. S. and Sen, S. K. (1992). Role of non - auxic compounds and IBA on ventitious root formation in air - layers of cashewnut. *The Cashew* **6**, 11-5.
16. Joseph, K. T. (1979). The cashew flower. *Indian Cashew Journal* **12**, 7, 9.
17. Konhar, T. and Arun Mech (1988). Effect of growth regulators on flowering, fruit set and fruit retention in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 17-9.
18. Kumar, A. V., Prasad, S. V. and Rao, G. R. (1982). Influence of growth regulators on germination of pollen of three tree species. *Indian Journal of Plant Physiology* **25**, 158-66.
19. Kumar, D. P., Khan, M. M. and Melanta, K. R. (1996). Effect of growth regulators on sex expression, fruit set, fruit retention and yield of cashew (*Anacardium occidentale* L.) grown under different levels of nutrients. *Journal of Plantation Crops* **24**, 610-27.
20. Kumar, D. P., Khan, M. M. and Melanta, K. R. (1996). Effect of nutrition and growth regulators on apple characters and yield in cashew (*Anarcadium occidentale* L.). *Cashew* **10**, 17-24.
21. Kumar, D. P., Khan, M. M. and Venkataramu, M. N. (1995). Effect of NPK and growth regulators on harvesting, nut yield, shelling percentage and kernel grade of cashew

- (*Anacardium occidentale* L.). *Journal of Plantation Crops* **23**, 96-104.
22. Leva, A. R. and Falcone, A. M. (1990). Propagation and organogenesis 'in vitro' of *Anacardium occidentale* L. *Proceedings of the First ISHS Symposium on in Vitro Culture and Horticultural Breeding Cesena, Italy 30 May-3 June 1989*. pp. 143-6.
 23. Lievens, C., Pyllyser, M. and Boxus, P. (1989). First results about micropropagation of *Anacardium occidentale* by tissue culture. *Fruits* **44**, 553-7.
 24. Mariappan, S., Prabakaran, J. and Sambandamoorthy, S. (1995). Effect of growth regulators on sex expression and fruit set in cashew (*Anacardium occidentale* L.). *The Cashew* **9**, 11-3.
 25. Melanta, K. R. and Sulladmath, U. V. (1990). Studies on propagation of cashew (*Anacardium occidentale* L.) by cuttings. *Mysore Journal of Agricultural Sciences* **24**, 79-82.
 26. Misra, L. P. and Singh, R. (1991). Effect of paclobutrazol on cashew (*Anacardium occidentale* L.) grafts in nursery. *Indian Journal of Plant Physiology* **34**, 102-5.
 27. Mohan, E. and Rao, M. M. (1995). Effect of growth regulators and pruning on the growth and yield of cashew. *Environment and Ecology* **13**, 675-9.
 28. Mulin, M. (1995). Callus formation from thin cell layers of *Anacardium occidentale* L. *Silva Lusitana* **3**, 205-11.
 29. Nageswara Rao, M. B., Satanarayana, G. and Shiv Raj, A. (1989). Anatomical aspects of rooting in stem cuttings of cashew. *The Cashew* **3**, 10-1.
 30. Nath, P. K., Lenka, P. C. and Konhar, T. (1993). Studies on the effect of urea and NAA on flowering and fruit set of cashew (*Anacardium occidentale*) cultivars. *Orissa Journal of Horticulture* **21**, 11-6.
 31. Oblisami, G., Santhanakrishnan, P., Pappiah, C. M. and Shanmugavelu, K. G. (1985). Effect of *Azotobacter* inoculant and growth regulators on the growth of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 40-5.
 32. Palaniswami, V., Hameed, A. S. and Vijayakumar, M. (1985). Vegetative propagation in cashew - Work done at Vridhachalam. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 67-70.
 33. Panda, J. M. and Pal, H. K. (1982). Increasing production of perfect flowers in cashew by treatment with gibberellic acid and maleic hydrazide. *Science and Culture* **48**, 66-7.
 34. Pappiah, C. M., Vijayakumar, M. and Hameed, A. S. (1980). Effect of ethrel (2-chloro ethyl phosphonic acid) on flowering and yield of cashewnut (*Anacardium occidentale* L.). *South Indian Horticulture* **28**, 1-4.
 35. Pavithran, K. and Ravindranathan, P. P. (1976). Effect of GA and IAA on sex expression in cashew. *Journal of Plantation Crops* **4**, 1-3.
 36. Philip, V. J. and Unni, P. N. (1985). *In vitro* propagation of cashew for crop improvement. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 78-82.
 37. Rajan, S., Pattenshetti, H. V. and Sulladmath, U. V. (1982). Note on improvement in establishment of transplanted cashew air-layers by pre-planting treatment. *Indian Journal of Agricultural Sciences* **52**, 196-7.
 38. Rajan, S., Pattenshetti, H. V. and Sulladmath, U. V. (1981). Role of plant growth regulators on the field establishment of cashew air layers. *Agricultural Research Journal of Kerala* **19**, 15-21.
 39. Rao, M. B. N. and Satyanarayana, G. (1989). Bio-chemical basis for root-regeneration in ringed shoot cuttings of cashew (*Anacardium occidentale* L.) plants of different ages - auxin activity and carbohydrate contents. *Journal of Plantation Crops* **17**, 127-30.
 40. Rao, M. B. N., Satyanarayana, G., Raj, A. S., Kumari, N. G. and Padmanabham, V. (1988). Interaction of source-plant age and shoot ringing on rooting of cashew (*Anacardium occidentale* L.) cuttings. *Journal of Horticultural Science* **63**, 517-9.
 41. Rao, M. B. N., Satyanarayana, G., Raj, A. S. and Rameshwar, A. (1990). Influence of post-ringing period on auxin activity, carbohydrate and nitrogen contents in ringed shoot cuttings of cashew (*Anacardium occidentale* L.). *Tropical Agriculture* **67**, 283-5.

42. Rao, M. B. N., Satyanarayana, G., Rameswar, A., Raj, A. S., Gnanakumari, N. and Padmanabham, V. (1988). Interaction effect of certain phenolic compounds with IBA on induction of rooting in stem cuttings of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 9-10.
43. Rao, M. B. N., Satyanarayana, G., Rameswar, A., Shivraj, A. and Padmanabham, V. (1989). Bio-chemical basis for root-regeneration in ringed shoot cuttings of cashew (*Anacardium occidentale* L.) plants of different ages - Cofactor activity and total phenol content. *Journal of Plantation Crops* **17**, 65-8.
44. Rao, M. B. N., Satyanarayana, G., Reddy, B. R. and Raj, A. S. (1988). Effect of duration of post-ringing period on rooting of shoot cuttings of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 13-5.
45. Rao, M. G. N., Satyanarayana, G. and Reddy, B. R. (1987). Effect of ringing and IBA on rooting of shoot cuttings of cashew (*Anacardium occidentale* L.). *Journal of Research APAU* **15**, 69-71.
46. Shanmugavelu, K. G. (1985). Studies on the effect of plant growth regulators on cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 32-9.
47. Shetty, K. K. and Melanta, K. R. (1990). Hardening of cashew (*Anacardium occidentale* L.) air layers in planting media to improve field establishment. *Mysore Journal of Agricultural Sciences* **24**, 375-8.
48. Sing, S. K., Syamal, M. M. and Maurya, A. N. (1992). Effect of NAA and Ethrel on vegetative growth, flowering, fruiting and yield of cashewnut. *The Cashew* **6**, 11-2.
49. Suryanarayana, M. A. and Melanta, K. R. (1988). Effect of plant growth regulators and rooting media on post separation establishment of cashew stool layers. *Lal-Baugh* **30**, 37-41.
50. Suryanarayana, M. A. and Melanta, K. R. (1989). Effect of age of shoots on rooting of cashew stool layers. *Indian Cashew Journal* **19**, 10-1.
51. Sy, M. O., Martinelli, L. and Scienza, A. (1991). *In vitro* organogenesis and regeneration in cashew (*Anacardium occidentale* L.). *International Symposium on Plant Biotechnology and Its Contribution to Plant Development, Multiplication and Improvement Geneva, Switzerland 19-20 April 1991*. pp. 267-8.
52. Syamal, M. M., Singh, S. K. and Rajput, C. B. S. (1992). Effect of etiolation and plant growth substances on rooting of air layers in cashewnut. *The Cashew* **6**, 8-10.
53. Valsalakumari, P. K., Vidyadharan, K. K. and Damodaran, V. K. (1985). A comparative study of different methods of vegetative propagation of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. p. 289.
54. Veeraraghavan, P. G. (1990). Highlights of research and extension activities of the Cashew Research Station, Madakkathara, (Kerala). *The Cashew* **4**, 10-3.

Plant Physiology

1. Chacko, E. K. (undated). Improving productivity of cashews in Northern Australia. A Final Report Prepared by CSIRO Division of Horticulture for the Rural Industries Research and Development Corporation. pp. 108. (CSIRO Division of Horticulture:
2. Schaper, H. and Chacko, E. K. (1991). Relation between extractable chlorophyll and portable chlorophyll meter readings in leaves of eight tropical and subtropical fruit-tree species. *Journal of Plant Physiology* **138**, 674-7.
3. Schaper, H. and Chacko, E. K. (1992). Diurnal variations in gas exchange and water relations of cashew leaves (*Anacardium occidentale* L.). *Gartenbauwissenschaft* **57**, 88-92.
4. Sherlija, K. K. and Unnikrishnan, K. (1996). Biochemical changes in shoot apex of cashew during transition from vegetative to reproductive phase. *Phytomorphology* **46**, 25-30.

Plant Protection - Animal Pest

1. Cohn, E. and Duncan, L. W. (1990). Nematode parasites of subtropical and tropical fruit trees. *Plant Parasitic Nematodes in Subtropical and Tropical Agriculture*. pp. 347-362. (CAB International: Wallingford, UK.)
2. Coimbra-Filho, A. F. and Mittermeier, R. A. (1976). Exudate-eating and tree-gouging in marmosets. *Nature, UK* **262**, 630.
3. Lamberti, F., Boiboi, J. B., Ciancio, A., Tuopay, D. K., Jimenez, E. A. and Elia, F. (1992). Plant parasitic nematodes associated with tree crops in Liberia. *Nematologia Mediterranea* **20**, 79-85.
4. Lopez, R. and Azofeifa, J. (1985). Plant-parasitic nematodes associated with fruit-trees in some counties of Alajuela province, Costa Rica. [Nematodos fitoparasitos asociados con frutales en algunos cantones de la provincia de Alajuela.] *Agronomia Costarricense* **9**, 193-6.
5. Lopez, R. and Salazar, L. (1987). Observations on the spatial distribution of plant-parasitic nematodes in fruit trees [Observaciones sobre la distribucion espacial de nematodos fitoparasitos en arboles frutales]. *Agronomia Costarricense* **11**, 141-7.
6. McCoy, M. (1989). Assessment and management of flying fox. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
7. McCoy, M. (1992). Assessment and management of flying fox damage in cashew. Report to RIRDC. 25p. (RIRDC: Canberra, ACT.)
8. Netscher, C. (1981). Trees resistant to *Meloidogyne* spp.: their use as windbreaks in Senegal. [Arbres resistants au *Meloidogyne* spp.: utilisation comme brise-vent au Senegal.] *l'Agronomie Tropicale* **36**, 175-7.
9. Rahaman, P. F., Ahmad, I. and Jairajpuri, M. S. (1996). Three new species of *Hemicycliophora* De Man, 1921 from India. *Nematologica* **42**, 24-34.
10. Thirumurthy, S. and Balashanmugam, P. V. (1987). Birds associated with fruiting cashew trees. *The Cashew* **1**, 18.

Plant Protection - Disease

1. Abdel, G. K. M. and Zohri, A. A. (1993). Fungal flora and mycotoxins of six kinds of nut seeds for human consumption in Saudi Arabia. *Mycopathologia* **124**, 55-64.
2. Abraham, M. and Padmakumari, G. (1980). A new leaf spot disease of cashew. *Indian Phytopathology* **33**, 626-7.
3. Acosta, E. N. (1995). Diagnosis of diseases of cashew (*Anacardium occidentale* L.) on the Piedemonte plains. [Diagnostico de enfermedades en el cultivo de maranon (*Anacardium occidentale* L.) en el Piedemonte Llanero.] *ASCOLFI Informa* **21**, 49-51.
4. Almeida, R. T. d., Landim, C. M. U. and Teixeira, L. M. S. (1979). Occurrence of *Sclerotium rolfsii* Sacc. on cashew and mango seedlings in Ceara State. [Ocorrência de *Sclerotium rolfsii* Sacc. em mudas de cajueiro e mangueira, no Estado do Ceara.] *Fitossanidade* **3**, 40-1.
5. Barbeau, G. (1994). Inventory of tropical fruit trees in Central America and the West Indies. *Symposium on Tropical Orchards, Montpellier, France, 30 August -5 September, 1993*. pp. 383-9, 469-74.
6. Bastos, C. N. and Figueiredo, J. M. (1976). Inhibition *in vitro* of *Colletotrichum gloeosporioides* Penz, causal agent of cashew anthracnose, by a substance produced by *Bacillus subtilis* Cohn. [Inibicao 'in vitro' de *Colletotrichum gloeosporioides* Penz, agente causal da antracnose do cajueiro, or uma substancia produzida por *Bacillus subtilis* Cohn.] *Fitopatologia Brasileira* **1**, 179-82.
7. Bopaiah, B. M. (1984). Microbial spoilage of cashew apples and its prevention. *Indian Cashew Journal* **16**, 15, 17.
8. Carvalho, P. R. (1995). Technical recommendations for cashew tree selection (extension leaflet). Boletim Informativo N° 1. 4p. (SAM: Monapo, Moçambique.)
9. Castellani, E. and Casulli, F. (1981). Cashew leaf spot disease caused by *Pseudocercospora anacardii*. *Rivista di Agricoltura Subtropicale e Tropicale* **75**, 101-5.
10. Castellani, E. and Casulli, F. (1981). Preliminary observations on *Oidium anacardii* Noack, causal agent of powdery mildew of cashew. [Osservazioni preliminari su *Oidium anacardii* Noack agente del mal bianco dell' anacardio.] *Rivista di Agricoltura Subtropicale e Tropicale* **75**, 211-22.
11. Casulli, F. (1979). Powdery mildew of cashew in Tanzania. [Il mal bianco dell'anacardio in Tanzania.] *Rivista di Agricoltura Subtropicale e Tropicale* **73**, 241-8.
12. Casulli, F. (1981). Trials on chemical control in cashew in Tanzania. [Prove di lotta chimica sull'anacardio (*Anacardium occidentale* L.) in Tanzania.] *Rivista di Agricoltura Subtropicale e Tropicale* **75**, 259-66.
13. Casulli, F. (1981). Anthracnose of cashew in Tanzania. [l'antracnosi dell' anacardio in Tanzania.] *Rivista di Agricoltura Subtropicale e Tropicale* **75**, 451-6.
14. Chattopadhyay, N. and Ghosh, S. N. (1993). Extension of storage life of cashew apple. *The Cashew* **7**, 12-4.
15. Conticini, L. and Partel, L. (1983). AC4, a cashew clone selected in Tanzania. *Rivista di Agricoltura Subtropicale e Tropicale* **77**, 503-7.
16. da Ponte, J. J. (1986). Mapping and importance of the disease of cashew in the north-east of Brazil. [Mapeamento e importancia das doencas do cajueiro no nordeste do Brasil.] *Nematologia Brasileira* **10**, 59-68.
17. da Ponte, J. J., Athayde, C. and Teixeira, L. M. S. (1987). Differences between two *Pestalotia* species associated with cashew (*Anacardium occidentale*) in Brazil. [Distincoes entre duas *Pestalotia* associadas a cajueiros (*Anacardium occidentale*) no Brasil.] *Fitopatologia Brasileira* **12**, 270-1.
18. da Ponte, J. J., Muniz, J. O. L., Athayde, C. and Franco, A. (1986). Resistance of red cashews to anthracnose. [Resistencia de caju vermelhos a antracnose.] *Fitopatologia Brasileira* **11**, 501-5.
19. Das, S. R. (1993). Notes on plant pathogenic fungi on fruit trees hitherto not recorded in Orissa. *Orissa Journal of Horticulture* **21**, 89-94.

20. de Castro, Z. B., Oliveira, V. d. P., Cavalcante, M. L. S., Santos, O. M. d. L., Cavalcante, R. D. and Rodrigues, L. M. S. (1977). *Diploidium anacardiacearum*, Batista Cavalcante, a new disease of cashew (*Anacardium occidentale* L.) in Ceara State. [*Diploidium anacardiacearum*, Batista Cavalcante, uma nova doenca do cajueiro (*Anacardium occidentale*, L.), no Estado do Ceara.] *Fitossanidade* **2**, 24.
21. FAO (1980). Plant quarantine in Asia and Pacific. Plant quarantine recommendations: agricultural and biological basis. *Quarterly Newsletter, FAO Asia and Pacific Plant Protection Commission*, 57p.
22. FAO (1986). Plant quarantine. Asian and Pacific Plant Protection Commission (APPPC). Recommended measures for regulating the importation and movement of plants. *Quarterly Newsletter, Asia and Pacific Plant Protection Commission, FAO, Thailand* **29**, 1-20.
23. Florence, E. J. M. (1989). Sapstain microorganisms associated with some commercially important timbers of Kerala. *Evergreen (Trichur)* **22**, 6-7.
24. Fouche, P. S. (1995). The use of low-altitude infrared remote sensing for estimating stress conditions in tree crops. *South African Journal of Science* **91**, 500-2.
25. Freire, F. d. C. O. (1996). Occurrence of *Cylindrocladium scoparium*, *Pythium splendens* and *Phytophthora* sp. associated with death of cashew seedlings (*Anacardium occidentale* L.) in Brazil. [Ocorrencia de *Cylindrocladium scoparium*, *Pythium splendens* e *Phytophthora* sp. em mudas de cajueiro (*Anacardium occidentale* L.) no Brasil.] *Agrotropica* **8**, 69-72.
26. Freire, F. d. C. O., Cavalcante, M. d. J. B. and Bezerra, J. L. (1996). Cashew kernel fungal rot in the Brazilian northeast. [Deterioracao fungica de amendoas de cajueiro no Nordeste brasileiro.] *Agrotropica* **8**, 65-8.
27. Govindan, M. and Sathiarajan, P. K. (1990). Nursery blight of cashew - a new record. *Agricultural Research Journal of Kerala* **28**, 56.
28. Harsh, N. S. K., Tiwari, C. K. and Nath, V. (1989). Foliage diseases in forest nurseries and their control. *Journal of Tropical Forestry* **5**, 66-9.
29. Intini, M. (1987). Phytopathological aspects of cashew (*Anacardium occidentale* L.) in Tanzania. *International Journal of Tropical Plant Diseases* **5**, 115-30.
30. Intini, M. and Sijaona, M. E. R. (1983). Calendar of disease control with reference to phenological phases of cashew (*Anacardium occidentale* L.) in Tanzania. *Rivista di Agricoltura Subtropicale e Tropicale* **77**, 419-22.
31. Intini, M. and Sijaona, M. E. R. (1983). Little known diseases of cashew (*Anacardium occidentale* L.) in Tanzania. *Rivista di Agricoltura Subtropicale e Tropicale* **77**, 423-9.
32. Khan, A. R., Hossain, M. and Islam, T. (1985). Occurrence of *Phomopsis* on cashew nut in Bangladesh. *Bangladesh Journal of Botany* **14**, 183-4.
33. Lim, T. K. and Singh, G. (1985). Disease and pest problems of cashew in Malaysia. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 139-44.
34. Majule, A. E., Topper, C. P. and Nortcliff, S. (1997). The environmental effects of dusting cashew (*Anacardium occidentale* L.) trees with sulphur in Southern Tanzania. *Tropical Agriculture* **74**, 25-33.
35. Marques, M. R., Albuquerque, L. M. B. and Xavier, F. J. (1992). Antimicrobial and insecticidal activities of cashew tree gum exudate. *Annals of Applied Biology* **121**, 371-7.
36. Menezes, M. and Hanlin, R. T. (1996). Appressoria of Brazilian isolates of *Colletotrichum gloeosporioides* (Penz) Sacc causal agent of anthracnoses diseases. *Revista de Microbiologia* **27**, 247-51.
37. Menezes, M., Lima, J. A. A., Karam, M. Q., Moura, M. C., Menezes, A. M. B. and Parente, J. I. G. (1979). Chemical control of cashew (*Anacardium occidentale* L.) anthracnose in the State of Cear. *Fitossanidade* **1**, 81-3.
38. Menon, M. A., Mohanan, R. C., Kumar, P. H., Rakhiappan, P. and Nair, B. P. (1979). Yellow leaf spot of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **12**, 15-8.
39. Ministry of Agriculture, Malawi. (1990). Plant Pathology. Annual Report - Bvumbwe Agricultural Research Station. pp. 65-75. (Chitedze Research Station: Lilongwe, Malawi.)

40. Mishra, S. K., Pattanayak, B. and Naik, R. P. (1993). Control of gummosis disease in cashew (*Anacardium occidentale* L.) under field condition. *The Cashew* **7**, 10-2.
41. Mridha, A. U., Fakir, G. A. and Miam, M. A. W. (1984). A record of seedling diseases from Rasulpur Forest Nursery, Modhupur. *Bano Biggyan Patrika* **13**, 45-50.
42. Nambiar, K. K. N. and Brahma, R. N. (1979). Important diseases of cashew and their control. *Indian Farming* **28**, 19-20.
43. Nathaniels, N. Q. R. (1996). Methods, including visual keys for the assessment of cashew powdery mildew (*Oidium anacardii* Noack) severity. *International Journal of Pest Management* **42**, 199-205.
44. Nathaniels, N. Q. R. and Kennedy, R. (1996). Variation in severity of cashew powdery mildew (*Oidium anacardii* Noack) disease in Tanzania - Implications for research and extension. *International Journal of Pest Management* **42**, 171-82.
45. Olunloyo, O. A. (1976). Incidence and control of root rot disease of cashew seedlings, *Anacardium occidentale* in the nursery. *Turrialba* **26**, 33-8.
46. Olunloyo, O. A. (1978). The relation of sugary exudate and insects to fungal infection of developing cashew nuts (*Anacardium occidentale*) in the plantation. *Plant Disease Reporter* **62**, 416-20.
47. Olunloyo, O. A. (1983). Results of three years of spraying with fungicide-insecticide combinations against inflorescence dieback disease of cashew. *Plant Disease* **67**, 1319-20.
48. Partel, L. (1988). Cashewnut programme: an Italian contribution to the return of this crop in Tanzania. [Programa anacardio: un contributo italiano al rilancio della coltura in Tanzania.] *Rivista di Agricoltura Subtropicale e Tropicale* **82**, 631-45.
49. Pitt, J. I., Hocking, A. D., Highley, E. and Johnson, G. I. (1996). Current knowledge of fungi and mycotoxins associated with food commodities in Southeast Asia. *Mycotoxin Contamination in Grains. 17th ASEAN Technical Seminar on Grain Postharvest Technology, Held in Lumut, Malaysia, 25-27 July 1995.* pp. 5-10. (Australian Centre for International Agricultural Research (ACIAR): Canberra, Australia.)
50. Ponte, J. J., Muniz, J. O. L., Athayde, C. and Franco, A. (1986). Resistance of red cashew apples to anthracnosis. *Fitopatologia Brasileira* **2**, 501-5.
51. Pruvost, O. and Luisetti, J. (1989). Strains of *Xanthomonas campestris* isolated from Ambarella (*Spondias cytherea* Sonn.) in the French West Indies are probably a new pathogenic form of *Xanthomonas campestris* pv. *mangiferaeindicae*. *Fruits* **44**, 539-42.
52. Ram, C. S. V. (1980). Plant protection in plantation crops through the 80's. *Journal of Plantation Crops* **8**, 1-12.
53. Santos, E. A., de Oliveira, R. B., Mendoncahagler, L. C. and Hagler, A. N. (1996). Yeasts associated with flowers and fruits from a semi-arid region of Northeastern Brazil. *Revista de Microbiologia* **27**, 33-40.
54. School of Genetics, Tamil Nadu Agricultural University, India (1983). *National Seminar on Breeding Crop Plants for Resistance to Pests and Diseases. May 25-27 1983. Coimbatore, Tamil Nadu, India.* 78p. (Tamil Nadu Agricultural University: Coimbatore, India.)
55. Shiomi, T., Mulya, K. and Oniki, M. (1991). Bacterial wilt of cashew (*Anacardium occidentale* L.) caused by *Pseudomonas solanacearum* in Indonesia. *Industrial Crops Research Journal* **2**, 29-35.
56. Sijaona, M. E. R. (1984). Investigations into effectiveness of sulphur w.p. against *Oidium anacardii* Noack, on five cashew tree types at Naliendele. *Rivista di Agricoltura Subtropicale e Tropicale* **78**, 199-209.
57. Sijaona, M. E. R. and Shomari, S. H. (1987). The powdery mildew disease of cashew in Tanzania. *TARO Newsletter* **2**, 4-5.
58. Singh, K. G., Heong, K. L., Lee, B. S., Lim, T. M., Teoh, C. H. and Ibrahim, Y. (1982). Harmonisation and effectiveness of plant quarantine legislation and regional cooperation in the ASEAN Region. *Proceedings of the International Conference on Plant Protection in the Tropics. 1-4 March, 1982, Kuala Lumpur, Malaysia.* pp. 647-58. (Malaysian Plant Protection Society: Kuala Lumpur, Malaysia.)

59. Smith, D. N. and Cooper, J. F. (1997). Control of powdery mildew on cashew in Tanzania using sulphur dust - An audit of sulphur fate and a proposal for a new dusting strategy. *Crop Protection* **16**, 549-52.
60. Smith, D. N., King, W. J., Topper, C. P., Boma, F. and Cooper, J. F. (1995). Alternative techniques for the application of sulphur dust to cashew trees for the control of powdery mildew caused by the fungus *Oidium anacardii* in Tanzania. *Crop Protection* **14**, 555-60.
61. Smith, D. N., King, W. J., Topper, C. P., Mhando, H. and Cooper, J. F. (1997). Studies on spray deposition on cashew trees in Tanzania with reference to the use of fungicides to control *Oidium anacardii*. *Crop Protection* **16**, 313-22.
62. Sujan Singh, and Misra, B. M. (1980). Gummosis and canker in cashew (*Anacardium occidentale* Linn.). *Indian Forester* **106**, 220-3.
63. Tsakiris, A. (1990). Review of current method of disease control in cashew. *Research and Training Newsletter* **5**, 7-9.
64. Varma, R. V. and Balasundaran, M. (1990). Tea mosquito (*Helopeltis antonii*) feeding as a predisposing factor for entry of wound pathogens in cashew. *Entomon* **15**, 249-51.
65. Waller, J. M., Nathaniels, N., Sijaona, M. E. R. and Shomari, S. H. (1992). Cashew powdery mildew (*Oidium anacardii* Noack) in Tanzania. *Tropical Pest Management* **38**, 160-3.
66. Weidenborner, M. and Kunz, B. (1994). Contamination of different muesli components by fungi. *Mycological Research* **98**, 583-6.
67. Zentmyer, G. A., Mitchell, D. J., Heywood, W. H. and McNeil, J. (1986). Review of Tropical Plant Pathology. Volume 2. 287-309. (Today and Tomorrow's Printers and Publishers: New Delhi, India.)

Plant Protection - Insect Pest

1. Abraham, C. C. and Madhavan Nair, G. (1981). Effective management of the tea mosquito bugs for breaking the yield barriers in cashew. *Cashew Causerie* **3**, 6-7.
2. Adis, J. and Kerr, W. E. (1979). A thrips as a pest of 'piquia'. [Um thrips como praga do piquia.] *Acta Amazonica* **9**, 790.
3. Adolph, C. and Haq, M. A. (1982). A new genus of oribatid mite (*Acari: Oribatei*) from Malabar. *Entomon* **7**, 451-6.
4. Ambika, B. and Abraham, C. C. (1979). Bio-ecology of *Helopeltis antonii* Sign. (*Miridae: Hemiptera*) infesting cashew trees. *Entomon* **4**, 335-42.
5. Ambika, B. and Abraham, C. C. (1985). Effect of tropical application of juvenile hormone (jh) analogues on the development and survival of the cashew mirid bug *Helopeltis antonii* Sign. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 111-5.
6. Ambika, B. and Abraham, C. C. (1983). New record of *Helopeltis theivora* Waterhouse and an undetermined species of *Helopeltis* (*Miridae: Hemiptera*) as potential pests of cashew, *Anacardium occidentale* Linn. *Indian Journal of Entomology* **45**, 183-4.
7. Ambika, B., Abraham, C. C., Vidyadharan, K. K. and Venkata, R. C. S. (1983). Relative susceptibility of cashew types to infestation by *Helopeltis antonii* Sign. (*Hemiptera: Miridae*). *Proceedings of the Second Annual Symposium on Plantation Crops. Plant Protection (Entomology, Microbiology, Nematology, Plant Pathology and Rodentology). PLACROSYM II 1979*. pp. 513-6. (PLACROSYM Standing Committee: Kasaragod, Kerala, India.)
8. Ananthakrishnan, T. N. (1985). Host relationship and damage potential of thrips infesting cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 132-4.
9. Anonymous (1985). News from Lynfield Plant Protection Centre. *Weta* **8**, 35-6.
10. Ayyanna, T. and Ramadevi, M. (1986). A study on the distribution and status of stem and root borer (*Plocaederus ferrugineus* L.) dreadful pest on cashew in the coastal districts of Andhra Pradesh and its control. *Cashew Causerie* **8**, 6-7.
11. Ayyanna, T. and Ramadevi, M. (1987). Studies on leaf folders and leaf rollers of cashew, *Anacardium occidentale* L. (Anacardiaceae) in Andhra Pradesh. *The Cashew* **1**, 6-8.
12. Ayyanna, T. and Ramadevi, M. (1987). *Zonabris pustulata* Thompson (Order: Coleoptera, Family: Meloidae) and *Chrysocoris purpurea* (Order: Hemiptera, Family: Pentatomidae) as pests of cashew, in Andhra Pradesh. *The Cashew* **1**, 9-10.
13. Ayyanna, T., Tejkumar, S. and Ramadevi, M. (1985). Distribution and status of pests on cashew in coastal districts of Andhra Pradesh. *Cashew Causerie* **7**, 4-5.
14. Bakthavatsalam, N. and Sundararaju, D. (1990). Pathogenicity of *Oryctes baculovirus* to cashew stem and root borers. *Journal of Biological Control* **4**, 127-9.
15. Bakthavatsalam, N., Sundararaju, D. and Shivarama, B. P. (1993). Chemical control of tea mosquito bug in cashew with dust formulation. *The Cashew* **7**, 12-3.
16. Barbagallo, S. and Santos, L. A. (1989). *Toxoptera odinae* (V.D.G.) (Hom.: *Aphididae*), infesting (*Anacardium occidentale* L.) in Mozambique. [*Toxoptera odinae* (V.D.G.) (Hom.: *Aphididae*), uma nova praga do cajueiro (*Anacardium occidentale* L.) em Mocambique.] *Phytophaga (Palermo)* **3**, 163-71.
17. Barbeau, G. (1994). Inventory of tropical fruit trees in Central America and the West Indies. *Symposium on Tropical Orchards, Montpellier, France, 30 August -5 September, 1993*. pp. 383-9, 469-74.
18. Bastos, J. A. M. and Alves, V. P. O. (1979). Test on the control of the stick insect, *Stiphra robusta* Lt, with synthetic organic insecticides in the laboratory. [Ensaio de controle do manemagro, *Stiphra robusta* Lt, com inseticidas organicos sinteticos em laboratorio.] *Fitossanidade* **8**, 20-1.
19. Bastos, J. A. M., Lopes, L. d. O., Mota, A. P. B. and Mesquita, A. L. M. (1979). Control of the adult form of the red cashew beetle, *Crimissa cruralis* Stal with synthetic organic insecticides.

- [Controle da forma adulta do besouro vermelho do cajueiro, *Crimissa cruralis* Stal com inseticidas organicos sinteticos.] *Fitossanidade* **3**, 50-1.
20. Beevi, S. P., Kumar, T. N. J., Suma, A., Usha, K. E. and Mathew, G. (1993). New record of *Anigraea albomaculata* Hamp. (Noctuidae: Lepidoptera) as a pest of cashew in Kerala. *The Cashew* **7**, 14-6.
 21. Branco, F. A. T. C., Lima, F. N., Medeiros, M. M. M. and Ribeiro, V. Q. (1988). Efficiency of insecticides for the control of the white fly (*Aleurodicus cocois*) (Curtis, 1846) of the cashew tree. [Eficiencia de inseticidas no controle a mosca branca (*Aleurodicus cocois*) (Curtis, 1846) do cajueiro.] *Brasil Florestal* **15**, 49-52.
 22. Burikam, I. and Chayopas, P. (1995). Sequential sampling plan for treatment decisions on cashew thrips (Insecta: Thysanoptera). *Kasetsart Journal, Natural Sciences* **29**, 167-75.
 23. CAB International Institute of Entomology, UK. (1988). Distribution Maps of Pests Nos. 4,58,90,478,494, 495,496,497,498.
 24. Campbell, S. (1989). Cashew research: Farm Manager's perspective. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
 25. Carvalho, P. R. (1995). Technical recommendations for cashew tree selection (extension leaflet). Boletim Informativo N° 1. 4p. (SAM: Monapo, Moçambique.)
 26. Cavalcante, R. D., Melo, Q. M. S. and Cavalcante, M. L. S. (1979). *Psiloptera* sp, a new pest of cashew in Piaui. [*Psiloptera* sp, nova praga do cajueiro no Piaui.] *Fitossanidade* **3**, 58.
 27. Chagas, M. C. M., Moreira, M. A. B., Barreto, M. F. P. and Gomes, J. A. (1995). Biological aspects of *Schistocerca pallens*, *Stiphra robusta* and *Tropidacris collaris* grasshoppers species at Rio Grande do Norte State, Brazil. *International Symposium on Tropical Fruits. Improving the Quality of Tropical Fruits, Vitoria, Brazil, 7-12 November, 1993*. pp. 83-8.
 28. Chatterjee, M. L. (1989). A study on cashew flower thrips infestation and their control by different insecticides. *The Cashew* **3**, 12.
 29. Chatterjee, M. L. (1989). Comparative efficacy of some insecticides against the tea-mosquito bug (*Helopeltis antonii*) on cashew. *Pestology* **13**, 26-9.
 30. Chatterjee, M. L. (1989). Insect pests on cashew in West Bengal and status of some important pests. *The Cashew* **3**, 19-20.
 31. Chatterjee, M. L. and Ghosh, S. N. (1995). New pest of cashew in West Bengal. *The Cashew* **9**, 25.
 32. Chaturvedi, N. and Satheesan, S. M. (1981). Butterflies of Bombay-7. *Hornbill*, 34-6.
 33. Coulibaly, N. (1979). Some aspects of the damage caused by *Selenothrips rubrocinctus* (Giard) and of the biology of this thysanopteran pest of cacao. [Quelques aspects des degats causes par *Selenothrips rubrocinctus* (Giard) et de la biologie de ce thysanoptere ravageur du cacaoyer.] pp. 283-90.
 34. CPCRI, India. (1986). Pest and disease management. Annual Report of the Central Plantation Crops Research Institute 1985. pp. 116-122. (Central Plantation Crops Research Institute: Kasaragod, India.)
 35. Dasari, N. R. (1992). Cashew research in the Northern Territory. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. p. 7.
 36. de Moraes, G. J. and de Oliveira, J. V. (1982). Phytoseiid mites of coastal Pernambuco, in northeastern Brazil. *Acarologia* **23**, 315-8.
 37. Deorukhakar, A. C., Veerkar, P. D., Talathi, J. M. and Thakare, G. G. (1995). Yield gap and constraints in technology adoption of cashew nut cultivation in the Konkan Region (Maharashtra). *The Cashew* **9**, 13-7.
 38. Devasahayam, S. (1985). Seasonal biology of tea mosquito bug *Helopeltis antonii* Signoret (Heteroptera: Miridae) - a pest of cashew. *Journal of Plantation Crops* **13**, 145-7.
 39. Devasahayam, S. and Nair, C. P. R. (1986). The tea mosquito bug *Helopeltis antonii* Signoret on cashew in India. *Journal of Plantation Crops* **14**, 1-10.
 40. Devi, M. R. and Murthy, P. R. K. (1983). Protection of cashew from tree-borer pest. *Pesticides*

- 17, 37.
41. Dias, M. M. (1981). Immature stages of *Citheronia (Citheronula) armata armata* Rothschild, 1907 (Lepidoptera, Attacidae). [Estagios imaturos de *Citheronia (Citheronula) armata armata* Rothschild, 1907 (Lepidoptera, Attacidae).] *Revista Brasileira de Entomologia* **25**, 295-300.
 42. Duncan, I. (1992). Brief summary of Wildman River Project. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 116-20.
 43. FAO (1990). Outbreaks and new records. Suriname. Update on fruit-fly (*Dacus dorsalis*) situation. *FAO Plant Protection Bulletin No. 38*, 51p.
 44. Foord, G. (1996). Developing cashew management systems for Katherine, NT. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 60-2.
 45. Gadase, S. K., Dumbre, R. B. and Kharat, S. B. (1991). Evaluation of some synthetic pyrethroids against tea mosquito, *Helopeltis antonii* Signoret on cashew. *The Cashew* **5**, 14-5.
 46. Ganeshkumar, M. and Palaniswamy, K. P. (1983). A study on the chemical control of the cashew leaf miner (*Acrocercops syngamma*) M. and the foliage thrips (*Scelenothrips rubrocinctus* Giard, *Rhipiphorothrips cruentatus* Hood and *Retithrips syriacus* M.). *Cashew Causerie* **5**, 11-3.
 47. George, M. V., Singh, V. and Peter, T. (1985). Aerial spraying against tea mosquito in cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 120-5.
 48. Ghosh, S. N. (1993). Effect of eucalyptus (*Eucalyptus teretecornia*) plants as intercrop in the cashew plantation - a case study in West Bengal. *The Cashew* **7**, 17-9.
 49. Ghosh, S. N. and Chatterjee, M. L. (1993). Effect of nitrogen, phosphorus and potassium on incidence of tea mosquito and yield in cashew. *Environment and Ecology* **11**, 337-9.
 50. Gnanaharan, R., Nair, K. S. S. and Sudheendrakumar, V. V. (1982). Protection of fibrous raw material in storage against deterioration by biological organisms. KPRI Research Report No. 12. 24p.
 51. Gnanaharan, R., Sudheendrakumar, V. V. and Nair, K. S. S. (1985). Protection of cashew wood in storage against insect borers. *Material Und Organismen* **20**, 65-74.
 52. Godase, S. K., Dumbre, R. B. and Kharat, S. B. (1990). Chemical control of flower thrips on cashew. *The Cashew* **4**, 14-5.
 53. Godase, S. K., Dumbre, R. B. and Kharat, S. B. (1992). Evaluation of some insecticides for the control of tea mosquito on cashew. *Journal of Maharashtra Agricultural Universities* **17**, 219-20.
 54. Godase, S. K., Dumbre, R. B. and Kharat, S. B. (1993). Evaluation of some insecticides for the control of tea mosquito on cashew. *The Cashew* **7**, 13-4.
 55. Gondim, M. T. P. and Sales, F. J. M. (1981). Life cycle of the cashew whitefly. Preliminary note. [Ciclo biologico da mosca branca do cajueiro. Nota previa.] *Fitossanidade* **5**, 38.
 56. Gowda, G. and Ramaiah, E. (1979). Incidence of *Dacus dorsalis* Hendel (Diptera: Tephritidae) on cashew (*Anacardium occidentale* L.). *Current Research* **8**, 98-9.
 57. Gowda, G., Ramaiah, E. and Reddy, C. V. K. (1979). *Scirtothrips dorsalis* (Hood) (Thysanoptera: Terebrantia: Thripidae) a new pest on cashew (*Anacardium occidentale* L.). *Current Research* **8**, 116-7.
 58. Gupta, S. K. (1982). On a collection of Phytoseiidae (Acarina: Mesostigmata) from Madhya Pradesh and Uttar Pradesh with description of a new species of Phytoseius Ribaga. *Records of the Zoological Survey of India* **79**, 367-71.
 59. Gupta, S. K. and Ghosh, S. K. (1980). Some prostigmatid mites (Acarina) from Andaman and Nicobar Islands. *Records of the Zoological Survey of India* **77**, 189-213.
 60. Hanumantha Rao, B., Reddy, G. P. V., Krishnamurthy, M. M. and Sakar, D. K. (1989). Efficacy of fenvalerate, monocrotophos and chloryiphos against cashew pests and their residues in/on cashew fruits. *The Cashew* **3**, 12-4.
 61. Hari Babu, R. S., Rath, S. and Rajput, C. B. S. (1983). Insect pests of cashew in India and their

- control. *Pesticides* **17**, 8-16.
62. Harishukumar, P. (1981). Cultural and manurial practices in cashew. *Indian Cashew Journal* **13**, 19-20.
 63. Hiremath, I. S., Khan, M. M. and Kumar, D. P. (1987). Efficacy of dust formulations of insecticides in the management of tea mosquito in young cashew plantations. *The Cashew* **1**, 8-9.
 64. Hood, S. (1993). Biological control of two of the major pests of cashew: the mango tip borer and the cashew leafroller A PhD Project. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
 65. Hood, S. (1994). The mango tip borer a major pest of cashew. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 69-74.
 66. Hood, S. (1997). Role of Parasites and Predators in Cashew Pest Control. Development of an IPM Program. Ph D Thesis. (The University of Queensland: Brisbane, Queensland.)
 67. Houston, W. (1990). Biological and chemical control of the Giant Termite *Mastotermes darwinensis*. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory.* pp. 19-21.
 68. Houston, W. (1991). Overview of cashew insect pests at Wildman River Plantations. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated.)
 69. Houston, W. and Malipatil, M. (1991). Bioecology of cashew insects. RIRDC Research Paper Series. (RIRDC: Canberra, ACT.)
 70. Igboekwe, A. D. (1985). Injury to young cashew plants, *Anacardium occidentale* L, by the red-banded thrips *Selenothrips rubrocinctus* Giard (Thysanoptera: Thripidae). *Agriculture, Ecosystems and Environment* **13**, 25-32.
 71. International Institute of Entomology. (1993). Distribution Maps of Pests No. 539. 2p.
 72. Intini, M. and Sijaona, M. E. R. (1983). Calendar of disease control with reference to phenological phases of cashew (*Anacardium occidentale* L.) in Tanzania. *Rivista di Agricoltura Subtropicale e Tropicale* **77**, 419-22.
 73. Jacob, T. K. (1993). A simple method for assessing the pest status of the cashew leaf miner (*Conopomorpha syngramma*). *The Cashew* **7**, 8-9.
 74. Jacob, T. K. and Belavadi, V. V. (1990). The pest leaf miner, *Acrocercops syngramma* M - It's pest status and larval size relationship with leaf area damage in the Andamans (India). *The Cashew* **4**, 7-9.
 75. Jeevaratnam, K. and Rajapakse, R. H. S. (1981). Biology of *Helopeltis antonii* Sign. (Heteroptera: Miridae) in Sri Lanka. *Entomon* **6**, 247-51.
 76. Jeevaratnam, K. and Rajapakse, R. H. S. (1981). Studies on the chemical control of the mirid bug, *Helopeltis antonii* Sign, in the cashew. *Insect Science and Its Application* **1**, 399-402.
 77. Jena, B. C. (1990). Cashew stem, root and wood borers and their management. *The Cashew* **4**, 5-7
 78. Jena, B. C. (1990). Cashew thrips and their control. *The Cashew* **4**, 11-2.
 79. Jena, B. C. (1990). Pests of cashew apple and nuts and their control. *The Cashew* **4**, 19-20.
 80. Jena, B. C., Patnaik, N. C. and Satapathy, C. R. (1985). Insect fauna of cashewnut in Orissa. *Science and Culture* **51**, 385-6.
 81. Jena, B. C., Patnaik, N. C. and Satapathy, C. R. (1984). On the life-history of *Euproctis lunata* W. and *E. subnotata* W. (Lepidoptera: Lymantriidae) infesting cashew in Orissa. *Science and Culture* **50**, 134-5.
 82. Jena, B. C., Patnaik, N. C. and Satapathy, C. R. (1985). Insect pests of cashew. *Cashew Causerie* **7**, 10-1.
 83. Jena, B. C. and Satapathy, C. R. (1989). Reactions of cashew varieties to the leaf miner (*Acrocercops syngramma* M) incidence. *The Cashew* **3**, 15-7.
 84. Jena, B. C., Satapathy, C. R., Kanungo, A. P. and Nanda, S. K. (1987). Geographical distribution of cashew pests. *The Cashew* **1**, 18-20.

85. Jena, B. C., Satapathy, C. R., Patnaik, N. C. and Mishra, S. K. (1986). The weevils (*Peltotrachelus pubes* F.) infesting cashew varieties. *Cashew Causerie* **8**, 10-2.
86. Jena, B. C., Satapathy, C. R. and Satapathy, J. M. (1986). Seasonal varietal response of cashew to foliage feeding beetle, *Microserica quadrinotata* M. *Cashew Causerie* **8**, 9-10.
87. Jena, B. C., Satapathy, C. R. and Satapathy, J. M. (1987). Thrips infesting cashew. *The Cashew* **1**, 5.
88. Joseph, K. T. (1979). The cashew flower. *Indian Cashew Journal* **12**, 7, 9.
89. Khan, T. N. and Maiti, P. K. (1983). Studies on the biotaxonomy, biology and ecology of some longicorn beetle borers (Coleoptera: Cerambycidae) of the Islands of Andaman, India. Records of the Zoological Survey of India, Occasional Paper No. 45. 102p.
90. Khoo, K. C., Ibrahim, Y., Maelzer, D. A., Lim, T. K., Heong, K. L., Lee, B. S., Lim, T. M. and Teoh, C. H. (1982). Entomofauna of cashew in West Malaysia. *Proceedings of the International Conference on Plant Protection in the Tropics. 1-4 March, 1982, Kuala Lumpur, Malaysia.* pp. 289-94. (Malaysian Plant Protection Society: Kuala Lumpur, Malaysia.)
91. Krishnamurthy Rao, B. H., Ayyanna, R. and Narayana, K. L. (1985). Integrated control of cashew stem and root borer *Plocaederus ferrugineus* L. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* pp. 136-8.
92. Kuberappa, G. C., Narayana Reddy, M. A., Chandregowda, M., Krishnappa, K. S. and Shivanandam, V. N. (1987). Studies on the occurrence of insect-pests of cashew under Chintamani conditions. *The Cashew* **1**, 22-3.
93. Kurian, C., Abraham, V. A., Koya, K. M. A. and Venkata Ram, C. S. (1983). Studies on *Paradasynus rostratus* Dist. (Heteroptera: Coreidae) a pest of coconut. *Proceedings of the Second Annual Symposium on Plantation Crops. Plant Protection (Entomology, Microbiology, Nematology, Plant Pathology and Rodentology). PLACROSYM II 1979.* pp. 484-503. (PLACROSYM Standing Committee: Kasaragod, Kerala, India.)
94. Kuroko, H. and Lewvanich, A. (1983). Some lepidopterous insect pests attacking economically important plants in Thailand. *Bulletin of the University of Osaka Prefecture, B (Agriculture and Biology)* **35**, 1-9.
95. Latis, T. (1990). A note on the carpenter moth *Salagena* sp, a new pest of cashew in Zambia. *Tropical Pest Management* **36**, 276-8.
96. Lever, R. A. (1982). *Amblypelta* spp. (Hem.: Coreidae), new Australian records. *Proceedings and Transactions of the British Entomological and Natural History Society* **15**, 88.
97. Lim, T. K. and Singh, G. (1985). Disease and pest problems of cashew in Malaysia. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* pp. 139-44.
98. Luo, Y. M. and Jin, Q. A. (1991). A study on the mosquito bug [*Helopeltis* sp.] infesting cashew in Hainan Island. *Acta Entomologica Sinica* **34**, 60-7.
99. Madhavan Nair, G. and Abraham, C. C. (1983). Control of *Helopeltis antonii* Signoret infesting cashew using dusting powder formulations of some common insecticides. *Agricultural Research Journal of Kerala* **21**, 21-6.
100. Madhavan Nair, G. and Abraham, C. C. (1982). Relative efficiency of some foliar insecticidal treatments for the control of *Helopeltis antonii* Signoret infesting cashew trees. *Agricultural Research Journal of Kerala* **20**, 41-8.
101. Madhavan Nair, G. and Abraham, C. C. (1984). Relative efficiency of some of the common insecticides and their joint formulations with carbaryl against the tea mosquito bug (*Helopeltis antonii* Signoret) infesting cashew trees. *Agricultural Research Journal of Kerala* **22**, 118-23.
102. Mahapatra, L. N. and Lenka, P. C. (1994). Record of tea mosquito (*Helopeltis antonii*) Signoret incidence in cashew in Orissa. *Orissa Journal of Horticulture* **22**, 74-5.
103. Malhotra, I., Rose, H. S. and Dhillon, S. S. (1987). Effect of three dry fruits on the post embryonic development of *Corcyra cephalonica* (Stainton) (Pylalidae: Lepidoptera). *Annals of Entomology* **5**, 21-3.
104. Malipatil, M. B. (1994). Revision of Australian *Geocoris* Fallen and *Stylogeocoris* Montandon

- (Heteroptera: Lygaeidae: Geocorinae). *Invertebrate Taxonomy* **8**, 299-327.
105. Malipatil, M. and Houston, W. (1990). Bioecology of cashew insects at Wildman River, NT. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 22-5.
 106. Manser, P. D. (1982). Provisional List of the Diseases and Injurious Insects Etc. of Crops in Gabon. [Liste Provisoire des Maladies et des Insectes Nuisibles Etc. des Cultures Au Gabon.] 20p. (Ministere de l'Agriculture des Eaux et Forets et du Developpement Rural: N'Toum, Gabon.)
 107. Marback, G. L. d. C. (1989). A new species of *Marshallius* (Coleoptera, Curculionidae) attacking cashews in Bahia. [Uma nova especie de *Marshallius* (Coleoptera, Curculionidae) atacando cajueiro na Bahia.] *Anais da Sociedade Entomologica do Brasil* **18**, 417-8.
 108. Mathew, G. (1987). Insect borers of commercially important stored timber in the state of Kerala, India. *Journal of Stored Products Research* **23**, 185-90.
 109. Melo, Q. M. S., Bleicher, E., Oliveira, I. S. R., Coutinho, C. I. S. B. and Macul, F. (1992). Effect of Deltamethrin and Mancozeb on *Anthistarcha binocularis* (LEP, Gelechiidae), *Selenothrips rubrocinctus* (THYS, Thripidae) and *Aphis gossypii* (HOM, Aphididae). Boletim de Pesquisa Numero 06. 13p. (EMBRAPA, Centro Nacional de Pesquisa do Caju: Fortaleza, CE, Brazil.)
 110. Melo, Q. M. S., Bleicher, E., Soares, P. M. A. and Almeida, T. H. M. (1990). Pest control in the cashew flowering and fruiting period. Boletim de Pesquisa No 02. 16p. (Centro Nacional de Pesquisa do Caju : Fortaleza.)
 111. Melo, Q. M. S. and Cavalcante, R. D. (1979). Incidence of the 'whitefly' *Aleurodicus cocois* Curtis in cashew plantations in Ceara. Preliminary results. [Incidencia da 'mosca branca' *Aleurodicus cocois* Curtis nos cajueirais cearenses. Resultados preliminares.] *Fitossanidade* **3**, 5-6.
 112. Melo, Q. M. S., Cavalcante, R. D., Cavalcante, M. L. S. and Chagas, F. A. (1979). Checking the phytotoxic effects of insecticides on cashew (*Anacardium occidentale* L.). [Verificacao de efeitos fitotoxicos de inseticidas em cajueiro (*Anacardium occidentale* L.).] *Fitossanidade* **3**, 43-4.
 113. Melo, Q. M. S., Cavalcante, R. D., Cavalcante, M. L. S. and Chagas, F. A. (1979). *Colaspis bicolor* (Olivier, 1808), a new pest of cashew (*Anacardium occidentale* L.), in Ceara. [*Colaspis bicolor* (Olivier, 1808), nova praga do cajueiro (*Anacardium occidentale* L.), no Ceara.] *Fitossanidade* **3**, 56.
 114. Mesquita, A. L. M. and Melo, Q. M. S. (1991). Cashew insect pests in northeastern Brazil: Identification of new species. Pesquisa em Andamento No 04. 3p. (Centro Nacional de Pesquisa do Caju: Fortaleza, Brasil.)
 115. Miller, L. R. (1993). Specific problems in mastoterme research. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
 116. Miller, L. R. (1994). *Mastoterme* in cashew. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 87-90.
 117. Miller, L. R. and Watson, J. A. L. (1991). *Mastoterme darwinensis* : A pest of cashew plantations. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
 118. Miller, L. R. and Watson, J. A. L. (1992). *Mastoterme darwiniensis* in cashew plantations Research progress and plans. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. p. 57.
 119. Misra, M. P. and Basu Chaudhuri, J. C. (1985). Control of *Plocaederus ferrugineus* (Linnaeus) (Coleoptera: Cerambycidae) through field hygiene. *Indian Journal of Agricultural Science* **55**, 290-3.
 120. Mohanasundaram, M. (1981). Two new species of *Abacarus* (Acari: Eriophyidae) on economic hosts in Tamil Nadu. *Indian Journal of Acarology* **6**, 9-13.
 121. Munaan, A. (1986). Controlling *Cricula trifenestrata* Helf. on cashew trees. *Pemberitaan Penelitian Tanaman Industri* **12**, 36-40.

122. Muthu, M., Baskaran, P. and Venkata Ram, C. S. (1983). Performance of quinalphos against the insect pests of cashew (*Anacardium occidentale* L.). *Proceedings of the Second Annual Symposium on Plantation Crops. Plant Protection (Entomology, Microbiology, Nematology, Plant Pathology and Rodentology). PLACROSYM II 1979.* pp. 474-83. (PLACROSYM Standing Committee: Kasaragod, Kerala, India.)
123. N' Guetta, K. (1994). Inventory of insect fauna specific to cultivated fruit trees of northern Cote d'Ivoire. [Inventaire de l'entomofaune infeodee aux arbres fruitiers cultives dans la nord de la Cote d'Ivoire.] *Symposium on Tropical Orchards, Montpellier, France, 30 August 5 September, 1993.* pp. 428-9, 500-1.
124. N' Guetta, K. (1994). Inventory of insect fruit pests in northern Cote d'Ivoire. [Inventaire des insectes de fruits recoltes dans le nord de la Cote d'Ivoire.] *Symposium on Tropical Orchards, Montpellier, France, 30 August-5 September, 1993.* **49**, 430-1, 502-3.
125. Nair, G. M. and Abraham, C. C. (1982). Insecticidal control of the cashew leaf miner, *Acrocercops syngramma* M. *Pesticides* **16**, 19-20.
126. Nambiar, M. C., Nambiar, K. K. N. and Kunhikrishnan, K. (1980). Cashew in India. *World Crops* **32**, 20-3.
127. Narendran, T. C. and Sureshan, P. M. (1988). A contribution to our knowledge of Torymidae of India (Hymenoptera: Chalcidoidea). *Bollettino del Laboratorio di Entomologia Agraria 'Filippo Silvestri'* **45**, 37-47.
128. Pan, X. L. and van der Geest, L. P. S. (1990). Insect pests of cashew in Hainan, China, and their control. *Journal of Applied Entomology* **110**, 370-7.
129. Pappiah, C. M., Hameed, A. S. and Vijayakumar, M. (1985). The foliar application of pesticides and nitrogen on the incidence of tea mosquito bug (*Helopeltis antonii* Sign.) and yield of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* pp. 116-9.
130. Patil, P. D. and Dumbre, R. B. (1985). An unusual occurrence of thrips on cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979,* 135.
131. Patnaik, H. P., Samal, A. P., Satapathy, C. R. and Sontakke, B. K. (1987). Shoot tip caterpillar (*Chelaria haligramma* M.), menace on cashew in Orissa. *The Cashew* **1**, 2-3.
132. Patnaik, H. P., Satapathy, C. R., Sontakke, B. K. and Senapathy (1987). Flower thrips of cashew (*Anacardium occidentale* L.) their seasonal incidence and assessment of damage in coastal Orissa. *The Cashew* **1**, 11-3.
133. Peng, R. K., Christian, K. and Gibb, K. (1994). The effect of the green ant on cashew insect pests with particular reference to the tea mosquito bug. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 75-86.
134. Peng, R. K., Christian, K. and Gibb, K. (1995). The effect of the green ant, *Oecophylla smaragdina* (Hymenoptera, Formicidae), on insect pests of cashew trees in Australia. *Bulletin of Entomological Research* **85**, 279-84.
135. Peng, R. K., Christian, K. and Gibb, K. (1996). The effect of native vegetation on the diversity of arthropods in cashew plantations with particular reference to the insect pests and their natural enemies. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland.* pp. 71-83.
136. Peng, R. K., Christian, K. and Gibb, K. (1996). Control efficiency of the green ant, *Oecophylla smaragina*, in relation to the control threshold of the tea mosquito bug, *Helopeltis perniciosa*, in Northern Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland.* pp. 63-70.
137. Peng, R. K., Christian, K. and Gibb, K. (1996). The Effect of Native Vegetation on the Cashew Arthropod Fauna With Particular Reference to the Most Important Pest - *Helopeltis Pernicialis*. 70p. (Northern Territory University: Darwin.)
138. Peng, R. K., Christian, K. and Gibb, K. (1997). Control threshold analysis for the tea mosquito bug, *Helopeltis perniciosa* (Hemiptera: Miridae) and preliminary results concerning the

- efficiency of control by the green ant, *Oecophylla smaragdina* (Hymenoptera:Formicidae) in Northern Australia. *International Journal of Pest Management* **43**, 233-7.
139. Peng, R. K., Christian, K. and Gibb, K. (1997). Distribution of the green ant, *Oecophylla smaragdina* (F) (Hymenoptera:Formicidae), in relation to native vegetation and the insect pests in cashew plantations in Australia. *International Journal of Pest Management* **43**, 203-11.
 140. Pillai, G. B. (1987). Integrated pest management in plantation crops. *Journal of Coffee Research* **17**, 150-3.
 141. Pillai, G. B. (1979). Pest control in cashew. *Indian Farming* **28**, 25-8.
 142. Pillai, G. B., Singh, V., Dubey, O. P. and Abraham, V. A. (1985). Seasonal abundance of tea mosquito (*Helopeltis antonii* Sign.) on cashew in relation to meteorological factors. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 103-10.
 143. Pillai, S. P. and Muthu, M. (1982). A study on the bionomics of major insect species infesting cashew kernels *Tribolium castaneum*, *Oryzaephilus surinamensis*, *Ephestia cautella*, India. *Journal of Food Science and Technology Mysore* **19**, 118-20.
 144. Punnaiah, K. C., Ayyanna, T. and Azam, K. M. (1989). Occurrence of *Amblyrrhinus poricollis* Boheman (Curculionidae: Coleoptera) as a serious pest of cashew. *The Cashew* **3**, 18.
 145. Punnaiah, K. C. and Devaprasad, V. (1995). Management of cashew stem and root borer *Plocaederus ferrugineus* L. *The Cashew* **9**, 17-23.
 146. Punnaiah, K. C. and Devaprasad, V. (1996). Studies on population dynamics of cashew leaf folders. *The Cashew* **10**, 5-8.
 147. Quartau, J. A. (1981). Ecological notes on Batracomorpha Lewis (Insecta, Homoptera, Cicadellidae) in Africa. *Boletim da Sociedade Portuguesa de Entomologia* No. 14. pp. 1-8.
 148. Rai, P. S. (1983). Bionomics factor of cashew stem and root borer. *Journal of Maharashtra Agricultural Universities* **8**, 247-9.
 149. Rai, P. S. (1984). Handbook of Cashew Pests. (Reserach Company Publications: Delhi, India.)
 150. Rajapakse, R. R. S. and Jeevaratnam, K. (1985). Seasonal population changes of *Helopeltis antonii* (Heteroptera: Miridae) in cashew. *Agricultural Research Journal of Kerala* **23**, 38-42.
 151. Rajprecha, J. (1980). Insect pests of cashew in Thailand. National Biological Control Research Center, Special Publication No. 2. 182p.
 152. Raju, D. S. and Venkata Ram, C. S. (1983). A note on major pest problems of cashew, coconut and arecanut and their control in Goa. *Proceedings of the Second Annual Symposium on Plantation Crops. Plant Protection (Entomology, Microbiology, Nematology, Plant Pathology and Rodentology). PLACROSYM II 1979*. pp. 523-9. (PLACROSYM Standing Committee: Kasaragod, Kerala, India.)
 153. Raju, G. T. T., Chandregowda, M., Krishnappa, K. S. and Narayana Reddy, N. A. (1990). Seasonal incidence of flower thrips under eastern dry zone of Karnataka. *The Cashew* **4**, 3-4 .
 154. Ram, C. S. V. (1980). Plant protection in plantation crops through the 80's. *Journal of Plantation Crops* **8**, 1-12.
 155. Ramadevi, M. and Subba Rao, A. (1989). Chemical control of root grub, *Holotrichia consanguinea* Blan. infesting cashew plantations. *The Cashew* **3**, 13-4.
 156. Ramaseshiah, G. and Bali, R. (1987). On the identity of a lymantriid defoliator of cashew and cocoa in south India. *Current Science* **56**, 1191-2.
 157. Remaudiere, G. and Autrique, A. (1984). *Toxoptera odinae* (Van der Goot), an Asiatic aphid recently discovered in Africa. [*Toxoptera odinae* (Van der Goot), puceron asiatique recemment decouvert en Afrique.] *Comptes Rendus des Seances de l'Academie d'Agriculture de France* **70**, 379-85.
 158. Rickson, F. R. and Rickson, M. M. (1998). The cashew nut, *Anacardium occidentale* (Anacardiaceae), and its perennial association with anys - Extrafloral nectary location and the potential for ant defense. *American Journal of Botany* **85**, 835-49.
 159. Salam, A., Pushpalatha, P. B., Aravindakshan, M., Balakrishnan, S., Balasubramanian, P. P. and Hrishii, N. (1990). Pests of cashew and their control. A Farmers Primer on Growing Cashew. (Assissi Printers: Thillery, Quilon.)

160. Sales, F. J. M., Carlos, F. F., Pinto, G. L., Montenegro, S. F. and Linhares, P. G. (1981). Comparative study of leaf consumption by the red cashew beetle. [Estudo comparativo do consumo foliar do besouro vermelho do cajueiro.] *Fitossanidade* **5**, 31-7.
161. Sales, F. J. M., de Oliveira, L. Q. and Alves, V. P. O. (1981). Effectiveness of organosynthetic insecticides for the control of the cashew whitefly. [Efetividade de inseticidas organossinteticos no controle a mosca branca do cajueiro.] *Fitossanidade* **5**, 7-14.
162. Samiayyan, K., Ganeshkumar, M. and Shah, H. A. (1989). Efficacy of insecticides for the control of tea-mosquito bug *Helopeltis antonii* S. on cashew. *South Indian Horticulture* **37**, 346-7.
163. Samiayyan, K., Ganeshkumar, M. and Shah, H. A. (1989). Note on morphometric studies of the cashew stem borer (*Plocaederus ferrugineus* L.) adults. *South Indian Horticulture* **37**, 52-3.
164. Samiayyan, K., Palaniswamy, K. P., Ahmed Shah, H. and Manivannan, K. (1991). Effect of prophylactic measures against cashew stem and root borer. *The Cashew* **5**, 16-7.
165. Samiayyan, K., Palaniswamy, K. P. and Chandrasekaran, J. (1984). Comparative efficacy of some insecticides against the cashew leaf miner (*Acrocercops syngamma* M.). *Cashew Causerie* **6**, 11-2.
166. Sandry, B. (1990). Cashew entomology at Wildman River. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 26-8.
167. Sanjeev, K. and Seema, K. (1991). New records of soldier flies (Diptera: Insecta) from South Andaman. *Journal of the Andaman Science Association* **7**, 95-6.
168. Satapathy, C. R., Chinnaswamy, K. P. and Joseph, L. M. (1995). Pathogenicity of *Aspergillus tamarii* Kita on tea mosquito bug, *Helopeltis antonii* Sign. *Insect Environment* **1**, 9-11.
169. Satapathy, C. R., Jena, B. C. and Patnaik, N. C. (1985). Incidence of the cashew shoot tip borer, *Hypatima (Chelaria) haligramma* M. (Gelechlidae: Lepidoptera) in Orissa. *Cashew Causerie* **7**, 3-4.
170. Satapathy, C. R. and Panigrahi, P. K. (1995). Effect of plant height on incidence of *Lamida monocusalis* Walker infesting cashew. *Orissa Journal of Horticulture* **23**, 30-2.
171. Satapathy, C. R., Panigrahi, P. K. and Senapati, B. (1991). Field and laboratory evaluation of some insecticides against cashew shoot tip borer *Hypatima haligramma* M. *Environment and Ecology* **9**, 92-5.
172. Satapathy, C. R., Sen, S. R. and Bohidar, K. (1990). Evaluation of relative toxicity of some insecticides against the larvae of the cashew leaf miner, *Acrocercops syngamma* M. *The Cashew* **4**, 12-3.
173. Sathiamma, B. and Saraswathy, N. (1990). Mycosis on tea mosquito *Helopeltis antonii* S. *Indian Journal of Entomology* **52**, 516.
174. Sathiamma, B. and Venkata Ram, C. S. (1983). Varietal reaction of cashew to tea mosquito, *Helopeltis antonii* S. (Hemiptera: Miridae), a major pest of cashew. *Proceedings of the Second Annual Symposium on Plantation Crops. Plant Protection (Entomology, Microbiology, Nematology, Plant Pathology and Rodentology). PLACROSYM II 1979*. pp. 530-4. (PLACROSYM Standing Committee: Kasaragod, Kerala, India.)
175. School of Genetics, Tamil Nadu Agricultural University, India (1983). *National Seminar on Breeding Crop Plants for Resistance to Pests and Diseases. May 25-27 1983. Coimbatore, Tamil Nadu, India*. p. 78. (Tamil Nadu Agricultural University: Coimbatore, India.)
176. Sen, S. (1980). On a collection of *Thysanoptera* (Insecta) from Andaman Island. *Records of the Zoological Survey of India* **77**, 343-55.
177. Senguttavan, T., Kareem, A. A. and Rafendran, R. (1994). Relative incidence of shoot and blossom webber, *Orthaga exvinacea* Hamp. and the biochemical basis for its preference to cashew types. *Journal of Plantation Crops* **22**, 53-6.
178. Senguttavan, T., Murali Baskaran, R. K. and Ahmed Shah, H. (1991). Knock down toxicity of insecticides against *Metanastria hyrtaca* Cramer in cashew. *The Cashew* **5**, 16-7.
179. Singh, K. G., Heong, K. L., Lee, B. S., Lim, T. M., Teoh, C. H. and Ibrahim, Y. (1982). Harmonisation and effectiveness of plant quarantine legislation and regional cooperation in the ASEAN Region. *Proceedings of the International Conference on Plant Protection in the*

- Tropics. 1-4 March, 1982, Kuala Lumpur, Malaysia.* pp. 647-58. (Malaysian Plant Protection Society: Kuala Lumpur, Malaysia.)
180. Singh, V. (1988). Serious pests of stored cashew kernels. *Journal of Plantation Crops* **16**, 133-7.
 181. Smith, E. S. C. (1985). New host records of *Amblypelta lutescens lutescens* (Distant) (Hemiptera: Coreidae) in north-western Australia. *Australian Entomological Magazine* **12**, 55-6.
 182. Steyn, W. P. (1993). Host plants of the red-banded thrips, *Selenothrips rubrocinctus*. *Inligtingsbulletin Instituut vir Tropiese en Subtropiese Gewasse* **245**, 3.
 183. Stonedahl, G. M., Malipatil, M. B. and Houston, W. (1995). A new mirid (Heteroptera) pest of cashew in northern Australia. *Bulletin of Entomological Research* **85**, 275-8.
 184. Strickland, G. R. and Knight, P. (1992). Cashew tree defoliation studies at Wildman River Cashew Plantation. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 121-5.
 185. Strickland, G. R. and Williams, P. (1993). The effect of feeding by bug pests *Amblypelta lutescens* and *Helopeltis* sp on cashew yield at Wildman River Cashew Plantation, Northern Territory. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
 186. Sulochana, K. K., Wilson, K. I. and Nair, M. C. (1982). Some new host records for *Cylindrocladium quinquesepatum* from India. *Agricultural Research Journal of Kerala* **20**, 106-8.
 187. Sundararaju, D. (1992). Biological control of tea mosquito bug and other sucking pests of cashew. Annual Report 1991-'92, National Research Centre for Cashew. pp. 40-44. (Central Plantation Crops Research Institute: Kasagarod, Kerala; India.)
 188. Sundararaju, D. (1984). Cashew pests and their natural enemies in Goa. *Journal of Plantation Crops* **12**, 38-46.
 189. Sundararaju, D. (1985). Chemical control of cashew stem and root borer, *Plocaederus ferrugineus* L. at Goa. *Journal of Plantation Crops* **13**, 63-6.
 190. Sundararaju, D. (1993). Compilation of recently recorded and some new pests of cashew in India. *The Cashew* **7**, 15-9.
 191. Sundararaju, D., Bakthavatsalam, N., John, J. N. and Vidyasagar, P. S. P. V. (1994). Presence of female sex pheromone in tea mosquito bug, *Helopeltis antonii* Sign. (Heteroptera: Miridae). *Entomon* **19**, 47-51.
 192. Sundararaju, D. and Bhaktavathsalam, N. (1990). Cashew pest management for coastal Karnataka. *The Cashew* **4**, 3-6.
 193. Suresh, S., Ramamurthy, R. and Venugopal, M. S. (1994). New record of host plants of cashew leaf webber, *Macalla (Lamida) moncusalis* Walker (Pyraustidae: Lepidoptera) in India. *Journal of Insect Science* **7**, 221.
 194. Swamy, K. R. M. (1995). Top working of cashew (*Anacardium occidentale* L.) in Goa and Maharashtra States - a case study. *The Cashew* **9**, 12-7.
 195. Tej Kumar, S., Rao Ramarao, M., Rama Devi, M. and Reddiahraju, M. (1985). Indian marking nut tree as an alternative host for the shoot and blossom webber, a serious pest of cashew. *Cashew Causerie* **7**, 11.
 196. Teli, V. S., Ambekar, J. S. and Chandele, A. G. (1983). Chemical control of bark-eating caterpillar, *Inderbela quadrinotata* Walker in cashewnut. *Pesticides* **17**, 20-1.
 197. Thirumala Raju, G. T., Krishnappa, K. S., Gowda, V. T. N., Gowda, C. M. and Shankaranarayana, V. (1991). Seasonal occurrence of major pests of cashew in Maidan Parts of Karnataka. *The Cashew* **5**, 12-3.
 198. Thomas, K. M. and Abraham, C. C. (1983). Relative susceptibility of cashew types to infestation by the tea mosquito bug *Helopeltis antonii* Sign (Hemiptera: Miridae). *National Seminar on Breeding Crop Plants for Resistance to Pests and Diseases.* pp. 45-6.
 199. Tyman, J. H. P. (1980). Cultivation, processing and utilisation of the cashew. *Chemistry and Industry*, 59-62.
 200. United States Department of Agriculture (1979). A diaspidid scale (*Pseudaonidia trilobitiformis* (Green)) - Florida - new continental United States record. *Cooperative Plant Pest Report* **4**,

201. Uthaiyah, B. C., Rai, P. S., Herle, P. S., Rao, K. B. and Indires, K. M. (1994). Preliminary evaluation of cashew types for tea mosquito (*Helopeltis antonii* Signoret). *The Cashew* **8**, 10-8.
202. Uthaiyah, B. C., Sridhara Herle, P., Khan, M. M., Hiremath, I. G., Kumar, D. P. and Balakrishna, K. (1989). Pre-bearing performance of some cashew types in coastal Karnataka. *The Cashew* **3**, 9-11.
203. Varma, R. V. and Balasundaran, M. (1990). Tea mosquito (*Helopeltis antonii*) feeding as a predisposing factor for entry of wound pathogens in cashew. *Entomon* **15**, 249-51.
204. Veena, T. and Ganeshaiyah, K. N. (1991). Non-random search pattern of ants foraging on honeydew of aphids on cashew inflorescences. *Animal Behaviour* **41**, 7-15.
205. Verma, S. C. (1985). *Microcerotermes pakistanicus* Akhtar, (Termitidae: Amitermitinae) from Kerala, India, with descriptions of the hitherto unknown imago and worker castes. *Annals of Entomology* **3**, 53-7.
206. Vijay Singh (1991). Effect of the protein fractions from cashewnut kernels (*Anacardium occidentale* L.) on the development of some stored grain pests. *Journal of Insect Science* **4**, 127-30.
207. Vijay Singh, and Pant, J. C. (1989). Effect of fat content and fat free portion from cashewnut, *Anacardium occidentale* Linn, kernels on growth and survival of some stored grain pests. *Journal of Insect Science* **2**, 14-9.
208. Vijay Singh, and Pant, J. C. (1987). Effect of physical forms of cashew kernels on growth of *Corcyra cephalonica*, *Tribolium castaneum* and *Oryzaephilus surinamensis*. *Journal of Plantation Crops* **15**, 131-4.
209. Vijay Singh, and Pant, J. C. (1986). Influence of moisture content of cashew kernel and relative humidity to storage pests. *Journal of Plantation Crops* **14**, 29-35.
210. Viraktamath, C. A. and Sohi, A. S. (1980). Notes on the Indian species of *Austroagallia* (Homoptera: Cicadellidae). *Oriental Insects* **14**, 283-9.
211. Warui, C. M. (1982). A laboratory study of the growth and fecundity of *Pseudotheraptus wayi* Brown (Hemiptera: Coreidae): a cashewnut tree pest in Kenya. *Kenya Journal of Science and Technology Series B* **4**, 67-70.
212. zur Strassen, R. (1982). Thysanopterological notes (6) (Insecta: Thysanoptera). [Thysanopterologische Notizen (6) (Insecta: Thysanoptera).] *Senckenbergiana Biologica* **63**, 191-209.

Plantation Management

1. Melanta, K. R., Sulladmath, U. V. and Syamasunder, J. (1989). Root anatomy of cashew (*Anacardium occidentale* L.). *Mysore Journal of Agricultural Sciences* **23**, 501-3.
2. Nayak, M. G. (1996). Training and pruning practices for cashew. *The Cashew* **10**, 5-9.
3. Richards, N. K. (1993). Evolving cashew orchard systems for the Northern Territory. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 39-49. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
4. Salam, M. A. (1997). Cashew plantation - establishment and management. *The Cashew* **11**, 13-32.
5. Satapathy, B. (1988). Thinning, training and pruning of cashew to increase production and productivity of cashew nut. *The Cashew* **2**, 6-8.
6. Toohill, B. and Millington, A. J. (1992). Herbicide use in cashew establishment and management on clay soils at the Ord River Irrigation Area (ORIA) North East Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 34-41.

Processing

1. Ajav, E. A. (1996). The design and testing of a low-cost cashew-nut cracker for peasant farmers. *Tropical Agriculture* **73**, 180-6.
2. Anonymous (1996). Progress in cashew processing. *Appropriate Technology* **23**, A3.
3. Anonymous (1997). More cash returns from cashews. *Spore*, 4.
4. Baker, I. (1989). Summary of cashew processing project. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
5. Baker, I. (1990). Cashew processing. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 29-31.
6. Baker, I. (1991). Cashew testa removal. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
7. Baker, I. and Kuppelwieser, W. (1989). Cashew research activities. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
8. Battcock, M. (1990). A future for solar drying? *Appropriate Technology* **17**, 21-4.
9. Das, P. K. (1985). Status of production and trade of cashew in India. *Agricultural Situation in India* **39**, 765-70.
10. Dattatreylulu, M. (1977). Export development of cashew. *Foreign Trade Review* **12**, 229-40.
11. Duncan, I. (1989). World cashew market: Summary report and conclusions. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
12. Duncan, I. (1992). World Cashew Market: 1992. pp. 100. (RIRDC: Canberra, ACT.)
13. Faborode, M. O. and Favier, J. F. (1996). Identification and significance of the oil-point in seed-oil expression. *Journal of Agricultural Engineering Research* **65**, 335-45.
14. Jaffee, S. (1995). Private sector response to market liberalization in Tanzania's cashew nut industry. In: *Marketing Africa's High Value Foods: Comparative Experiences of an Emergent Private Sector*. (ed. S. Jaffee and J. Morton.) pp. 153-98. (Kendall-Hunt Publishing Company: Dubuque, Iowa, USA.)
15. Jain, R. K. and Kumar, S. (1997). Development of a cashew nut sheller. *Journal of Food Engineering* **32**, 339-45.
16. Kuppelwieser, W. (1989). Processing and Analysis of Cashews. 2p. **Agdex No. 246/56**.
17. Kuppelwieser, W. (1989). Variety selection in cashew plantations in northern Australia (in the Darwin area). [Über die Sortenselektion im Kaschunussanbau in Nordaustralien (Umgebung Darwin).] *Erwerbsobstbau* **31**, 216-20.
18. Kuppelwieser, W. (1991). Some results and comments derived from cashew research at CPRS and BARC. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
19. MacArthur, J. (1980). Two evaluation studies. *Newsletter, Project Planning Centre for Developing Countries, University of Bradford*, 5-7.
20. Mandal, R. C. (1992). Cashew Production and Processing Technology. 195p. (Agro Botanical Publishers (India): Bikaner, India.)
21. Millington, W. (1992). Nut quality - A progress report on selected plants. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 136-8.
22. Morales, R. and Landires, M. d. S. d. (1988). Biotechnology in cashew (*Anacardium occidentale*, L.) processing. [Biotecnologia en la industrializacion del maranon (*Anacardium occidentale*, L.)]. *Ciencia Agropecuaria* **5**, 51-9.
23. Nagy, S., Shaw, P. E. and Wardowski, W. F. (1990). Fruits of Tropical and Subtropical Origin. Composition, Properties and Uses. (Florida Science Source, Inc.: Lake Alfred, Florida, USA.)
24. Noomhorm, A., Sabarez, H. T., Salokhe, V. M., Singh, G. and Ilangantileke, S. G. (1992). Studies on parameters affecting cashew nut processing. *International Agricultural Engineering*

- Conference. Proceedings of a Conference Held in Bangkok, Thailand on 7-10 December 1992. Vol. II. pp. 449-54. (Asian Institute of Technology: Bangkok; Thailand.)*
25. Ogunmoyela, O. A. (1983). Prospects of cashew 'apple' processing and utilization in Nigeria. *Process Biochem.* **18**, 6-7.
 26. Oloso, A. O. and Clarke, B. (1993). Some aspects of strength properties of cashew nut. *Journal of Agricultural Engineering Research* **55**, 27-43.
 27. Peethambaran, C. K. (1992). Cashew in Mozambique. *The Cashew* **6**, 11-5 .
 28. Pinson, G. S., Melville, D. J. and Cox, D. R. S. (1991). Decortication of tropical oilseeds and edible nuts. Overseas Development Natural Resources Institute Bulletin No.42. 38p.
 29. Raikar, N. A. and Murthy, H. G. S. (1991). Processing of cashewnuts in Karnataka. *Agricultural Situation in India* **46**, 127-31.
 30. Rossi, S. J., Fioreze, R., Cavalcante, V. M. d. S. and de Farias, H. R. (1981). Curves of equilibrium moisture content and latent heat of vapourization for fruits of cashew nuts and pieces of cassava. [Curvas de teor de umidade de equilibrio e calor latente de vaporizacao para castanhas de caju e raspas de mandioca.] *Revista Brasileira de Armazenamento* **6**, 5-10.
 31. Sabarez, H. T. and Noomhorm, A. (1993). Performance testing of an experimental screw conveyor dryer for roasting cashew nuts. *Postharvest Biology and Technology* **2**, 171-8.
 32. Salunkhe, D. K. and Kadam, S. S. (1995). Handbook of Fruit Science and Technology. Production, Composition, Storage, and Processing. 611p. (Marcel Dekker Inc.: New York, USA.)
 33. Srinivas, T. and Raju, V. T. (1995). Economics of processing of cashewnut. *Bihar Journal of Agricultural Marketing* **3**, 284-8.
 34. Thivavarnvongs, T. (1989). The design synthesis of a semi-automatic cashew nut sheller. American Society of Agricultural Engineers Paper No. 89-6615. pp. 6.
 35. Thivavarnvongs, T., Okamoto, T. and Kitani, O. (1995). Development of compact sized cashew nut shelling machinery (Part 1). Syntheses of effective manual and semi-automatic shelling methods. *Journal of the Japanese Society of Agricultural Machinery* **57**, 57-65.
 36. Thivavarnvongs, T., Sakai, N. and Kitani, O. (1995). Development of compact sized cashew nut shelling machinery (Part 2). Testing and evaluation of manual and semi-automatic shellers. *Journal of the Japanese Society of Agricultural Machinery* **57**, 85-93.
 37. Wadkar, S. S., Sawant, P. A. and Talathi, J. M. (1994). Employment potential of production and processing of cashew in the Konkan region. *The Cashew* **8**, 19-22.
 38. Wait, A. J. and Jamieson, G. I. (1984). Cashews - Industry prospects in Queensland. *Farm Note AGDEX 246/00*, 3.

Propagation

1. Almeida, F. A. G., Almeida, F. C. G., Albuquerque, J. J. L. d. and Rabelo, F. M. A. (1992). Effect of root pruning on the production of transplants of *Anacardium occidentale* L. by means of air layering [Poda da raiz na producao de mudas de *Anacardium occidentale* L. atraves da alporquia.] *Revista de la Facultad de Agronomia, Universidad Central de Venezuela* **18**, 39-46.
2. Almeida, F. A. G., Almeida, F. C. G., Albuquerque, J. J. L. d., Rabelo, F. M. A. and Soares, C. A. M. (1992). Comparison of substrates for air layers of dwarf early cashew (*Anacardium occidentale* L.) with subsequent use of aluminium [Comparacao de substratos em alporques de cajueiro anao precoce (*Anacardium occidentale* L.) com consequnente uso de aluminizacao]. *Turrialba* **42**, 528-30.
3. Amin, R. S. (1978). Soft-wood grafting - a new technique for hard wood plants. *Current Science* **47**, 468-9.
4. Ascenso, J. C. (1986). Potential of the cashew crop. 2. *Agriculture International* **38**, 368-71.
5. Ascenso, J. C. and Milheiro, A. V. (1973). A preliminary note on the mini-grafting of cashew. [Nota preliminar sobre a minienxertia do cajueiro.] *Agronomia Mocambicana* **7**, 69-72.
6. Bajaj, Y. P. S. (1996). Biotechnology in Agriculture and Forestry 35. Trees IV. 427p. (Springer-Verlag: Berlin, Germany.)
7. Baker, I. and Kuppelwieser, W. (1989). Cashew research activities. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
8. Boxus, P., Terzi, J. M., Lievens, C., Pylyser, M., Ngaboyamahina, P. and Duhem, K. (1991). Improvement and perspectives of micropropagation techniques applied to some hot climate plants. *International Symposium on Plant Biotechnology and Its Contribution to Plant Development, Multiplication and Improvement. Geneva, Switzerland. 19-20 April, 1991*. pp. 55-9 .
9. Buisson, D. (1986). Architectural analysis of some species of tropical fruit trees. [Analyse architecturale de quelques especes d'arbres fruitiers tropicaux.] *Fruits* **41**, 477-98.
10. Cadiz, R. T. and Dalmacio, M. V. (1978). Direct seeding of cashew (*Anacardium occidentale* Linnaeus). *Sylvatrop* **3**, 41-5.
11. Carvalho, P. R. (1995). Notes on some methods of vegetative propagation of cashew (extension leaflet). Boletim Informativo N° 4. 4p. (SAM: Monapo, Moçambique.)
12. Chacko, E. K. (1990). Summary of research work by CSIRO. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 14-8.
13. Chacko, E. K. (1992). Cashew research at the CSIRO Division of Horticulture A status report (1992). *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 77-83, 94-102.
14. Chacko, E. K. (1993). Cashew research at CSIRO Division of Horticulture. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
15. Chana, S. S. and Savant, P. V. (1979). Vegetative propagation of cashew by bud grafting in Goa. *Indian Farming* **28**, 21-4.
16. Coester, W. A. and Ohler, J. G. (1976). Cashew propagation by cuttings. *Tropical Agriculture* **53**, 353-8.
17. Conticini, L., Fiorino, P. and Torcia, P. (1988). Techniques and limitations in the propagation of cashew (*Anacardium occidentale* L.). [Tecniche e limiti nella propagazione dell'anacardio (*Anacardium occidentale* L.).] *Rivista di Agricoltura Subtropicale e Tropicale* **82**, 611-29.
18. Correa, M. P. F., Bueno, D. M., Parente, J. I. G., Filho, J. E. P. and Rossetti, A. G. (1993). Budding: the economic cashew vegetative propagation. Caju Informativo No 1. 4p. (Centro Nacional de Pesquisa de Agroindustria Tropical: Fortaleza, Brazil.)
19. D'Silva, I. and D'Souza, L. (1992). *In vitro* bud proliferation of *Anacardium occidentale* L.

- Beitrage Zur Biologie Der Pflanzen* **67**, 273-9.
20. D'Silva, I. and D'Souza, L. (1992). *In vitro* propagation of *Anacardium occidentale* L. *Plant Cell Tissue and Organ Culture* **29**, 1-6.
 21. Damodaran, V. K. (1985). Vegetative propagation of cashew - Review of work done in Kerala. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 51-6.
 22. Das, R. C. and Mishra, S. N. (1985). Vegetative propagation in cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. p. 285.
 23. Das, S., Jha, T. B. and Jha, S. (1996). *In vitro* propagation of cashewnut. *Plant Cell Reports* **15**, 615-9.
 24. Devadas, V. S., Manomohandas, T. P., George, S. P. and Kannan, K. (1989). A comparative study of different planting materials of cashew types in Wynad. *The Cashew* **3**, 11-5.
 25. Dhandar, D. G. (1985). Increase cashew production adopting vegetative propagation. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 285-6.
 26. Duarte, O., Nieto, J. M. and Suarez, A. (1991). Treatments for improving seed germination and rooting of cashew (*Anacardium occidentale* L.) cuttings. [Tratamientos para mejorar la germinacion y el enraizamiento de estacas de maranon (*Anacardium occidentale* L.).] XXXVII Annual Meeting of the Interamerican Society for Tropical Horticulture, Vina del Mar, Chile, 7-12 Oct. 1991. pp. 9-14.
 27. Dutta, P. and Mitra, S. K. (1989). Effect of pretreatment of stock plants with Ethrel and Cycocel on the rooting of air layers in cashew. *The Cashew* **3**, 5-6.
 28. Esan, E. B., Thottappilly, G., Monti, L. M., Mohan Raj, D. R. and Moore, A. W. (1992). Status of *in vitro* regeneration of tropical plantation crops. *Biotechnology - Enhancing Research on Tropical Crops in Africa*. pp. 157-64. (Technical Centre for Agricultural and Rural Cooperation: Wageningen, The Netherlands.)
 29. Falcone, A. M. and Leva, A. R. (1987). Preliminary tests on the morphogenesis of the cashew in culture. [Prove preliminari sulla morfogenesi in colture di anacardio.] *Rivista di Agricoltura Subtropicale e Tropicale* **81**, 117-25.
 30. Ferraz, L., Souza, M. M. d., Dantas, A. P., Wanderley, M. d. B. and Pedrosa, A. C. (1974). Methods of grafting cashews [Metodos de enxertia em cajueiro (*Anacardium occidentale* L)]. *Boletim Tecnico do Instituto de Pesquisas Agronomicas, Recife, Brazil* No. 67. pp. 17.
 31. Ghosh, D. K., Bandopadhyay, A. K. and Sen, S. K. (1994). Response of auxinic and non- auxinic chemicals on rooting of cashewnut (*Anacardium occidentale* L.) air layers. *Environment and Ecology* **12**, 79-81.
 32. Ghosh, S. N. (1991). Studies on screening of cashew types for root stock in soft wood grafting. *The Cashew* **5**, 3-4.
 33. Gowda, B. J. and Melanta, K. R. (1991). A note on the epicotyl grafting of cashew. *Current Research - University of Agricultural Sciences (Bangalore)* **20**, 119-20.
 34. Hanamashetti, S. I., Khan, M. M., Hegde, M. and Nagaraju, A. P. (1984). Preliminary studies on the use of growth regulators for inducing rooting in 3/108 Gubbi-Karnataga: a difficult to root cashew selection. *South Indian Horticulture* **32**, 371-2.
 35. Hedge, N. K., Sulikeri, G. S. and Hulamani, N. C. (1989). Propagation of cashew by epicotyl grafting under Dharwad conditions. *The Cashew* **3**, 11-2.
 36. Hegde, M., Kulasekaran, M., Jayasankar, S. and Shanmugavelu, K. G. (1992). *In vitro* embryogenesis in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **21**, 17, 25.
 37. Hegde, M., Kulasekaran, M., Shanmugavelu, K. G. and Jayasankar, S. (1990). *In vitro* culture of cashew seedlings and multiple plantlets from mature cotyledons. *Indian Cashew Journal* **20**, 19-24.
 38. Hore, J. K. and Sen, S. K. (1992). Role of non - auxic compounds and IBA on ventitious root formation in air - layers of cashewnut. *The Cashew* **6**, 11-5.
 39. Hore, J. K. and Sen, S. K. (1993). Effect of non-auxinic compounds and NAA on adventitious

- root formation in layers of cashew. *Journal of Plantation Crops* **21**, 114-5.
40. Jayarama Gowda, B. and Melanta, K. R. (1989). Vegetative propagation of cashew by grafting. *The Cashew* **3**, 13-4.
 41. Jha, T. B. (1988). *In vitro* morphogenesis in cashewnut *Anacardium occidentale* L. *Indian Journal of Experimental Biology* **26**, 505-7.
 42. Kadam, S. G. and Nadkarni, H. R. (1996). *In situ* softwood grafting in cashew (*Anacardium occidentale* L.) : Effect of size and maturity of scion sticks, var Vengurla-4. *The Cashew* **10**, 18-22.
 43. Kadam, S. G., Nawale, R. N. and Khandekar, R. G. (1995). Effects of scion storage media and duration on success of *in situ* softwood grafting in cashew (*Anacardium occidentale* L.). *The Cashew* **9**, 21-5.
 44. Kadam, S. G., Nawale, R. N., Nadkarni, H. R. and Haldavanekar, P. C. (1996). Effects of prior defoliation of budsticks and leaf retention on rootstocks of in-situ softwood grafts of cashew. *Cashew* **10**, 29-33.
 45. Kadam, S. G., Nawale, R. N., Nadkarni, H. R. and Magdum, M. B. (1995). Studies on *in situ* softwood grafting in cashew (*Anacardium occidentale* Linn.). *The Cashew* **9**, 8-11.
 46. Kumar, D. P., Subbarayappa, A. and Khan, M. M. (1989). Soft wood grafting - A successful method of clonal propagation in cashew. *The Cashew* **3**, 3-5.
 47. Kuppelwieser, W. (1989). Variety selection in cashew plantations in northern Australia (in the Darwin area). [Uber die Sortenselektion im Kaschunussanbau in Nordaustralien (Umgebung Darwin).] *Erwerbsobstbau* **31**, 216-20.
 48. Kuppelwieser, W. (1990). Summary of research at CPRS and BARC : Northern Territory DPIF. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 8-13.
 49. Lenka, P. C., Maharana, T. and Nath, P. K. (1993). Soft wood grafting in cashewnut under Orissa conditions. *The Cashew* **7**, 10-1.
 50. Lenka, P. C., Pradhan, B. and Dash, D. K. (1993). Effect of scion storage on cashew grafting. *The Cashew* **7**, 14-5.
 51. Leva, A. R. and Falcone, A. M. (1990). Propagation and organogenesis 'in vitro' of *Anacardium occidentale* L. *Proceedings of the First ISHS Symposium on in Vitro Culture and Horticultural Breeding Cesena, Italy 30 May-3 June 1989*. pp. 143-6.
 52. Lievens, C., Pylyser, M. and Boxus, P. (1989). First results about micropropagation of *Anacardium occidentale* by tissue culture. *Fruits* **44**, 553-7.
 53. McFadden, D. (1992). Cashew propagation improvements, grafting age, planting age and potting media. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 14-9.
 54. Melanta, K. R. and Sulladmath, U. V. (1990). Studies on propagation of cashew (*Anacardium occidentale* L.) by cuttings. *Mysore Journal of Agricultural Sciences* **24**, 79-82.
 55. Melanta, K. R., Sulladmath, U. V. and Syamasunder, J. (1989). Root anatomy of cashew (*Anacardium occidentale* L.). *Mysore Journal of Agricultural Sciences* **23**, 501-3.
 56. Menon, M. A., Ravindran, P. N. and Nair, B. P. (1979). Influence of seed vigour on seedlings of cashew (*Anacardium occidentale* L.). *Planter, Malaysia* **55**, 199-205.
 57. Misra, L. P. and Singh, R. (1991). Effect of paclobutrazol on cashew (*Anacardium occidentale* L.) grafts in nursery. *Indian Journal of Plant Physiology* **34**, 102-5.
 58. Muddappa Gowda, P., Vidyachandra, B., Kologi, S. D. and Muthappa Rai, B. G. (1976). Performance of clonally propagated cashew as compared with seedling progenies. *Mysore Journal of Agricultural Sciences* **10**, 23-7.
 59. Muhs, H. J. and Baker, F. W. G. (1992). Macro- and microvegetative propagation as a tool in tree breeding as demonstrated by case studies of aspen and cashew and regulations for marketing clonal material. *Rapid Propagation of Fast-Growing Woody Species. Proceedings of a Symposium Held in 1989*. pp. 71-85. (CAB International: Wallingford, UK.)
 60. Mukherjee, S. K. and Majumder, P. K. (1983). Vegetative Propagation of Tropical and Sub-Tropical Fruit Crops. pp. 38. (Indian Council of Agricultural Research: New Delhi, India.)

61. Mulin, M. (1995). Callus formation from thin cell layers of *Anacardium occidentale* L. *Silva Lusitana* **3**, 205-11.
62. Mwashha, A. J., Ellis, R. H. and Hong, T. D. (1997). The effect of desiccation on the subsequent survival of seeds of cashew (*Anacardium occidentale* L.). *Seed Science and Technology* **25**, 115-22.
63. Nagabhushanam, S. (1981). A study on germination value (GV) in cashew (*Anacardium occidentale* L) sown at different depths. *Malaysian Agricultural Journal* **53**, 113-5.
64. Nagabhushanam, S. (1983). A study on epicotyl grafting in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **15**, 13-6.
65. Nagabhushanam, S. (1985). Preliminary studies on propagation of cashew by stooling and layering. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 286-7.
66. Nagabhushanam, S. (1985). Vegetative propagation in cashew dash review of work done at Vittal. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 57-63.
67. Nagabhushanam, S. and Menon, M. A. (1980). Propagation of cashew (*Anacardium occidentale* L.) by etiolation, girdling, and stooling. *Plant Propagator* **26**, 11-3.
68. Nagabhushanam, S., Mohan, E. and Murthy, K. N. (1980). Juvenile growth characters of air layers and seedlings in four cashew (*Anacardium occidentale* L.) cultivars. *Journal of Plantation Crops* **8**, 106-7.
69. Nagabhushanam, S. and Murthy, K. N. (1979). Prospects of vegetative propagation in cashew (*Anacardium occidentale* L.) by air layering. *Indian Cashew Journal* **12**, 29-32.
70. Nagabhushanam, S., Murthy, K. N. and Mohan, E. (1979). More on vegetative methods. *Intensive Agriculture* **17**, 15-9.
71. Nagabhushanam, S. and Rao, P. V. (1978). Propagational trials in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **11**, 7, 9-11.
72. Nageswara Rao, M. B., Satanarayana, G. and Shiv Raj, A. (1989). Anatomical aspects of rooting in stem cuttings of cashew. *The Cashew* **3**, 10-1.
73. Nai, M. K. and Karun, A. (1994). Vistas of biotechnology for palms, cocoa and cashew. *Indian Horticulture* **39**, 36-7/39.
74. Napolione, I. (1984). Results of micropropagation of subtropical trees and shrubs. *Rivista di Agricoltura Subtropicale e Tropicale* **78**, 139-51.
75. Nawale, R. N. and Salvi, M. J. (1990). Studies on vegetative propagation of cashewnut. *The Cashew* **4**, 2-5 .
76. Palaniswami, V., Hameed, A. S. and Vijayakumar, M. (1985). Vegetative propagation in cashew - Work done at Vridhachalam. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 67-70.
77. Palaniswami, V. and Hammeed, A. S. (1976). Study of propagation of cashew (*Anacardium occidentale* Linn.) by patch budding. *South Indian Horticulture* **23**, 24-5.
78. Philip, V. J. (1984). *In vitro* organogenesis and plantlet formation in cashew (*Anacardium occidentale* L.). *Annals of Botany* **54**, 149-52.
79. Philip, V. J. and Unni, P. N. (1985). *In vitro* propagation of cashew for crop improvement. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 78-82.
80. Pugalendhi, L., Shah, H. A., Manoharan, V. and Manivannan, K. (1990). Studies on seedling vigour in cashew. *South Indian Horticulture* **38**, 129-32.
81. Pushpalatha, P. B., Salam, M. A. and Suma, A. (1991). *In situ* grafting in cashew - Experience at Cashew Research Station, Madakkathara. *The Cashew* **5**, 6-7.
82. Pushpalatha, P. B., Sitarama Rao, D. and Veeraraghavan, P. G. (1989). Screening of cashew types for root stock. *The Cashew* **3**, 9-10.
83. Pushpalatha, P. B., Veeraraghavan, P. G. and George, T. E. (1991). Studies on variable influencing success in softwood grafting in cashew. *The Cashew* **5**, 7-9.
84. Pushpalatha, P. B., Veeraraghavan, P. G. and Sitarama Rao, D. (1990). A study on the

- propagation ability of cashew types to different methods of vegetative propagation. *The Cashew* **4**, 16-7.
85. Radhakrishna, Y., Subha Rao, N., Satyanarayana Reddy, K. and Rama Devi, M. (1992). Propagation of cashew by softwood grafting under Bapatla conditions. *The Cashew* **6**, 3-5.
 86. Rajan, S., Pattenshetti, H. V. and Sulladmath, U. V. (1981). Role of plant growth regulators on the field establishment of cashew air layers. *Agricultural Research Journal of Kerala* **19**, 15-21.
 87. Rajan, S., Pattenshetti, H. V. and Sulladmath, U. V. (1982). Note on improvement in establishment of transplanted cashew air-layers by pre-planting treatment. *Indian Journal of Agricultural Sciences* **52**, 196-7.
 88. Rajeevan, M. S. and Srinivasan, K. (1985). Studies on cashewnut air-layers. I. Use of different decomposable containers and potting mixtures as aids in maximising field survival and establishment. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 287-8.
 89. Rajeevan, M. S. and Srinivasan, K. (1985). Studies on cashewnut air-layers. II. The morphological and anatomical characters of roots in relation to transplantation shock and subsequent field mortality. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. p. 288.
 90. Ramana, P. V. and Eswara Reddy, E. (1991). Retrospect and prospect views on propagation of cashew. *The Cashew* **5**, 9-12.
 91. Rao, M. B. N. and Satyanarayana, G. (1989). Bio-chemical basis for root-regeneration in ringed shoot cuttings of cashew (*Anacardium occidentale* L.) plants of different ages - auxin activity and carbohydrate contents. *Journal of Plantation Crops* **17**, 127-30.
 92. Rao, M. B. N., Satyanarayana, G., Kumari, N. G. and Padmanabham, V. (1989). Effect of method of potting and hardening on field establishment of rooted cuttings of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **19**, 15-7.
 93. Rao, M. B. N., Satyanarayana, G., Raj, A. S., Gnanakumari, N. and Padmanabham, V. (1990). Effect of some propagation structures on rooting of stem cuttings of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **20**, 17-20.
 94. Rao, M. B. N., Satyanarayana, G., Raj, A. S., Kumari, N. G. and Padmanabham, V. (1988). Interaction of source-plant age and shoot ringing on rooting of cashew (*Anacardium occidentale* L.) cuttings. *Journal of Horticultural Science* **63**, 517-9.
 95. Rao, M. B. N., Satyanarayana, G., Raj, A. S. and Rameshwar, A. (1990). Influence of post-ringing period on auxin activity, carbohydrate and nitrogen contents in ringed shoot cuttings of cashew (*Anacardium occidentale* L.). *Tropical Agriculture* **67**, 283-5.
 96. Rao, M. B. N., Satyanarayana, G., Rameswar, A., Raj, A. S., Gnanakumari, N. and Padmanabham, V. (1988). Interaction effect of certain phenolic compounds with IBA on induction of rooting in stem cuttings of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 9-10.
 97. Rao, M. B. N., Satyanarayana, G., Rameswar, A., Shivraj, A. and Padmanabham, V. (1989). Bio-chemical basis for root-regeneration in ringed shoot cuttings of cashew (*Anacardium occidentale* L.) plants of different ages - Cofactor activity and total phenol content. *Journal of Plantation Crops* **17**, 65-8.
 98. Rao, M. B. N., Satyanarayana, G., Reddy, B. R. and Raj, A. S. (1988). Effect of duration of post-ringing period on rooting of shoot cuttings of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 13-5.
 99. Rao, M. G. N., Satyanarayana, G. and Reddy, B. R. (1987). Effect of ringing and IBA on rooting of shoot cuttings of cashew (*Anacardium occidentale* L.). *Journal of Research APAU* **15**, 69-71.
 100. Rao, P. V. and Nagabhushanam, S. (1980). Further studies on propagational trials in cashew (*Anacardium occidentale*, L.). *Indian Cashew Journal* **13**, 5-7.
 101. Rao, S. N. (1985). Vegetative propagation of cashew - Review of work done at Bapatla. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin,*

- Kerala, India. 12-15 March 1979. pp. 64-6.
102. Rao, V. N. M. and Pappiah, C. M. (1979). Vegetative propagation in cashew. *Indian Farming* **28**, 9-10, 12.
 103. Sahani, J. N. and Patro, C. (1985). Vegetative propagation of cashew dash through side grafting *in situ*. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 71-4.
 104. Sahani, J. N. and Patro, C. (1985). Vegetative propagation of cashew - Through side grafting *in situ*. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 71-4.
 105. Salam, M. A., Pushpalatha, P. B. and Suma, A. (1991). Effect of gamma irradiation on cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **20**, 19-22.
 106. Samson, J. A. (1980). Propagation of tropical fruit trees. *Span* **23**, 85-7.
 107. Sarada, C., Rao, V. P., Sankar, C. R. and Rao, N. S. (1991). Studies on softwood grafting cashew. *South Indian Horticulture* **39**, 119-23.
 108. Sarpeshkar, A. M. (1979). A bottom heat chamber for rooting of cashew cuttings. *Current Research* **8**, 20-1.
 109. Sawke, D. P., Gunjate, R. T. and Limaye, V. P. (1985). Comparative performance of seedlings, air layers and inarched grafts in cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 75-7.
 110. Sawke, D. P., Salvi, M. J. and Patil, M. M. (1985). Prospects of clonal propagation in cashewnut by softwood grafting. *Indian Cashew Journal* **17**, 15-7.
 111. Scholefield, P. B. (1983). Exotic tropical and sub-tropical fruits and nuts and the Australian plant propagator. ?? pp. 140-4.
 112. Sen, S. K., Debnath, S., Bandopadhyay, A. and Poi, A. (1991). Propagation of cashewnut *Anacardium occidentale* L. from cuttings. *Environment and Ecology* **9**, 268-71.
 113. Seshadri, K. V. and Rao, R. R. (1986). Effect of age of rootstock and pre-treating scion on the success of soft-wood grafting in cashew. *South Indian Horticulture* **34**, 255-7.
 114. Seshadri, K. W. and Rao, R. R. (1985). Modified method of 'epicotyl grafting' in cashew for commercial propagation. *Indian Cashew Journal* **17**, 11-3.
 115. Sethuraj, M. R., Rao, G. G. and Asokan, M. P. (1989). Prospects of biotechnology in plantation crops. *Journal of Plantation Crops* **16**, 9-16.
 116. Shetty, K. K. and Melanta, K. R. (1990). Hardening of cashew (*Anacardium occidentale* L.) air layers in planting media to improve field establishment. *Mysore Journal of Agricultural Sciences* **24**, 375-8.
 117. Sivasbramanian, K., Tamilselvan, N. and Arulmozhan, R. (1990). Alkali seed treatment - A novel method to enhance cashew seed germination. *The Cashew* **4**, 15-6.
 118. Smith, M. W. and Bowman, L. (1994). Cashew rootstocks : Why and how. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 14-7.
 119. Subbaiah, C. C. (1982). Effect of pre-soaking in organic solvents on seed germination and seedling growth of cashew. *Scientia Horticulturae* **18**, 137-42.
 120. Suryanarayana, M. A. and Melanta, K. R. (1989). Effect of age of shoots on rooting of cashew stool layers. *Indian Cashew Journal* **19**, 10-1.
 121. Suryanarayana, M. A. and Melanta, K. R. (1988). Effect of plant growth regulators and rooting media on post separation establishment of cashew stool layers. *Lal-Baugh* **30**, 37-41.
 122. Swamy, K. R. M. and Mohan, E. (1991). Screening of cashew varieties/types for root stocks at nursery stage. *The Cashew* **5**, 3-5.
 123. Swamy, K. R. M., Rao, E. V. V. B., Nagaraja, B. and Nayak, M. G. (1993). Establishment and management of cashew scion bank. *The Cashew* **7**, 3-6.
 124. Swamy, K. R. M., Singh, R. and Mohan, E. (1990). Correlation of success in softwood grafting cashew with weather parameters. *South Indian Horticulture* **38**, 297-300.
 125. Sy, M. O., Martinelli, L. and Scienza, A. (1991). *In vitro* organogenesis and regeneration in cashew (*Anacardium occidentale* L.). *International Symposium on Plant Biotechnology and Its*

- Contribution to Plant Development, Multiplication and Improvement Geneva, Switzerland 19-20 April 1991.* pp. 267-8.
126. Syamal, M. M., Singh, S. K. and Rajput, C. B. S. (1992). Effect of etiolation and plant growth substances on rooting of air layers in cashewnut. *The Cashew* **6**, 8-10.
 127. Toruan, N. and Hasanah, M. (1984). Effect of ageing by ethanol on the germination and metabolite contents of cashew seed (*Anacardium occidentale* L.). [Pengaruh pengusangan dengan uap etanol terhadap daya kecambah dan kandungan metabolit benih jambu mete.] *Pemberitaan, Penelitian Tanaman Industri, Indonesia* **9**, 44-53.
 128. Tyman, J. H. P. (1980). Cultivation, processing and utilisation of the cashew. *Chemistry and Industry*, 59-62.
 129. University of Agricultural Sciences, India. (1978). Cashews. University of Agricultural Sciences: Fourteenth Annual Report, 1 April 1977 to 31 March 1978. pp. 270. Bangalore, India.)
 130. Usha, K. E. (1996). Screening of cashew seedlings at nursery stage for the use as dwarfing rootstock. *The Cashew* **10**, 9-10.
 131. Valsalakumari, P. K., Vidyadharan, K. K. and Damodaran, V. K. (1985). A comparative study of different methods of vegetative propagation of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* p. 289.
 132. van Eijnatten, C. L. M. and Karisa, S. J. (1980). Proposal for the development of nursery activities on perennial crops in Coast Province and its cost of implementation. CARS Communication No. 9. 38p.
 133. Veeraraghavan, P. G. (1990). Highlights of research and extension activities of the Cashew Research Station, Madakkathara, (Kerala). *The Cashew* **4**, 10-3.
 134. Veeraraghavan, P. G., George, T. E. and Nair, M. N. C. (1983). Standardisation of layering medium, planting medium and containers for cashew air layers. *Agricultural Research Journal of Kerala* **21**, 55-7.
 135. Veeraraghavan, P. G. and Vasavan, M. G. (1977). Trial on planting material on cashew. *Agricultural Research Journal of Kerala* **15**, 204.

Response to Fertilisers

1. Abraham, M., Salam, M. A. and Kamalam, N. V. (1995). Foliar absorption of ^{32}P by cashew (*Anacardium occidentale* L.). *Journal of Plantation Crops* **23**, 70-7.
2. Adi, A. and Kurnia, U. (1983). Effect of fertilizer and soil conditioner on the growth of cashew-nut trees. [Pengaruh Pupuk dan 'soil conditioner' terhadap pertumbuhan tanaman jambu mede.] *Pemberitaan Penelitian Tanah Dan Pupuk*, 1-5.
3. Almeida, A. G., Almeida, F. C. G. and Meneses, J. Jr. (1994). Effect of N, P and K fertilization on productivity in dwarf early air-layered cashew under irrigation. [Efeito de adubacao N, P e K na producao de alporques de cajueiro anao sob condicoes de irrigacao.] *Turrialba* **44**, 168-78.
4. Ankaiah, S. (1981). Effect of foliar fertilization of nitrogen on cashew. *Indian Cashew Journal* **13**, 15-7.
5. Ankaiah, S. and Rao, P. V. (1983). Studies on the age of leaf, time of absorption and concentration of urea spray on cashew. *Indian Cashew Journal* **15**, 19-21.
6. Badrinath, M. S., Sudhir, K. and Chikkaramappa, T. (1997). Soil fertility evaluation for cashew cultivation in coastal Karnataka soils. *Cashew* **11**, 22-7.
7. Beena Bhaskar (1992). Uptake Pattern of Major and Minor Nutrients in Selected Cashew Types. MScAgr Thesis. 142p. (Kerala Agricultural University: Vellanikkara, Thrissur, Kerala, India.)
8. Beena Bhaskar, Salam, M. A. and Wahid, P. A. (1995). Nutrient offtake in cashew. *The Cashew* **9**, 9-16.
9. Beena Bhaskar, Salam, M. A. and Wahid, P. A. (1995). Root activity of cashew (*Anacardium occidentale* L.) varieties in relation to phenological phases. *Journal of Plantation Crops* **23**, 35-9.
10. Bera, P. K., Bhattacharyya, A. K., Roy, G. C. and Mazumdar, B. C. (1988). Pre-harvest sprayings with solutions of urea, zinc sulphate and NAA on cashewnut trees. *Indian Biologist* **20**, 27-30.
11. Bhattacharyya, A. K., Bera, P. K., Roy, G. C. and Mazumdar, B. C. (1989). Studies on nut-cracking problem of cashewnut (*Anacardium occidentale* L.) in the southern part of West Bengal. *Cashew Bulletin* **26**, 1-5.
12. Dasari, N. R. (1992). Cashew research in the Northern Territory. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 7.
13. Deorukhakar, A. C., Veerakar, P. D., Talathi, J. M. and Thakare, G. G. (1995). Yield gap and constraints in technology adoption of cashew nut cultivation in the Konkan Region (Maharashtra). *The Cashew* **9**, 13-7.
14. Falade, J. A. (1984). Effect of lime on the efficiency of two nitrogen fertilizers applied to cashew in acid sandy soil. *Journal of Plantation Crops* **12**, 140-5.
15. Falade, J. A. (1978). Effects of macronutrients on mineral distribution in cashew (*Anacardium occidentale* L.). *Journal of the Science of Food and Agriculture* **29**, 81-6.
16. Falade, J. A. (1978). Effects of macronutrients on the growth and dry matter accumulation of cashew (*Anacardium occidentale* L.). *Turrialba* **28**, 123-7.
17. Geethalakshmi, V. and Palaniappan, S. P. (1992). Influence of indigenous nitrification inhibitors and levels of nitrogen on dry matter production, nutrient uptake and nitrogen recovery by cotton. *Journal of the Indian Society of Soil Science* **40**, 380-2.
18. George, T. E., Veeraraghavan, P. G. and Rao, D. S. (1984). Studies on the leaf nutrient content of cashew (*Anacardium occidentale* L.) in relation to methods of fertilizer application. *Indian Cashew Journal* **16**, 11-3.
19. Ghosh, S. N. (1990). Effect of different levels of nitrogen on growth and yield of cashew in old plantation. *The Cashew* **4**, 15-7.
20. Ghosh, S. N. (1989). Effect of nitrogen, phosphorus and potassium on flowering duration, yield and shelling percentage of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **19**, 19-23.
21. Ghosh, S. N. (1995). Studies on effect of watering during flowering and fruiting on yield of

- cashew. *The Cashew* **9**, 5-8.
22. Ghosh, S. N. (1990). Studies on the NPK requirement of cashew in laterite tract of West Bengal. *The Cashew* **4**, 6-9.
 23. Ghosh, S. N. and Bose, T. K. (1986). Nutritional requirement of cashew (*Anacardium occidentale*L.) in laterite tract of West Bengal. *Indian Cashew Journal* **18**, 11-6.
 24. Ghosh, S. N. and Chatterjee, M. L. (1993). Effect of nitrogen, phosphorus and potassium on incidence of tea mosquito and yield in cashew. *Environment and Ecology* **11**, 337-9.
 25. Gopikumar, K. and Aravindakshan, M. (1986). Sand culture studies in cashew. *Indian Cashew Journal* **18**, 9-14.
 26. Grundon, N. J. (1996). Fertiliser requirements of the cashew tree. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 30-7.
 27. Grundon, N. J., Blaikie, S. J. and Chacko, E. K. (1996). The CSIRO cashew multi-divisional project. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 25-9.
 28. Haag, H. P., Sarruge, J. R., Oliveira, G. D. d. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*). I. Macronutrient deficiency - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.). I. Deficiencia dos macronutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 185-90.
 29. Haag, H. P., Sarruge, J. R., Oliveira, G. D. d., Scoton, L. C. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*) III. The uptake of nutrients - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.) III. Absorcao de nutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 197-204.
 30. Hamzah, Z. (1980). Effect of fertilizing on the production of nuts and fruit by *Anacardium occidentale* at Paliyan, Gunung Kidul Regency (Yogyakarta). [Pengaruh pemupukan terhadap produksi mete dan jambu dari *Anacardium occidentale* L. di Paliyan, Kabupaten Gunung Kidul (Yogyakarta).] *Laporan, Lembaga Penelitian Hasil Hutan, Indonesia*, 55.
 31. Hanamashetti, S. I., Hegde, M., Hiremath, I. G. and Khan, M. M. (1985). Effect of different levels of fertilizers on yield of young cashew trees. *South Indian Horticulture* **33**, 190-2.
 32. Harishukumar, P. (1981). Cultural and manurial practices in cashew. *Indian Cashew Journal* **13**, 19-20.
 33. Harishukumar, P. and Nagabhushanam, S. (1981). Leaf nutrient content of cashew (*Anacardium occidentale* L.) as influenced by different methods of fertiliser application. *Indian Cashew Journal* **13**, 9-11.
 34. Kamal, A. J., Rahman, W. A. and Yaacob, O. (1985). The effect of liming and phosphorus application on the leaf nutrient contents of cashew on tin tailing and bris soils in Malaysia. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 91-4.
 35. Kamal, J. M., Yaacob, O., Husin, A. and Paramanathan, S. (1984). Fertility status of sandy beach ridges in Peninsular Malaysia. *Proceedings of the Fifth ASEAN Soil Conference Soil Science As a Tool for Rural Development Volume I*. pp. 1-10. (Department of Land Development: Thailand.)
 36. Kesavan, V. (1996). NPK nutrition of cashew on Cununurra Clay at the Ord River Irrigation Area, Kununurra, Western Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. p. Supplement.
 37. Krishnaraj, P. U. and Gowda, T. K. S. (1990). Occurrence of phosphate-solubilizing bacteria in the endorhizosphere of crop plants. *Current Science* **59**, 933-4.
 38. Kumar, D. P., Khan, M. M. and Melanta, K. R. (1996). Effect of nutrition and growth regulators on apple characters and yield in cashew (*Anarcadium occidentale* L.). *Cashew* **10**, 17-24.
 39. Kumar, D. P., Khan, M. M. and Subbarayappa, A. (1988). Effect of foliar application of fertilizers on the yield of cashew. *Lal-Baugh* **30**, 28-30.
 40. Kumar, D. P., Khan, M. M. and Venkataramu, M. N. (1995). Effect of NPK and growth regulators on harvesting, nut yield, shelling percentage and kernel grade of cashew

- (*Anacardium occidentale* L.). *Journal of Plantation Crops* **23**, 96-104.
41. Kumar, P. H. (1981). Effect of aluminium on the growth of cashew seedlings (*Anacardium occidentale* L.) in sand culture. *Indian Cashew Journal* **13**, 9, 11.
 42. Kumar, P. H. and Sreedharan, C. (1986). Nut characteristics as influenced by different levels of NPK in cashews (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 15-7.
 43. Kumar, P. H. and Sreedharan, C. (1987). Correlation studies between leaf nutrients and fruit (pseudo apple) quality characters in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **18**, 15-6.
 44. Latha, A., John, P. S. and George, M. (1996). Effect of fertiliser management on the quality of nuts in cashew. *The Cashew* **10**, 26-8.
 45. Latha, A., John, P. S. and George, M. (1996). Effect of NPK fertilisation on the growth of cashew. *The Cashew* **10**, 8-10.
 46. Latha, A., John, P. S. and George, M. (1996). Response of cashew to nutrient application in laterite soil. *Journal of Tropical Agriculture* **34**, 41-3.
 47. Latha, A., John, P. S., George, M. and Krishnan, S. (1994). Productivity of cashew as influenced by chlorophyll and leaf nitrogen content. *Journal of Tropical Agriculture* **32**, 86-8.
 48. Latis, T. and Chibiliti, G. (1988). Foliar diagnosis of nutrient deficiencies in cashew: a study conducted in the Western Province of Zambia. *Rivista di Agricoltura Subtropicale e Tropicale* **82**, 677-89.
 49. Lefebvre, A. (1973). Little leaf abnormality of the cashew nut tree. *Fruits* **28**, 631-6.
 50. Lefebvre, A. (1973). Mineral fertilization of the cashew. [La fertilisation minerale de l'anacardier.] *Fruits* **28**, 691-7.
 51. Mahanthesh, B. and Melanta, K. R. (1994). Effect of nitrogen, phosphorus and potassium on the yield of cashew apple (*Anacardium occidentale* L.). *The Cashew* **8**, 14-8.
 52. Martin, P. J. (1990). Comparison of the growth and yielding of clove trees under different ring weeding and fertilizer regimens. *Crop Protection* **9**, 415-21.
 53. Martin-Prevel, P., Marchal, J., Lefebvre, A. and Cottenie, A. (1976). Foliar analysis and mineral nutrition of cashew in Madagascar. [Analyse foliaire et nutrition minerale de l'anacardier a Madagascar.] *Comptes-Rendus, 4e Colloque International sur le Controle de l'Alimentation des Plantes Cultivees. Gent, September 1976, Vol. II.* pp. 641-51. (Rijksuniversiteit: Gent, Belgium.)
 54. Mendoza, V. B. (1976). Fertilizer trial of Cashew in Carranglan, Nueva Ecija. *Philippine Forest Research Journal* **1**, 30-3.
 55. Meneses, J. Jr., Almeida, F. A. G., Hernandez, F. F. F. and Almeida, F. C. G. (1993). Effect of NPK fertilization on the growth of dwarf early cashew (*Anacardium occidentale* L. var. *nanum*). [Influencia da adubacao NPK sobre o crescimento do cajueiro anao precoce (*Anacardium occidentale* L. var. *nanum*).] *Revista de la Facultad de Agronomia, Universidad Central de Venezuela* **19**, 289-99.
 56. Menon, M. A. and Sulladmath, U. V. (1981). Mineral nutrition of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **14**, 7-13.
 57. Milian, C., Bruzon, N., Herrero, G. and Sanchez, A. (1992). Trial of forest species on areas degraded by opencast mining. [Prueba de especies forestales en zonas degradadas por la mineria a cielo abierto.] *Revista Baracoa* **22**, 83-9.
 58. Milian, N., Herrero, G. and Sanchez, A. (1992). Prueba de especies forestales en zonas degradadas por la mineria a cielo abierto. *Revista Baracoa* **22**, 83-9.
 59. Millington, A. J. (1990). Voyager Enterprises : Cashew Project : Kununurra. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory.* pp. 35-6.
 60. Millington, A. J. (1991). An overview of Voyager Enterprises Development Program and Research Support at Kununurra. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated.)
 61. Millington, A. J. (1992). Cashew research: Overview Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra,*

- Western Australia. pp. 1-6.
62. Millington, A. J. (1993). Cashew review: Voyager, Kununurra 1992 -93. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
 63. Mohapatra, A. R., Kumar, K. V. and Bhat, N. T. (1973). A study on nutrient removal by the cashew tree. *Indian Cashew Journal* **9**, 19-20.
 64. Nair, P. S., George, C. M. and Tajuddin, E. (1972). Studies on foliar and soil application of fertilizers on cashew (*Anacardium occidentale*). *Agricultural Research Journal of Kerala* **10**, 10-3.
 65. Nambiar, M. C. and Haridasan, M. (1979). Fertilising cashew for higher yields. *Indian Farming* **28**, 16-9.
 66. Nath, P. K., Lenka, P. C. and Konhar, T. (1993). Studies on the effect of urea and NAA on flowering and fruit set of cashew (*Anacardium occidentale*) cultivars. *Orissa Journal of Horticulture* **21**, 11-6.
 67. O'Farrell, P. J. (1993). A report on Queensland Department of Primary Industries cashew research and development program in Northern Queensland. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
 68. O'Farrell, P. J. (1994). QDPI Research at Cashews Australia, Dimbulah. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 23-31.
 69. O'Farrell, P. J., Armour, J. D. and Reid, D. J. (1996). Preliminary results on the effect of nitrogen on the growth and nut yield of cashew cv 9/14 in North Queensland. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. pp. 52-9.
 70. Oblisami, G., Santhanakrishnan, P., Pappiah, C. M. and Shanmugavelu, K. G. (1985). Effect of *Azotobacter* inoculant and growth regulators on the growth of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 40-5.
 71. Ohler, J. G. (1979). Nutrition. *Communication, Department of Agricultural Research of the Royal Tropical Institute, Amsterdam*, 147-56.
 72. Panchaban, S., Katawatin, R. and Srisataporn, P. (1989). Effect of salinity on growth of fast growing trees. *Khon Kaen Agriculture Journal* **17**, 91-9.
 73. Pappiah, C. M., Hameed, A. S., Viajayakumar, M. and Pillai, O. A. A. (1980). Effect of FYM, N, P₂O₅ and K₂O on cashew (*Anacardium occidentale* L.) yield. *South Indian Horticulture* **28**, 52-5.
 74. Pappiah, C. M., Hameed, A. S. and Vijayakumar, M. (1985). The foliar application of pesticides and nitrogen on the incidence of tea mosquito bug (*Helopeltis antonii* Sign.) and yield of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. pp. 116-9.
 75. Radhakrishna, Y., Narayanamma, M. and Ramadevi, M. (1993). Effect of various methods of fertilizer application on the yield of cashew (*Anacardium occidentale* L.). *The Cashew* **7**, 15-6.
 76. Ramos, A., Lopes, A. S., Freire, J. M., Crisostomo, L. A., Oliveira, F. N. S. and Aquino, A. R. L. (1993). Recommendations for cashewnut soil liming and fertilizing. Documentos N° 10. 14p. (CNPAT: Fortaleza, Brazil.)
 77. Reddy, A. V., Rao, P. V. N., Ankaiah, S. and Rao, I. V. S. (1982). Cashew NPK nutrition in relation to growth under graded doses of nitrogen fertilization. *Indian Cashew Journal* **14**, 15-9, 21.
 78. Richards, N. K. (1990). Summary of cashew research at Wildman River : Northern Territory DPIF. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 5-7.
 79. Richards, N. K. (1991). Cashew yield profiles in the Northern Territory. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North*

- Queensland.* (not paginated.)
80. Richards, N. K. (1992). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths of Northern Territory, Australia. *Scientia Horticulturae* **52**, 125-42.
 81. Richards, N. K. (1993). Cashew tree yield, growth and macronutrient status, as influenced by fertilizer applications. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 1-16. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
 82. Richards, N. K. (1993). Cashew response to water and nutrients in a sandy red earth soil of the Northern Territory. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 17-38. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
 83. Richards, N. K. (1993). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 50-65. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
 84. Robinson, D. and Kesavan, V. (1994). The effect of N P K nutrition on the early growth and yield of cashew on Cununurra Clay soil. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* pp. 32-40.
 85. Robinson, D., Kesavan, V. and Millington, A. J. (1993). N, P, K nutrition of cashews on Kununurra clay at the Ord River Irrigation Area. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated.)
 86. Rovira, L. A. and Brasil Sob, M. O. C. (1976). Study on the effect of macronutrient deficiency on the growth and mineral composition of cashew plants grown in nutrient solutions. [Estudio de las deficiencias de los macronutrientes sobre el crecimiento y la composición mineral del merey (*Anacardium occidentale* L.) cultivado en soluciones nutritivas.] *Agronomia Tropical* **26**, 143-54.
 87. Roy, G. C. and Mazumdar, B. C. (1989). Qualitative improvement of cashew apples and nuts by spraying with water and zinc sulphate solution, in the coastal area of West Bengal. *Indian Journal of Landscape Systems and Ecological Studies* **12**, 95-8.
 88. Salam, M. A. and Kamalam, N. V. (1993). Molecular absorption of urea by cashew (*Anacardium occidentale* L.). *Journal of Plantation Crops* **21**, 107-9.
 89. Sarruge, J. R., Haag, H. P., Oliveira, G. D. d. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*) II. Micronutrient deficiency - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.) II. Deficiencias dos micronutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 191-5.
 90. Sawke, D. P., Gunjate, R. T. and Limaye, V. P. (1985). Effect of nitrogen, phosphorus and potash fertilization on growth and production of cashewnut. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* pp. 95-9.
 91. Singh, S. N. (1997). Effect of bio-fertilizer (*Azotobacter chroococcum*) in cashew plantation. *Environment and Ecology* **15**, 482-4.
 92. Srinivasan, K., Arulmozhian, R. and Ramasamy, M. (1992). A study to combat manganese deficiency in cashew seedlings. *The Cashew* **6**, 13-5.
 93. Subbaiah, C. C. and Balasimha, D. (1983). Nitrate reductase activity during ontogeny of the fruit of cashew (*Anacardium occidentale* L.). *Australian Journal of Plant Physiology* **10**, 9-14.
 94. Subbaiah, C. C. and Manikandan, P. (1983). Influence of incubation pH on *in vivo* nitrate reductase activity in leaves of two perennial and two annual tropical plants. *Zeitschrift Fur Pflanzenphysiologie* **111**, 373-8.
 95. Subbaiah, C. C., Manikandan, P. and Joshi, Y. (1986). Yellow leaf spot of cashew: a case of molybdenum deficiency. *Plant and Soil* **94**, 35-42.

96. Subramanian, S., Harris, C. V., Manivannan, K. and Thangavelu, S. (1995). Studies on method of fertilizer application in cashew. *South Indian Horticulture* **43**, 38-9.
97. Tandon, H. L. S. (1988). Fertiliser Management in Plantation Crops - a Guidebook. 83p. (Fertiliser Development and Consultation Organisation: New Delhi, India.)
98. Veeraraghavan, P. G. (1990). Highlights of research and extension activities of the Cashew Research Station, Madakkathara, (Kerala). *The Cashew* **4**, 10-3.
99. Vidyachandra, B. and Hanamashetti, S. I. (1984). Response of cashew to nitrogen, phosphorus and potash application. *Indian Cashew Journal* **16**, 17-8.
100. Yaacob, O. and Kamal, A. J. M. (1983). The nutrition of cashew on the sandy soils of Malaysia. *Communications in Soil Science and Plant Analysis* **14**, 679-88.

Revegetation

1. Chowdhury, M. K. (1992). Kendbona Eco-Development Project - a novel approach to wasteland reclamation. *Indian Forester* **118**, 879-86.
2. Dahl, N. (1990). Cashew developments at Weipa. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 32-4.
3. Ismail, I. (1990). Critical land rehabilitation and conservation programmes in Sragen, Karanganyar and Sleman. [Upaya rehabilitasi dan konservasi lahan-lahan kritis di Sragen, Karanganyar dan Sleman.] *Berita Pusat Penelitian Perkebunan Gula Indonesia* **3**, 6-8.
4. Kumar, P. H. (1981). Problems and prospects of establishing a plantation forestry with *Casuarina*, cashew and coconut in the coastal belt of India. *Rivista di Agricoltura Subtropicale e Tropicale* **75**, 317-23.
5. Mailly, D., Ndiaye, P., Margolis, H. A. and Pineau, M. (1994). Sand dune stabilization and afforestation with filao (*Casuarina equisetifolia*) in the coastal area of northern Senegal. [Fixation des dunes et reboisement avec le filao (*Casuarina equisetifolia*) dans la zone du littoral nord du Senegal.] *Forestry Chronicle* **70**, 282-90.
6. Milian, C., Bruzon, N., Herrero, G. and Sanchez, A. (1992). Trial of forest species on areas degraded by opencast mining. [Prueba de especies forestales en zonas degradadas por la mineria a cielo abierto.] *Revista Baracoa* **22**, 83-9.
7. Milian, N., Herrero, G. and Sanchez, A. (1992). Prueba de especies forestales en zonas degradadas por la mineria a cielo abierto. *Revista Baracoa* **22**, 83-9.
8. Nepstad, D. C., Uhl, C. and Serrao, E. A. S. (1991). Recuperation of a degraded Amazonian landscape: forest recovery and agricultural restoration. *Ambio* **20**, 248-55.
9. Patro, C. and Behera, R. N. (1979). Cashew helps to fix sand dunes in Orissa. *Indian Farming* **28**, 31-2.
10. Prasad, R. and Dhuria, S. S. (1989). Reclamation of iron ore mined-out areas: biomass production efficiency of species. *Journal of Tropical Forestry* **5**, 51-6.
11. Reddy, C. V. K. (1979). Shelter belts against storms and cyclones on the coast. *Indian Forester* **105**, 720-6.
12. Soerianegara, I. and Mansuri (1994). Factors which determine the success of greening in Gunung Kidul, Central Java. *Journal of Tropical Forest Science* **7**, 64-75.

Root Growth

1. Baker, I. and Kuppelwieser, W. (1989). Cashew research activities. Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory. (not paginated.)
2. Beena Bhaskar, Salam, M. A. and Wahid, P. A. (1995). Root activity of cashew (*Anacardium occidentale* L.) varieties in relation to phenological phases. *Journal of Plantation Crops* **23**, 35-9.
3. Dutta, P. and Mitra, S. K. (1989). Effect of pretreatment of stock plants with Ethrel and Cycocel on the rooting of air layers in cashew. *The Cashew* **3**, 5-6.
4. Hore, J. K. and Sen, S. K. (1992). Role of non - auxic compounds and IBA on ventitious root formation in air - layers of cashewnut. *The Cashew* **6**, 11-5.
5. Kulkarni, V. and Hamilton, D. (1994). Evaluation of Brazilian cashew seedlings at CPRS Darwin A preliminary report. Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland. pp. 11-3.
6. Kumar, P. H. and Khader, K. B. A. (1983). Root proliferation in cashew seedlings as influenced by soil texture. *Indian Cashew Journal* **15**, 7, 14.
7. Melanta, K. R., Sulladmath, U. V. and Syamasunder, J. (1989). Root anatomy of cashew (*Anacardium occidentale* L.). *Mysore Journal of Agricultural Sciences* **23**, 501-3.
8. Misra, L. P. and Singh, R. (1991). Effect of paclobutrazol on cashew (*Anacardium occidentale* L.) grafts in nursery. *Indian Journal of Plant Physiology* **34**, 102-5.
9. Nable, R. O., Blaikie, S. J. and Grundon, N. J. (1996). Where are the cashew roots? Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland. pp. 38-42.
10. Nageswara Rao, M. B., Satanarayana, G. and Shiv Raj, A. (1989). Anatomical aspects of rooting in stem cuttings of cashew. *The Cashew* **3**, 10-1.
11. O'Farrell, P. J. (1994). QDPI Research at Cashews Australia, Dimbulah. Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland. pp. 23-31.
12. Pilus Zambri, M., Yaacob, O., Kamal, A. J. M. and Paramanathan, S. (1982). The determination of soil factors on growth of cashew on bri soil: Part I. [Penentuan faktor-faktor tanah ke atas tumbesaran gajus di kawasan tanah bris: Bahagian I.] *Pertanika* **5**, 200-6.
13. Rao, M. B. N. and Satyanarayana, G. (1989). Bio-chemical basis for root-regeneration in ringed shoot cuttings of cashew (*Anacardium occidentale* L.) plants of different ages - auxin activity and carbohydrate contents. *Journal of Plantation Crops* **17**, 127-30.
14. Rao, M. B. N., Satyanarayana, G., Raj, A. S., Gnanakumari, N. and Padmanabham, V. (1990). Effect of some propagation structures on rooting of stem cuttings of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **20**, 17-20.
15. Rao, M. B. N., Satyanarayana, G., Raj, A. S. and Rameshwar, A. (1990). Influence of post-ringing period on auxin activity, carbohydrate and nitrogen contents in ringed shoot cuttings of cashew (*Anacardium occidentale* L.). *Tropical Agriculture* **67**, 283-5.
16. Rao, M. B. N., Satyanarayana, G., Rameswar, A., Shivraj, A. and Padmanabham, V. (1989). Bio-chemical basis for root-regeneration in ringed shoot cuttings of cashew (*Anacardium occidentale* L.) plants of different ages - Cofactor activity and total phenol content. *Journal of Plantation Crops* **17**, 65-8.
17. Rao, V. N. M. and Pappiah, C. M. (1979). Vegetative propagation in cashew. *Indian Farming* **28**, 9-10, 12.
18. Richards, N. K. (1992). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths of Northern Territory, Australia. *Scientia Horticulturae* **52**, 125-42.
19. Richards, N. K. (1993). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin

- No. 202. pp. 50-65. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
20. Salam, M. A., Pushpalatha, P. B. and Suma, A. (1995). Root distribution pattern of seedling raised cashew tree. *Journal of Plantation Crops* **23**, 59-61.
 21. Sherrard, J. A., Millington, A. J. and Atyeo, R. (1992). Procedures for development of an irrigation management system for flood irrigation of cashew on Kununurra clay in the semi-arid tropics of Western Australia. Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia. pp. 130-5.
 22. Smith, M. W. and Bowman, L. (1994). Cashew rootstocks : Why and how. Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland. pp. 14-7.
 23. Smith, S. E. (undated). The Role of Mycorrhizas in Cashew Seedling Growth and Establishment. Final Report to RIRDC on Project UA8. 22p. (RIRDC: Canberra, ACT.)
 24. Sy, M. O., Martinelli, L. and Scienza, A. (1991). In vitro organogenesis and regeneration in cashew (*Anacardium occidentale* L.). International Symposium on Plant Biotechnology and Its Contribution to Plant Development, Multiplication and Improvement Geneva, Switzerland 19-20 April 1991. pp. 267-8.
 25. Syamal, M. M., Singh, S. K. and Rajput, C. B. S. (1992). Effect of etiolation and plant growth substances on rooting of air layers in cashewnut. *The Cashew* **6**, 8-10.
 26. Toohill, B. (1991). Cashew research and development at Ord River Irrigation Area (ORIA), north east WA. Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland. (not paginated.)
 27. Tsakiris, A. and Northwood, P. J. (1967). Cashew nut production in Southern Tanzania. IV - The root system of the cashew nut tree. *East African Agricultural and Forestry Journal* **July**, 83-7.
 28. Wahid, P. A., Kamalam, N. V., Ashokan, P. K. and Vidyadharan, K. K. (1989). Root activity pattern of cashew (*Anacardium occidentale* L.) in laterite soil. *Journal of Plantation Crops* **17**, 85-9.

Socio-economic Study

1. Casinader, R. A., Fernando, S. and Gamage, K. (1982). Women's issues and men's roles: Sri Lankan village experience. *Sri Lanka Journal of Social Sciences* **5**, 73-91.
2. Casinader, R. A., Fernando, S., Gamage, K., Momsen, J. H. and Townsend, J. (1987). Women's issues and men's roles: Sri Lankan village experience. *Geography of Gender in the Third World*. pp. 309-22. (State University of New York Press: London; Hutchinson Education; Albany, New York, USA, UK.)
3. Das, P. K. (1985). Cost of production and cost-benefit analysis of smallholder plantation crops under ideal management. Central Plantation Crops Research Institute Technical Bulletin No. 12. 13p.
4. Deorukhakar, A. C., Veerkar, P. D., Talathi, J. M. and Thakare, G. G. (1995). Yield gap and constraints in technology adoption of cashew nut cultivation in the Konkan Region (Maharashtra). *The Cashew* **9**, 13-7.
5. Devi, P. I., Thomas, E. K. and Thomas, K. J. (1992). Growth and performance of cooperative agricultural credit in Kerala. *Indian Cooperative Review* **29**, 327-36.
6. Emperaire, L. and Pinton, F. (1986). Dona Flora and the cashews. [Dona Flora et les cajous.] *Journal d'Agriculture Traditionnelle et de Botanique Appliquee* **33**, 193-212.
7. Government of Maharashtra, Horticulture and Social Forestry Department, India. (1983). Maharashtra Cashew Development Project for Financial Assistance of the World Bank. 76p. (Bombay, India.)
8. Kannan, K. P. (1995). State and union intervention in rural labour: a study of Kerala. *Indian Journal of Labour Economics* **38**, 455-90.
9. Karch, G. E., Sullivan, G. M., Huke, S. M. and Fox, J. M. (1992). Comparison of agroforestry practices in Senegal using financial analysis. *Financial and Economic Analyses of Agroforestry Systems: Proceedings of a Workshop Held in Honolulu, Hawaii, USA, July 1991*. pp. 109-24. (Nitrogen Fixing Tree Association (NFTA), Paia, USA:
10. Kato, T. (1991). Modeling site specific monitoring and evaluation systems for two Japanese assisted social forestry programs: a case of RP-Japan Forestry Development Project in central Luzon. The Current State of Japanese Forestry (VII) Its Problems and Future: Contributions to IUFRO, Division 4. pp. 73-85. (Japanese Forest Economic Society: Tokyo, Japan.)
11. Lekberg, Y. (1996). Cashew in Guinea-Bissau The small producer's perspective A minor field study. International Rural Development Centre, Swedish University of Agricultural Sciences, Working Paper No. 316. 35p.
12. Martin, P. J., Topper, C. P., Bashiru, R. A., Boma, F., Dewaal, D., Harries, H. C., Kasuga, L. J., Katanila, N., Kikoka, L. P., Lamboll, R., Maddison, A. C., Majule, A. E., Masawe, P. A., Millanzi, K. J., Nathaniels, N. Q. and Shomari, S. H. (1997). Cashew nut production in Tanzania - Constraints and progress through integrated crop management. *Crop Protection* **16**, 5-14.
13. Nindi, B. C. (1991). State intervention, contradictions and agricultural stagnation in Tanzania - cashew nut vs charcoal production. *Public Administration and Development* **11**, 127-34.
14. Prasad, G. K., Singh, S. K., Das, P. K. and Nath, S. (1996). Performance of MPT species under demonstration plantation in West Bengal. Part I : site factors and growth parameters. *Van Vigyan* **34**, 148-61.
15. Rao, G. G. (1995). Dimensions in rural non-farm employment of women: a case in Andhra Pradesh. *Journal of Rural Development Hyderabad* **14**, 23-31.
16. Raut, P. G. and Thakare, R. P. (1997). Employment generation through cashewnut and cashew apple processing factories in Goa State. *Cashew* **11**, 12-4.
17. Rikken, G. (1993). The Greening of Libertad: Case Study of Self-Help Approach to Natural Resource Management Featuring the Libertad Planters Association. 65p. (Asian Social Institute: Manila, Philippines.)
18. Salem, M. A., Sathees Babu, K. and Mohanakumaran, N. (1992). Home-garden agroforestry in Kerala will prove more profitable with planning. *Indian Farming* **42**, 22-4.

19. Schultz, J. (1989). Agricultural development in Tanzania. Discrepancy between the natural agricultural potential and its exploitation. [Agrarwirtschaftliche Entwicklung in Tanzania. Diskrepanz zwischen natürlichen Agrarpotential und dessen Inwertsetzung]. *Geographische Rundschau* **41**, 613-9.
20. Soerianegara, I. and Mansuri (1994). Factors which determine the success of regreening in Gunung Kidul, Central Java. *Journal of Tropical Forest Science* **7**, 64-75.
21. Suhita, C. and Deepankar, C. (1990). Integrating conservation and development: a case study of the socio-economic forestry complex at Arabari, West Bengal. *International Tree Crops Journal* **6**, 193-204.
22. Tri, L. Q., Nhan N. van, Huizing, H. G. J. and Van Mensvoort, M. E. F. (1993). Present land use as basis for land evaluation in two Mekong delta districts. *Selected Papers of the Ho Chi Minh City Symposium on Acid Sulphate Soils; Ho Chi Minh City, Viet Nam, MARCH 1992*. pp. 299-320.
23. Trigo, M., Roncada, M. J., Stewien, G. T. d. M. and Pereira, I. M. T. B. (1989). Food taboos in the northern region of Brazil. [Tabus alimentares em regio do Norte do Brasil.] *Revista de Saude Publica* **23**, 455-64.
24. von Lengerke, H. J. (1984). Mountain settlement and development in South India: environmental perception and change. *Applied Geography and Development*, 72-93.
25. Waaijenberg, H. (1994). Mijikenda Agriculture in Coast Province of Kenya: Peasants in Between Tradition, Ecology and Policy. pp. 307. (KIT Press: Amsterdam, Netherlands.)
26. Wright, R. (1997). Chiapas: a chance for change. *Impact (Washington)* **1**, 11-4, 18.

Soil Conservation

1. Delwaulle, J. C. (1979). Forest plantations in dry tropical Africa. Techniques and species to use. [Plantations forestieres en Afrique tropicale seche. Techniques et especes a utiliser.] *Bois et Forets des Tropiques*, 3-23.
2. Deshmukh, M. T., Sawke, D. P., Borude, S. G., Hurni, H. and Tato, K. (1992). Effects of platform bench terraces on the growth and yield of mango and cashew grafts. Erosion, Conservation, and Small-Scale Farming. pp. 477-482. (Geographica Bernensia, c/o Group for Development and Environment: Berne, Switzerland.)
3. Harishukumar, P. (1981). Cultural and manurial practices in cashew. *Indian Cashew Journal* **13**, 19-20.
4. Ismail, I. (1990). Critical land rehabilitation and conservation programmes in Sragen, Karanganyar and Sleman. [Upaya rehabilitasi dan konservasi lahan-lahan kritis di Sragen, Karanganyar dan Sleman.] *Berita Pusat Penelitian Perkebunan Gula Indonesia* **3**, 6-8.
5. Kumar, D. P., Subbarayappa, A., Hiremath, I. G., Khan, M. M. and Sadashiviah (1989). Use of coconut coir-pith - A biowaste as soil mulch in cashew plantations. *The Cashew* **3**, 23-4.
6. Paningbatan, E. P., Maglinao, A., Vila, M., Huelgas, G., Sajjapongse, A. and Elliott, C. R. (1995). The management of sloping lands for sustainable agriculture in the Philippines. ASIALAND: the Management of Sloping Lands for Sustainable Agriculture in Asia (Phase 2, 1992-1994). pp. 123-164. (International Board for Soil Research and Management Inc. (IBSRAM): Bangkok, Thailand.)

Soil Fertility

1. Agbim, N. N. (1987). Dry season decomposition of leaf litter from five common plant species of West Africa. *Biological Agriculture and Horticulture* **4**, 213-24.
2. Aweto, A. O. (1995). Organic carbon diminution and estimates of carbon dioxide release from plantation soil. *Environmentalist* **15**, 10-5.
3. Aweto, A. O. and Ishola, M. A. (1994). The impact of cashew (*Anacardium occidentale*) on forest soil. *Experimental Agriculture* **30**, 337-41.
4. Badrinath, M. S., Chidanandappa, H. M., Ramakrishna Param, V. R., Sudhir, K. and Kumar, D. P. (1990). Distribution of DTPA-Mn in coastal soil profiles of existing cashew plantation at Mangalore. *The Cashew* **4**, 13-4.
5. Badrinath, M. S., Chidanandappa, H. M., Sudhir, K., Ramakrishna Param, R. and Kumar, D. P. (1991). DTPA-Fe distribution in cashew soil vertical section at Mangalore. *The Cashew* **5**, 18-9.
6. Badrinath, M. S., Ramakrishna Param, V. R., Sudhir, K., Chidanandappa, H. M. and Gowda, N. A. J. (1990). Percentage distribution of various particle size groups in Oxisol soil profiles of coastal Karnataka. *The Cashew* **4**, 14-8.
7. Badrinath, M. S., Sidhir, K., Chidanandappa, H. M., Ramakrishna Param, V. R., Guruprasad, T. R. and Siddaraju, K. S. (1991). Sulphur, organic carbon, Brays phosphorus and soil pH in the soil pedons of the healthy and affected cashew plantation in Karnataka. *The Cashew* **5**, 14-6.
8. Badrinath, M. S., Sudhir, K., Chidanandappa, H. M., Kumar, D. P. and Nagaraju, A. P. (1989). Native status of boron in healthy and affected location soil profiles of cashew plantation at Mangalore, Karnataka. *The Cashew* **3**, 15-6.
9. Badrinath, M. S., Sudhir, K., Chidanandappa, H. M., Ramakrishna Param, V. R. and Guruprasad, T. R. (1989). Distribution of DTPA-Cu in Oxisol soils of cashew plantation in Karnataka. *The Cashew* **3**, 21-2.
10. Badrinath, M. S., Sudhir, K. and Chikkaramappa, T. (1997). Soil fertility evaluation for cashew cultivation in coastal Karnataka soils. *Cashew* **11**, 22-7.
11. Badrinath, M. S., Sudhir, K., Kumar, D. P., Lingaiah, H. L. and Ananthanarayana, R. (1992). Depthwise distribution of P, K, Ca and Mg, in laterite soils of healthy and affected cashew plantations around Dakshina Kannada District. *The Cashew* **6**, 16-8.
12. Balagopalan, M. (1995). Soil characteristics in natural forests and *Tectona grandis* and *Anacardium occidentale* plantations in Kerala, India. *Journal of Tropical Forest Science* **7**, 635-44.
13. Biddappa, C. C., Upadhyay, A. K., Hegde, M. R. and Palaniswami, C. (1996). Organic matter recycling in plantation crops. *Journal of Plantation Crops* **24**, 71-85.
14. Ekanade, O. (1991). The nature of soil properties under mature forest and plantations of fruiting and exotic trees in the tropical rain forest fringes of SW Nigeria. *Journal of World Forest Resource Management* **5**, 101-14.
15. Falade, J. A. (1977). Cashew growing soils in Nigeria. *East African Agricultural and Forestry Journal* **43**, 100-5.
16. Falade, J. A. (1984). Variability in soils and cashew tree size. *Journal of Plantation Crops* **12**, 30-7.
17. Kamal, J. M., Yaacob, O., Husin, A. and Paramanathan, S. (1984). Fertility status of sandy beach ridges in Peninsular Malaysia. *Proceedings of the Fifth ASEAN Soil Conference Soil Science As a Tool for Rural Development Volume I*. pp. 1-10. (Department of Land Development: Thailand.)
18. Majule, A. E., Topper, C. P. and Nortcliff, S. (1997). The environmental effects of dusting cashew (*Anacardium occidentale* L.) trees with sulphur in Southern Tanzania. *Tropical Agriculture* **74**, 25-33.
19. Mbagwu, J. S. C. (1989). Effects of organic amendments on some physical properties of a tropical Ultisol. *Biological Wastes* **28**, 1-13.
20. Mongia, A. D. and Ganeshamurthy, A. N. (1990). Potassium status of soil under coconut and

- cashewnut plantations in a toposequence. *Journal of the Andaman Science Association* **6**, 49-51.
21. Panchaban, S., Katawatin, R. and Srisataporn, P. (1989). Effect of salinity on growth of fast growing trees. *Khon Kaen Agriculture Journal* **17**, 91-9.
 22. Pilus Zambri, M., Yaacob, O., Kamal, A. J. M. and Paramanathan, S. (1982). The determination of soil factors on growth of cashew on bri soil: Part I. [Penentuan faktor-faktor tanah ke atas tumbesaran gajus di kawasan tanah bris: Bahagian I.] *Pertanika* **5**, 200-6.
 23. Ratna, F., Darmijati, S., Sukarman, and Muhadjir, F. (1996). Carbonized rice husk as soil ameliorant in agriculture. *Indonesian Agricultural Research Development Journal* **18**, 27-30.
 24. Tiessen, H. and Santos, M. C. D. (1989). Variability of C, N and P content of a tropical semiarid soil as affected by soil genesis, erosion and land clearing. *Plant and Soil* **119**, 337-41.
 25. Yaacob, O. and Kamal, A. J. M. (1982). Soil factors affecting growth and nutrition of cashew in Malaysia. *Plant Nutrition 1982: Proceedings of the Ninth International Plant Nutrition Colloquium*. pp. 728-33. (Commonwealth Agricultural Bureaux: UK.)
 26. Yaacob, O. and Kamal, A. J. M. (1983). The nutrition of cashew on the sandy soils of Malaysia. *Communications in Soil Science and Plant Analysis* **14**, 679-88.
 27. Yormah, T. B. R. and Egbenda, P. O. (1995). An assessment of the soil-conditioning capacity of gums exuded by some trees in Sierra Leone: I. Hydraulic conductivity measurements. *International Agrophysics* **9**, 55-65.

Soil Test

1. Badrinath, M. S., Chidanandappa, H. M., Ramakrishna Param, V. R., Sudhir, K. and Kumar, D. P. (1990). Distribution of DTPA-Mn in coastal soil profiles of existing cashew plantation at Mangalore. *The Cashew* **4**, 13-4.
2. Badrinath, M. S., Chidanandappa, H. M., Sudhir, K., Ramakrishna Param, R. and Kumar, D. P. (1991). DTPA-Fe distribution in cashew soil vertical section at Mangalore. *The Cashew* **5**, 18-9.
3. Badrinath, M. S., Sidhir, K., Chidanandappa, H. M., Ramakrishna Param, V. R., Guruprasad, T. R. and Siddaraju, K. S. (1991). Sulphur, organic carbon, Brays phosphorus and soil pH in the soil pedons of the healthy and affected cashew plantation in Karnataka. *The Cashew* **5**, 14-6.
4. Badrinath, M. S., Sudhir, K., Chidanandappa, H. M., Kumar, D. P. and Nagaraju, A. P. (1989). Native status of boron in healthy and affected location soil profiles of cashew plantation at Mangalore, Karnataka. *The Cashew* **3**, 15-6.
5. Badrinath, M. S., Sudhir, K., Chidanandappa, H. M., Ramakrishna Param, V. R. and Guruprasad, T. R. (1989). Distribution of DTPA-Cu in Oxisol soils of cashew plantation in Karnataka. *The Cashew* **3**, 21-2.
6. Badrinath, M. S., Sudhir, K., Kumar, D. P., Lingaiah, H. L. and Ananthanarayana, R. (1992). Depthwise distribution of P, K, Ca and Mg, in laterite soils of healthy and affected cashew plantations around Dakshina Kannada District. *The Cashew* **6**, 16-8.
7. Majule, A. E., Topper, C. P. and Nortcliff, S. (1997). The environmental effects of dusting cashew (*Anacardium occidentale* L.) trees with sulphur in Southern Tanzania. *Tropical Agriculture* **74**, 25-33.
8. Mongia, A. D. and Ganeshamurthy, A. N. (1990). Potassium status of soil under coconut and cashewnut plantations in a toposequence. *Journal of the Andaman Science Association* **6**, 49-51.
9. Panchaban, S., Katawatin, R. and Srisataporn, P. (1989). Effect of salinity on growth of fast growing trees. *Khon Kaen Agriculture Journal* **17**, 91-9.
10. Tiessen, H. and Santos, M. C. D. (1989). Variability of C, N and P content of a tropical semiarid soil as affected by soil genesis, erosion and land clearing. *Plant and Soil* **119**, 337-41.
11. Zech, W. (1984). Investigations on the occurrence of potassium and zinc deficiencies in plantations of *Gmelina arborea*, *Azadirachta indica* and *Anacardium occidentale* in semi-arid areas of West Africa. *Potash Review* **22/31**, 1-5.

Soil Type

1. Balagopalan, M. (1995). Soil characteristics in natural forests and *Tectona grandis* and *Anacardium occidentale* plantations in Kerala, India. *Journal of Tropical Forest Science* **7**, 635-44.
2. Falade, J. A. (1977). Cashew growing soils in Nigeria. *East African Agricultural and Forestry Journal* **43**, 100-5.
3. Gatahi, M. M. and Da Costa, V. (1988). Land suitability evaluation based on resistance to erosion and other land qualities in a part of Kilifi District. *The Red Soils of East and Southern Africa. Proceedings International Symposium, Harare, 24-27 February 1986*. pp. 251-62. (IRDC:
4. Gatahi, M. M. and Da Costa, V. (1988). Land suitability evaluation of red soils in the Kilifi-Kwale coastal area, Kenya. *The Red Soils of East and Southern Africa. Proceedings International Symposium, Harare, 24-27 February 1986*. pp. 279-95. (IRDC:
5. Le Quang Tri (1993). Present land use as a basis for land evaluation in the Mekong Delta. *ITC Journal* **4**, 377-85.
6. Ramos, A. D. and Oliveira, F. N. S. (1993). Technical recommendations for management of cashew grown soils in Ceara and Piaui. Comunicado Tecnico No 04. 2p. (Centro Nacional de Pesquisa do Caju: Fortaleza, Brazil.)
7. Schultz, J. (1989). Agricultural development in Tanzania. Discrepancy between the natural agricultural potential and its exploitation. [Agrarwirtschaftliche Entwicklung in Tanzania. Diskrepanz zwischen natuerlichen Agrarpotential und dessen Inwertsetzung]. *Geographische Rundschau* **41**, 613-9.
8. Toohill, B. (1991). Cashew research and development at Ord River Irrigation Area (ORIA), north east WA. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)
9. Watson, B. J. (1991). Australian cashew research. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated.)

Species Origin & Taxonomy

1. Gibbon, D. and Pain, A. (1985). *Crops of the Drier Regions of the Tropics*. 157p. (Longman: London, UK.)
2. Johnson, D. (1973). The botany, origin, and spread of the cashew *Anacardium occidentale* L. *Journal of Plantation Crops* **1**, 1-7.
3. Millington, A. J., Mcomb, J. A. and Fortescue, J. (1992). A possible cashew sub species of *Anacardium occidentale*. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 107-15.
4. Mitchell, J. D. and Mori, S. A. (1987). The cashew and its relatives (*Anacardium*: *Anacardiaceae*). *Memoirs of the New York Botanical Garden English* **42**, 76.
5. Nagy, S., Shaw, P. E. and Wardowski, W. F. (1990). *Fruits of Tropical and Subtropical Origin. Composition, Properties and Uses*. (Florida Science Source, Inc.: Lake Alfred, Florida, USA.)

Top-working

1. Carvalho, P. R. (1995). Alternatives for recovery / rejuvenation of cashew tree (extension leaflet). Boletim Informativo N° 5. 4p. (SAM: Monapo, Moçambique.)
2. Khan, M. M., Hegde, M., Mallik, B., Hiremath, I. G., Hanamashetti, S. I., Rao, V. N. M. and Krishnamurthy, K. (1985). Rejuvenation of old cashew trees by top working. *Indian Cashew Journal* **17**, 9-25.
3. Khan, M. M., Kumar, D. P. and Hiremath, I. G. (1989). Success of stored scion sticks used in softwood grafts of top worked trees. *Indian Cashew Journal* **19**, 14-5.
4. Lenka, P. C., Maharana, T. and Dash, D. K. (1991). Rejuvenation of cashewnut plants through top working. *Orissa Journal of Horticulture* **19**, 46-9.
5. Mukherjee, S. K. and Majumder, P. K. (1983). Vegetative Propagation of Tropical and Sub-Tropical Fruit Crops. 38p. (Indian Council of Agricultural Research: New Delhi, India.)
6. Parente, J. I. G., Bueno, D. M., Correa, M. P. and Montenegro, A. A. T. (1993). Recovery of adult cashew trees by canopy replacement through top work grafting. Comunicado Tecnico No 05. 4p. (Centro Nacional de Pesquisa da Agroindústria Tropical: Fortaleza, Brazil.)
7. Pugalendhi, I., Manivannan, K. and Shah, H. A. (1992). Rejuvenation of old cashew trees by top working. *South Indian Horticulture* **40**, 179-80.
8. Pugalendhi, L. and Ahmed Shah, H. (1991). Standardizing the age of stock shoots for top working in cashew under Vridhachalam conditions. *The Cashew* **5**, 5-6.
9. Rossetti, A. G., Bonaspetti, E. and Correa, M. P. F. (1993). Canopy replacement in young cashew trees as an alternative for non-bearing orchards. Informativo N° 2. (Centro Nacional de Pesquisa de Agroindústria Tropical: Fortaleza, Brasil.)
10. Swamy, K. R. M. (1995). Top working of cashew (*Anacardium occidentale* L.) in Goa and Maharashtra States - a case study. *The Cashew* **9**, 12-7.

Trade & Prices

1. AGTRANS RESEARCH. (1996). The Cashew Research and Development Program: Performance and Future Prospects for Industry Development - Background Report, Chapters 1-4. 26p.
2. Balasubramanian, P. P. and Rema, M. (1996). Pricing and transaction trend of raw cashewnut in India. *Cashew* **10**, 13-9.
3. Ellis, F. (1981). Marketing costs and the processing of cashewnuts in Tanzania: an analysis of the marketing margin and the potential level of the producer price. Development Studies Discussion Paper, University of East Anglia No. 89. 50p.
4. Francal, F. M. C. and Carvalho, E. B. S. (1994). Analysis of the international competitiveness of the agroindustrial system of Brazilian cashewnuts. [Análise da competitividade internacional do sistema agroindustrial do caju brasileiro.] *Desafio do Estado Diante de Uma Agricultura em Transformação, (2 Vol): Anais do XXXII Congresso Brasileiro de Economia e Sociologia Rural, Brasília, DF, Brasil, 25 a 28 de Julho 1994.* pp. 528-44. (Sociedade Brasileira de Economia e Sociologia Rural (SOBER): Brasília, Brazil.)
5. Jaffee, S. (1995). Private sector response to market liberalization in Tanzania's cashew nut industry. In: Marketing Africa's High Value Foods: Comparative Experiences of an Emergent Private Sector. (ed. S. Jaffee and J. Morton.) pp. 153-98. (Kendall-Hunt Publishing Company: Dubuque, Iowa, USA.)
6. Jaffee, S. and Morton, J. (1995). Marketing Africa's High-Value Foods: Comparative Experiences of an Emergent Private Sector. 503p. (Kendall-Hunt Publishing Company: Dubuque, Iowa, USA.)
7. Krishnaswami, L. (1979). Cashew - an important source of income and employment. *Indian Farming* **28**, 7-8.
8. Lopes, M. R., Jank, M. S. and Montrigaud, M. E. B. A. (1995). Agricultural NAFTA and its implications for Brazil. [O NAFTA agrícola e suas implicações para o Brasil.] *Agroanalysis* **15**, 8-12.
9. Mshomba, R. E. (1989). Price elasticity of supply of Tanzania's major export crops. *Eastern Africa Economic Review* **5**, 9-19.
10. Nayar, K. G. (1995). Cashew: A crop with unlimited potential. *The Cashew* **9**, 3-10.
11. NOMISMA - Osservatorio Agro-Industriale (1994). The World Cashew Economy. 2nd edn. 218p. (l'Inchiostroblu: Bologna, Italia.)
12. Palanichamy, N. V. and Kumar, D. S. (1994). Cashew export in India : An analysis of issues and performance. **8**, 15-7.

Tree Spacing

1. Ascenso, J. C. (1986). Potential of the cashew crop. 2. *Agriculture International* **38**, 368-71.
2. Balasimha, D. and Yadukumar, N. (1993). Effect of plant density on photosynthesis in cashew. *Indian Journal of Plant Physiology* **36**, 5-7.
3. IDC. (1995). Factors Affecting Cashew Spacing: Local Observations and a Literature Review. 24p. (IDC: South Africa.)
4. Martin, P. J. and Kasuga, L. J. (1995). Variation in cashew tree yields in south-east Tanzania and the implication for management of cashew smallholdings. *Tropical Agriculture* **72**, 261-8.
5. Toohill, B. (1991). Cashew research and development at Ord River Irrigation Area (ORIA), north east WA. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated.)
6. van Eijnatten, C. L. M. and Abubaker, A. S. (1983). New cultivation techniques for cashew (*Anacardium occidentale* L.). *Netherlands Journal of Agricultural Science* **31**, 13-25.

Tree Yield

1. Anitha, K., Ravishankar, C. and Satanarayana Reddy, D. (1991). Correlation and regression study of yield components in cashew. *The Cashew* **5**, 13-5.
2. Anonymous (1993). 'Kanaka' and Dhana' - New promising varieties of cashew for Kerala. **7**, 3-4.
3. Anonymous (1995). Priyanka - a new high yielding cashew hybrid (H-1591) from Kerala Agricultural University. *The Cashew* **9**, 3.
4. Bera, P. K., Bhattacharyya, A. K., Roy, G. C. and Mazumdar, B. C. (1988). Pre-harvest sprayings with solutions of urea, zinc sulphate and NAA on cashewnut trees. *Indian Biologist* **20**, 27-30.
5. Campbell, S. (1989). Cashew research: Farm Manager's perspective. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
6. Campbell, S. (1990). Nabisco: Wildman River Plantation. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. pp. 37-8.
7. Chacko, E. K. (1994). Cashew hybridisation during 1988 - 92 (CSH-36H) and evaluation of progenies planted at four test sites in Northern Australia. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 1-10.
8. Chacko, E. K., O'Farrell, P., Loveys, B. and Blaikie, S. (1996). Breeding and evaluation of cashew hybrids - A status report. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. p. Supplement
9. Chandregowda, M., Krishnappa, K. S., Narayana Reddy, M. A. and Thirumala Raju, G. T. (1989). Performance of certain cashew selections under Chintamani conditions. *The Cashew* **3**, 7-8.
10. Conticini, L. and Partel, L. (1983). AC4, a cashew clone selected in Tanzania. *Rivista di Agricoltura Subtropicale e Tropicale* **77**, 503-7.
11. Falade, J. A. (1981). Varietal differences in tree size and yield of cashew (*Anacardium occidentale* L.) in Nigeria. *Journal of Plantation Crops* **9**, 77-83.
12. George, M. V., Amarnath, C. H., Bhagavan, S. and Vijayakumar, K. (1989). Field evaluation of forecasting model for cashew yield in large plantations. *The Cashew* **3**, 8-10.
13. Ghosh, S. N. (1993). Effect of eucalyptus (*Eucalyptus teretecornia*) plants as intercrop in the cashew plantation - a case study in West Bengal. *The Cashew* **7**, 17-9.
14. Ghosh, S. N. and Bose, T. K. (1986). Nutritional requirement of cashew (*Anacardium occidentale*L.) in laterite tract of West Bengal. *Indian Cashew Journal* **18**, 11-6.
15. Hannington, R. (1995). A Review of Cashew Nut Yields. pp. 12. (Kwazulu Finance and Investment Corporation Ltd.: RSA.)
16. Krishnappa, K. S., Gowda, M. C., Reddy, M. A. N. and Raju, G. T. T. (1989). Initial evaluation of certain cashew (*Anacardium occidentale* L.) selections under eastern dryzone of Karnataka. *Indian Cashew Journal* **19**, 19-21.
17. Kulkarni, V. and Hamilton, D. (1994). Evaluation of Brazilian cashew seedlings at CPRS Darwin A preliminary report. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. pp. 11-3.
18. Kumar, D. P. and Hegde, M. (1994). 'Ullal-3' - a new cashew variety for Karnataka. *The Cashew* **8**, 11-4, 17.
19. Kumar, D. P. and Hegde, M. (1997). 'Ullal-4' and 'UN-50' promising cashew varieties for coastal Karnataka. *Cashew* **11**, 8-12.
20. Kumar, D. P., Khan, M. M. and Subbarayappa, A. (1988). Effect of foliar application of fertilizers on the yield of cashew. *Lal-Baugh* **30**, 28-30.
21. Kumar, D. P. and Udupa, K. S. (1996). The association between nut yield and yield attributing characters in cashew. *The Cashew* **10**, 11-7.
22. Kumar, G. N. M., Narayanaswamy, P., Mokashi, A. N. and Mohan Kumar, G. N. (1984). Fruit growth and development in cashew (*Anacardium occidentale* Linn.). *Journal of Plantation Crops* **12**, 81-4.

23. Manoj, P. S., George, T. E. and Krishnan, S. (1993). Evaluation of F1 hybrids of cashew (*Anacardium occidentale* L.). *The Cashew* **7**, 3-4.
24. Mohan, E. and Rao, M. M. (1995). Effect of growth regulators and pruning on the growth and yield of cashew. *Environment and Ecology* **13**, 675-9.
25. Muddappa Gowda, P., Vidyachandra, B., Kologi, S. D. and Muthappa Rai, B. G. (1976). Performance of clonally propagated cashew as compared with seedling progenies. *Mysore Journal of Agricultural Sciences* **10**, 23-7.
26. Nalini, P. V. and Santhakumari, S. (1991). Study on performance of selected types of cashew at Cashew Research Station Anakkayam, Kerala. *The Cashew* **5**, 3-6.
27. Nambiar, M. C. (1979). Pick of cashew varieties. *Intensive Agriculture* **17**, 8-10.
28. Nawale, R. N. and Salvi, M. J. (1990). The inheritance of certain F1 characters in F1 hybrid progenies of cashewnut. *The Cashew* **4**, 11-4.
29. Palaniswami, V. (1983). A study of the comparison between sowing behind a country plough and sowing at stakes in pits on the growth and performance of cashew (*Anacardium occidentale* Linn.). *South Indian Horticulture* **31**, 123-4.
30. Pappiah, C. M., Vijayakumar, M. and Hameed, A. S. (1980). Effect of ethrel (2-chloro ethyl phosphonic acid) on flowering and yield of cashewnut (*Anacardium occidentale* L.). *South Indian Horticulture* **28**, 1-4.
31. Pratt, H. K. and Mendoza, D. B. Jr. (1980). Influence of nut removal on growth and ripening of the cashew-apple. *Journal of the American Society for Horticultural Science* **105**, 540-2.
32. Radhakrishna, Y., Narayanamma, M. and Ramadevi, M. (1993). Effect of various methods of fertilizer application on the yield of cashew (*Anacardium occidentale* L.). *The Cashew* **7**, 15-6.
33. Reddy, A. V., Rao, P. V. N., Ankaiah, S. and Rao, I. V. S. (1982). Cashew NPK nutrition in relation to growth under graded doses of nitrogen fertilization. *Indian Cashew Journal* **14**, 15-9, 21.
34. Reddy, M. A. N., Shivanandam, V. N., Gowda, M. C. and Shankaranarayana, V. (1986). Physico-chemical characteristics of cashew (*Anacardium occidentale* L.) selections under Chintamani conditions. *Indian Cashew Journal* **18**, 17-9.
35. Salleh, H., Chai, T. B., Wahab, N. A., Bakri, M. L. and Abidah, T. A. (1989). Identification of promising materials from a seedling population of cashew based on nut number and nut weight. *MARDI Research Journal* **17**, 155-66.
36. Salvi, P. V. (1979). Cashew hybrids for increased production. *Indian Farming* **28**, 11-2.
37. Sapkal, B. B., Hulamani, N. C., Nalwadi, U. G. and Sulikeri, G. S. (1991). Some cashew selections for transitional belt of Karnataka. *South Indian Horticulture* **39**, 379-80.
38. Sarkar, B. B., Baidya, S., Nandy, H., Paul, J. M. and Bhattacharjee, A. K. (1993). Evaluation of cashew germplasm in Tripura. *The Cashew* **7**, 5-9.
39. Satyanarayana Reddy, K., Radha Krishna Murthy, P. and Eswara Reddy, S. (1989). Performance of six released cashew varieties of Andhra Pradesh Agricultural University. *The Cashew* **3**, 15-8.
40. Shete, M. B., Karale, A. R., Kale, P. N. and Kadam, D. D. (1993). Variations in seedling progeny of cashew. *South Indian Horticulture* **41**, 106-7.
41. Subramanian, S., Harris, C. V., Manivannan, K. and Thangavelu, S. (1995). Studies on method of fertilizer application in cashew. *South Indian Horticulture* **43**, 38-9.
42. Toohill, B. and Johnston, P. (1992). Evaluation of cashew varieties in sandy and clay soils of Kununurra. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 11-3.
43. Uddin, M. K. (1980). Cashew: a promising species for the sungrass infested areas of Bangladesh. *Bano Biggyan Patrika* **9**, 61-4.
44. van Eijnatten, C. L. M. and Roos, R. W. F. (1982). Quality assessment of Zambian cashew nuts. Department of Tropical Crops, State Agricultural University, Netherlands, Tropical Crops Communications No. 1. 6p.
45. Veeraraghavan, P. G., Pushpalatha, P. B., Salam, M. A., Nalini, P. V. and Suma, A. (1991). Two more cashew varieties from Kerala Agricultural University. *The Cashew* **5**, 11-3.
46. Vidyachandra, B. and Hanamashetti, S. I. (1984). Response of cashew to nitrogen, phosphorus

and potash application. *Indian Cashew Journal* **16**, 17-8.

Visual Deficiency & Toxicity Symptoms

1. Bhattacharyya, A. K., Bera, P. K., Roy, G. C. and Mazumdar, B. C. (1989). Studies on nut-cracking problem of cashewnut (*Anacardium occidentale* L.) in the southern part of West Bengal. *Cashew Bulletin* **26**, 1-5.
2. Chapman, A. L. and Millington, A. J. (1992). Evidence of micronutrient deficiencies in cashew on clay soils of the Ord River Irrigation Area (ORIA). *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. pp. 49-56.
3. Falade, J. A. (1978). Effects of macronutrients on the growth and dry matter accumulation of cashew (*Anacardium occidentale* L.). *Turrialba* **28**, 123-7.
4. Gopikumar, K. and Aravindakshan, M. (1986). Sand culture studies in cashew. *Indian Cashew Journal* **18**, 9-14.
5. Haag, H. P., Sarruge, J. R., Oliveira, G. D. d. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*). I. Macronutrient deficiency - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.). I. Deficiencia dos macronutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 185-90.
6. Haag, H. P., Sarruge, J. R., Oliveira, G. D. d., Scoton, L. C. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*) III. The uptake of nutrients - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.) III. Absorcao de nutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 197-204.
7. Latis, T. and Chibiliti, G. (1988). Foliar diagnosis of nutrient deficiencies in cashew: a study conducted in the Western Province of Zambia. *Rivista di Agricoltura Subtropicale e Tropicale* **82**, 677-89.
8. Lefebvre, A. (1973). Little leaf abnormality of the cashew nut tree. *Fruits* **28**, 631-6.
9. Ohler, J. G. (1979). Nutrition. *Communication, Department of Agricultural Research of the Royal Tropical Institute, Amsterdam*, 147-56.
10. Ohler, J. G. and Coester, W. A. (1979). Symptoms of mineral deficiencies in cashew seedlings. *Indian Cashew Journal* **12**, 5-9.
11. Rovira, L. A. and Brasil Sob, M. O. C. (1976). Study on the effect of macronutrient deficiency on the growth and mineral composition of cashew plants grown in nutrient solutions. [Estudio de las deficiencias de los macronutrientes sobre el crecimiento y la composicion mineral del merey (*Anacardium occidentale* L.) cultivado en soluciones nutritivas.] *Agronomia Tropical* **26**, 143-54.
12. Sarruge, J. R., Haag, H. P., Oliveira, G. D. d. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*) II. Micronutrient deficiency - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.) II. Deficiencias dos micronutrientes - nota previa.] *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 191-5.
13. Subbaiah, C. C., Manikandan, P. and Joshi, Y. (1986). Yellow leaf spot of cashew: a case of molybdenum deficiency. *Plant and Soil* **94**, 35-42.
14. Zech, W. (1984). Investigations on the occurrence of potassium and zinc deficiencies in plantations of *Gmelina arborea*, *Azadirachta indica* and *Anacardium occidentale* in semi-arid areas of West Africa. *Potash Review* **22/31**, 1-5.

Weed Control

1. Adeyemi, A. A. (1989). Cultural weed control in cashew plantations: Use of intercrops to reduce weed incidence in cashew plots. *Proceedings: Integrated Pest Management in Tropical and Subtropical Cropping Systems '89, Volume 3. Bad Durkheim, Germany, February 8-15 1989.* pp. 827-42. (DLG Verlag GmbH: Frankfurt am Main; Germany.)
2. Balasundaran, M. (1984). 'Loranthus' - a menace to trees. *Evergreen (Trichur)* **13**, 20-2.
3. Harishukumar, P. (1981). Cultural and manurial practices in cashew. *Indian Cashew Journal* **13**, 19-20.
4. Heading, F. (1992). Cashew establishment and management techniques on Kununurra clay. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 25-7.
5. Komolafe, D. A. (1974). Chemical weed control in cashew. *Proceedings of the Fourth Nigerian Weed Science Group Meeting.* pp. 27-32.
6. Komolafe, D. A. (1973). Weed problems in tree crops in Nigeria. *Proceedings of the Third Nigerian Weed Science Group Meeting.* pp. 1-13. (Institute of Agricultural Research: Samaru, Niger.)
7. Komolafe, D. A. (1976). Weed problems in tree crops in Nigeria. *PANS* **22**, 250-6.
8. Kumar, D. P., Subbarayappa, A., Hiremath, I. G., Khan, M. M. and Sadashiviah (1989). Use of coconut coir-pith - A biowaste as soil mulch in cashew plantations. *The Cashew* **3**, 23-4.
9. Martin, P. J. (1990). Comparison of the growth and yielding of clove trees under different ring weeding and fertilizer regimens. *Crop Protection* **9**, 415-21.
10. Millington, A. J. (1989). Voyager Enterprises Pty Ltd. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory.* (not paginated.)
11. Millington, A. J. (1992). Cashew research: Overview Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 1-6.
12. Toohill, B. and Millington, A. J. (1992). Herbicide use in cashew establishment and management on clay soils at the Ord River Irrigation Area (ORIA) North East Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* pp. 34-41.
13. Uddin, M. K. (1980). Cashew: a promising species for the sungrass infested areas of Bangladesh. *Bano Biggyan Patrika* **9**, 61-4.

World & Country Production

1. AGTRANS RESEARCH. (1996). The Cashew Research and Development Program: Performance and Future Prospects for Industry Development - Background Report, Chapters 1-4. 26p.
2. Ananth, K. C. (1984). Problems of Indian cashew industry. *Foreign Trade Review* **19**, 426-36.
3. Anonymous. (1985). Castanha de caju - Nordeste em delares. Informatao Semanal - 20. pp. 2-10. Cacex, Banco do Brasil, Rio de Janeiro, Brasil.)
4. Anonymous (1995). World cashew exports: India tops in 1993-94. *Indian Cashew Journal* **22**, 7-14.
5. Anonymous (1996). World production and consumption trends for nuts. [Tendenze produttive e di consumo della frutta secca nel mondo.] *Rivista di Frutticoltura e di Ortofloricoltura* **58**, 49-54.
6. Ascenso, J. C. (1986). Potential of the cashew crop. 1. *Agriculture International* **38**, 324-6.
7. Aubert, B. (1986). Fruit cultivation, an opportunity for the taking for the Malawi economy. Perspectives and constraints. *Fruits* **41**, 713-20.
8. Barbeau, G. (1994). Tropical fruit trees in the non-French Caribbean. Crops, exports, trends. [Les arbres du verger tropical dans la Caraïbe non francophone: productions, exportations, tendances.] *Symposium on Tropical Orchards, Montpellier, France, 30 August -5 September, 1993*. pp. 335-9; 436-439.
9. Brook, E. (1978). Cashew nuts: review and outlook. Commodities and Export Projections Division, Economic Analysis and Projections Department, World Bank, Commodity Note No. 5. 25p.
10. Brown, L. C., Minja, E., Hamad, A. S. and Hawksworth, D. L. (1984). Cashew production in East Africa. *Advancing Agricultural Production in Africa. Proceedings of CAB's First Scientific Conference, Arusha, Tanzania, 12-18 February 1984*. pp. 160-3. (Commonwealth Agricultural Bureaux: Farnham Royal, Slough, UK.)
11. Das, H. C. L. (1995). New global economic environment and India's farm exports potential. *Bihar Journal of Agricultural Marketing* **3**, 378-87.
12. Das, P. K. (1985). Status of production and trade of cashew in India. *Agricultural Situation in India* **39**, 765-70.
13. Dattatreyyulu, M. (1985). India's agricultural exports, challenges and opportunities. *Foreign Trade Review* **20**, 124-33.
14. Day, G., Digges, P., Gordon, A. and Marter, A. (1997). Agricultural policy reform and prospects for African exports. *Courier (Brussels)*, 75-7.
15. de Lattre, M., Felton, E. L. Jr. and Hobbs, S. H. (1989). Cashew nut research in the Tanzania Agricultural Research Organization. *ISNAR Training Series*, 194-206.
16. Donadio, L. C. (1995). Brazilian fruit crops. *Chronica Horticulturae* **35**, 11-2.
17. Duncan, I. (1989). World cashew market: Summary report and conclusions. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated.)
18. Duncan, I. (1992). World Cashew Market: 1992. 100p. (RIRDC: Canberra, ACT.)
19. Duncan, I. (1993). World cashew market. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated.)
20. Ellis, F. (1981). A preliminary analysis of the decline in Tanzanian cashewnut production, 1974-79: causes, possible remedies and lessons for rural development policy. Development Studies Discussion Paper, University of East Anglia No. 88. 30p.
21. Gill, S. S. and Ghuman, R. S. (1982). India's agricultural exports: performance and some policy issues. *Indian Journal of Agricultural Economics* **37**, 294-300.
22. Gunnerod, P. K. (1994). Tropical nuts: strong demand in the United Kingdom. *International Trade Forum* **2**, 24-7.
23. Information Services, Tanzania. (1979). Agriculture and Livestock. 46p. (Government Printer: Dar es Salaam, Tanzania.)
24. Jacob, V. J., Kamhabwa, F. F., Shoo, J. A. E. and Kinyawa, F. (1996). Role of T and V extension

- in rehabilitation and improvement of cashew in Tanzania. *Journal of Plantation Crops* **24**, 775-82.
25. Jaffee, S. (1994). Private trader response to market liberalization in Tanzania's cashew nut industry. Policy Research Working Papers - World Bank No. WPS1277. pp. 42. Washington, D.C, USA.)
 26. Komba, A. L. and Jacob, V. J. (1996). Genetic improvement program in Tanzania. *Journal of Plantation Crops* **24**, 823-6.
 27. Lakshmi, K. R. and Pal, T. K. (1988). Growth of crop output in Kerala. *Agricultural Situation in India* **43**, 767-71.
 28. Lekberg, Y. (1996). Cashew in Guinea-Bissau The small producer's perspective A minor field study. International Rural Development Centre, Swedish University of Agricultural Sciences, Working Paper No. 316. 35p.
 29. Lopes, M. R., Jank, M. S. and Montrigaud, M. E. B. A. (1995). Agricultural NAFTA and its implications for Brazil. [O NAFTA agricola e suas implicacoes para o Brazil.] *Agroanalysis* **15**, 8-12.
 30. Martin, P. J., Topper, C. P., Bashiru, R. A., Boma, F., Dewaal, D., Harries, H. C., Kasuga, L. J., Katanila, N., Kikoka, L. P., Lamboll, R., Maddison, A. C., Majule, A. E., Masawe, P. A., Millanzi, K. J., Nathaniels, N. Q. and Shomari, S. H. (1997). Cashew nut production in Tanzania - Constraints and progress through integrated crop management. *Crop Protection* **16**, 5-14.
 31. Ministry of Agriculture, Tanzania. (1979). Price Policy Recommendations for the 1980-81 Agricultural Price Review (6 Parts). 240p. (Dar es Salaam, Tanzania.)
 32. Ministry of External Relations, Brazil (1985). Fruit. *Brasil*, 19-21.
 33. Ministry of Planning and Economic Affairs, Tanzania. (1981). Primary Sector Supplement Paper (Agriculture, Livestock, Wildlife, Fisheries and Forestry). Country Presentation for the New Comprehensive Programme of Action. 41p. (Dar es Salaam, Tanzania.)
 34. Nagaraj, N., Shivananda, Chandrakanth, M. G. and Ramanna, R. (1987). Prospects of exporting horticultural crops dash plausible strategies for the 21st century. *UAS Technical Series, University of Agricultural Sciences, India*, 141-6.
 35. Nayar, K. G. (1995). Cashew: A crop with unlimited potential. *The Cashew* **9**, 3-10.
 36. Nayar, K. G. (1995). Cashew: a versatile nut with unlimited growth potential. *Indian Cashew Journal* **22**, 3-6.
 37. NOMISMA - Osservatorio Agro-Industriale (1994). The World Cashew Economy. 2nd edn. 218p. (l'Inchiostroblu: Bologna, Italia.)
 38. Palanichamy, N. V. and Kumar, D. S. (1994). Cashew export in India : An analysis of issues and performance. **8**, 15-7.
 39. Peethambaran, C. K. (1992). Cashew in Mozambique. *The Cashew* **6**, 11-5 .
 40. Peethambaran, C. K. (1996). Cashew in Kenya. *The Cashew* **10**, 15-7.
 41. Pimentel, C. R. M. (1988). Distribution of cashew production in the State of Cear, Brazil. EMBRAPA - CNPCa, Documentos 01. 12p.
 42. Raju, V. T., Rao, D. V. S. and Ravishankar, C. (1987). Spatial-temporal growth and distribution of fruit crops in Andhra Pradesh. *Indian Journal of Agricultural Economics* **42**, 438-45.
 43. Roperos, N. I. (1992). Major Philippine fresh fruit exports: status and prospects in the international market. *Philippine Journal of Crop Science* **17**, 105-14.
 44. Rusim Mardjono (1979). Cashew nut development in the Yogyakarta region. [Pengembangan jambu mete di daerah istimewa Yogyakarta.] *Pemberitaan Lembaga Penelitian Tanaman Industri Bogor*, 22-35.
 45. Salam, M. A., Sathees Babu, K. and Balasubramanian, P. P. (1992). Trends in cashew production in Kerala - An analysis. *The Cashew* **6**, 3-7.
 46. Sandhu, H. K. (1982). An econometric analysis of Indian export-share of cashew kernels in the world trade. *Indian Journal of Agricultural Economics* **37**, 300-6.
 47. Schultz, J. (1989). Agricultural development in Tanzania. Discrepancy between the natural agricultural potential and its exploitation. [Agrarwirtschaftliche Entwicklung in Tanzania.

- Diskrepanz zwischen natürlichen Agrarpotential und dessen Inwertsetzung]. *Geographische Rundschau* **41**, 613-9.
48. Sridharan, B. (1982). Cashew in India's export trade. *Indian Journal of Agricultural Economics* **37**, 317-22.
 49. Subramanian, S., Nair, M. N. V. and Gopaldaswamy, T. P. (1981). Seminar on problems and prospects of plantation industry in Karnataka, Bangalore, 21 March 1981. Background paper. *Planters' Chronicle* **76**, 131-49.
 50. Thomas, K. J., Thomas, E. K. and Devi, P. I. (1990). An analysis of cropping pattern in Kerala. *Agricultural Situation in India* **45**, 183-6.
 51. Tyman, J. H. P. (1980). Cultivation, processing and utilisation of the cashew. *Chemistry and Industry*, 59-62.
 52. Wadkar, S. S., Sawant, P. A. and Talathi, J. M. (1994). Employment potential of production and processing of cashew in the Konkan region. *The Cashew* **8**, 19-22.
 53. Wait, A. J. and Jamieson, G. I. (1984). Cashews - Industry prospects in Queensland. *Farm Note AGDEX 246/00*, 3.

Appendix 2.



Overview of Australian Cashew Literature

N. J. Grundon

Overview of Australian Cashew Literature

Noel J. Grundon

CSIRO Land and Water, P.O. Box 780, Atherton, Qld 4883, Australia

Table of Contents

List of Tables	136
Abbreviations	137
Introduction	139
Marketable products	140
Feasibility studies	141
Potential areas for cashew plantations	141
Economic viability.....	141
Edaphic factors	143
Temperature.....	143
Air.....	143
Soil	143
Rainfall	143
Soils	143
Plant breeding and varietal selection	145
General agronomy	146
Propagation.....	146
Out-planting.....	146
Tree spacing and arrangement.....	147
Weed control	147
Beneficial soil organisms	147
Plant protection.....	148
Diseases	148
Animal pests	148
Insect pests	148
Estimation of yield loss from insect pests	149
Control of giant termite	149
Integrated pest management and biocontrol	150
Irrigation	150
Water use.....	151
Fertiliser requirements.....	152
Diagnosis of nutritional disorders	153
Visual symptoms	153
Plant analysis.....	154
Soil analysis.....	155
Tree phenology, and growth of the canopy and roots	161
Tree phenology	161
Canopy growth	161
Root growth	162
Floral biology	164
Flower and panicle development.....	164
Anthesis	164
Pollination.....	164
Fruit set and pre-mature nut drop	165
Mechanisation	167
General farm operations	167
Processing.....	167
References	169

List of Tables

Table 1. Ranges in yields, prices, IRR, and payback periods estimated for economic viability of cashew enterprises in Australia	141
Table 2. Range in recommended rates of application of N, P and K for optimal growth and yield of cashew trees of different ages (Adapted from Grundon 1998).	152
Table 3. References where visual symptoms of nutritional disorders are described for cashew.	153
Table 4. Concentrations of N associated with a given nutritional status in the cashew tree.	155
Table 5. Concentrations of P, K, and Ca associated with a given nutritional status in the cashew tree.	156
Table 6. Concentrations of Mg, S, Fe and Mn associated with a given nutritional status in the cashew tree.	158
Table 7. Concentrations of Zn, Cu, Mo and B associated with a given nutritional status in the cashew tree.	159
Table 8. Proposed nutrient concentrations in fully matured leaves on an actively growing shoot during the non-flowering vegetative flush associated with deficient and adequate nutrition of cashew trees (Adapted from Robinson <i>et al.</i> 1997).	159
Table 9. Preliminary ranges of nutrient concentrations in the soil associated with high and low yields in cashew trees at Wildman River, NT. (Adapted from Richards 1993a).	160

Abbreviations

A\$	Australian Dollars
a.i.	active ingredient
B	Boron
Ca	Calcium
cmol (+)	centimole of positive electrical charge
CNSL	Cashew Nut Shell Liquid
CPRS	Coastal Plains Research Station, NT
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cu	Copper
cv.	cultivar; clone; selection; variety
d	days
dm	decimetre
Fe	Iron
g	gram
h	hours
ha	hectare
IPM	Integrated Pest Management
IRR	Internal Rate of Return
K	Potassium
kg	kilogram
kPa	kilo Pascals
L	litres
m	metre
month	month
MDIA	Mareeba-Dimbulah Irrigation Area
mg	milligram
Mg	Magnesium
mm	millimetre
Mn	Manganese
Mo	Molybdenum
MPa	Mega Pascal
N	Nitrogen
NaCl	Sodium chloride
NIS	Nut-in-shell
NT	Northern Territory
ORIA	Ord River Irrigation Area
QDPI	Queensland Department of Primary Industries
P	Phosphorus
ppm	parts per million; equivalent to mg kg ⁻¹
RIRDC	Rural Industries Research and Development Corporation
S	Sulfur
t	metric tonne (1,000 kg)
VAM	Vesicular-arbuscular mycorrhizal fungi
WA	Western Australia
y	years
Zn	Zinc

Introduction

The cashew of commerce is a small to medium-sized tree thought to have originated from a short-growing ecotype of *Anacardium occidentale* L. that occurs amongst the low vegetation of the *restinga* in coastal north-eastern Brazil (Mitchell and Mori 1987). A taller-growing ecotype is in the *llanos* of Colombia and Venezuela, and the *caatinga* (dry thorn forest) and the *cerrado* vegetation of the savannas of the Amazon basin (Mitchell and Mori 1987).

Cashew is well adapted to seasonally wet/dry tropical climates, and has the capacity to grow and yield satisfactorily on well drained, light textured soils with minimum inputs of supplementary irrigation and fertilisers. Because large areas of suitable soils occur in tropical Australia, a small but expanding local industry has been established with plantations at Katherine and Wildman River (near Darwin), NT, and at Dimbulah, North Queensland (AGTRANS RESEARCH 1996).

The continued development of the Australian cashew industry depends on a number of factors, one of which is readily available information on the cultivation of the cashew tree under Australian conditions, the mechanisation of farming operations including harvesting and processing, and the options available for marketing the crop. Unfortunately, much of the information on the cultural requirements of cashew under Australian conditions is located in less accessible publications such as reports to institutions or lightly refereed workshop reports (eg AGTRANS RESEARCH 1996; Anonymous 1989, 1990, 1991, 1992, 1993, 1994, 1996). A further problem is that many of the reports are of a general nature reporting planned research (eg Grundon *et al.* 1996), or are brief and contain limited data sets (eg Grundon 1996) or data sets that have not been analysed statistically (eg Nable *et al.* 1996). Notwithstanding these limitations, they give valuable insights into problems associated with the culture, harvesting, processing and marketing of cashews in Australia.

This report is an overview of the Australian cashew literature. It does not attempt to critically review, analyse or interpret the data and findings. Rather, the research completed in Australia to date has been documented and the main findings collated in a single volume. As such, it draws heavily on two sources: (a) refereed papers and publications in the scientific literature, and (b) generally lightly refereed or non-refereed papers and reports from the many cashew research and development workshops sponsored by RIRDC (Anonymous 1989, 1990, 1991, 1992, 1993, 1994, 1996). Wherever practicable, findings from Australian research have been compared with those from similar studies reported in recently published overseas scientific literature and from general texts based on overseas experience (eg Ohler 1979; Lima 1988a). Other more specialised texts on aspects of cashew culture, processing and marketing that could be consulted by readers wishing to explore selected topics in greater detail include those of Valeriano (1972), Nair *et al.* (1979), Lopes (1981), Giuliani (1993), Ferrao (1995), Piteira (1996), and Behrens (1996).

Marketable products

Because there is currently no capacity to shell cashew nuts in Australia, existing Australian cashew plantations market their crop as NIS. However, there are a number of other products and uses for the cashew tree and its fruit. Because these products may at some future time offer additional income for the Australian cashew industry, key references to these uses are summarised below.

The liquid extracted or expelled from the shell, called CNSL, is used widely in brake linings of motor vehicles, paints, varnishes, and laminated products (Murthy and Sivasamban 1985); as a plywood adhesive (Akaranta *et al.* 1996); as a low-cost replacement for phenol in novolak and resole resins (Mahanwar and Kale 1996); after phosphorylation, as a component to increase the tensile properties and flame retardation of natural rubber (Menon 1997a, 1997b); and as a long-life, highly bioactive, antifouling coating for marine environments using paints with varying proportions of CNSL-modified rosins (Panda and Panda 1991). CNSL or extracts from the shell of the cashew nut have larvicidal (Carrara *et al.* 1984; Evans and Raj 1988), molluscicidal (Casadei *et al.* 1984; Kubo *et al.* 1986; Laurens *et al.* 1997), and antifungal and antibacterial activity (Echendu 1991; Kubo *et al.* 1993; Weerasena *et al.* 1993).

The swollen peduncle of the cashew fruit, called the cashew 'apple', has high levels of ascorbic acid when compared with that in other fruits (Falade 1981), and has been promoted in some overseas countries as a fresh 'fruit'. Attempts were made to market the fresh 'apple' in WA (Millington 1991a, 1992), but these were uneconomical because of its poor transportability and short shelf life (Antarkar *et al.* 1991), combined with the requirement to manually remove the nut prior to sale in Australia (Millington 1992). Other uses that require the collection of the fresh 'apple', such as in making jam (Trongpanich *et al.* 1992), pectin (Suhaila and Zahariah 1995), juice drinks (Inyang and Abah 1997), and alcoholic beverages (Rao 1985), are not compatible with the mechanised harvesting systems used to collect the nuts in Australian plantations. However, one outcome of Australian mechanical harvesting systems is that the dried 'apple' accumulates as a waste product during the post-harvest processing of NIS. The dried 'apple' could be used as an animal feed; cashew 'apple' meal has successfully replaced part of the grain in the ration fed to chickens (Chakraborty 1986; Lakshmi pathi *et al.* 1990) and dairy cows (Sundaram 1986). Three anacardic acids isolated from the juice of the cashew 'apple' have cytotoxic activity against breast and cervical carcinoma cells (Kubo *et al.* 1993).

While some people have a food allergy to the kernels (Hill *et al.* 1997) or develop contact skin dermatitis from the sap of the cashew tree or CNSL (Evans and Schmidt 1980; Diogenes *et al.* 1996), extracts from cashew leaves have been shown to have antifungal, antibacterial, and nematicidal activity – eg against the fungi causing brown spot of rice (Ganesan 1994); against bacterial leaf spot on mango caused by *Pseudomonas mangifera* and black rot of crucifers caused by *Xanthomonas campestris* (Garg and Kasera 1984); against *Streptococcus mutans* (Muroi and Kubo (1993); and against the nematode *Meloidogyne incognita* on cowpea without harming the growth and yield of the plant (Onifade and Fawole 1996).

Feasibility studies

Potential areas for cashew plantations

Gunn and Cocks (1971), Alexander and Possingham (1974), and Sturtz (1984) identified cashew as a 'new' species suited to the climatic environment of northern Australia. As a result, a number of feasibility studies have examined the soils of tropical Australia for areas suitable for growing cashew. Wait and Jamieson (1985, 1986, 1987) identified areas of red and yellow earths in Cape York Peninsular and basaltic soils near Lakeland Downs as having an ideal edaphic environment, but advised caution because underground water reserves may limit irrigation capacity. Bleeker and Laut (1987) in a survey of the Lockhart River area of North Queensland, suggested that only 30% of the area had soils and landscapes that would be suitable for growing cashew. Whilst no specific assessments of the suitability of soils in the NT and WA for cashew culture seem to have been reported, numerous authors state that large areas of soils occur in northern Australia (ie North Queensland, NT and northern WA) that would be suitable for cashew (Gunn and Cocks 1971; Sturtz 1984; Wait and Jamieson 1985, 1986, 1987; Cann *et al.* 1987; Chacko *et al.* 1990, 1998; Kirkpatrick 1996). To test these recommendations, trial and commercial plantings have been undertaken in NT near Darwin, Katherine, Daly River, Bathurst Island, Melville Island, La Belle Downs, and Wildman River, in North Queensland at Dimbulah, Bamaga, and Weipa, and in WA near Broome, and on the ORIA (Millington 1989, 1990, 1991a; Duncan 1994; AGTRANS RESEARCH 1996; Kirkpatrick 1996).

Economic viability

Duncan (1994) observed that Australia is the only technologically advanced country that has areas suitable for growing cashew, but any Australian cashew industry would need the maximum level of mechanisation because of high labour costs. Furthermore, it would need to be based on irrigated, high yielding, grafted trees to ensure predictable crop volumes and high quality kernels that could attract a 30% premium price on world markets.

The economic evaluations of Cann *et al.* (1987), Oliver *et al.* (1992), AGTRANS RESEARCH (1996), and Hinton (1998) are all based on highly mechanised farm and harvesting operations, irrigated and fertilised plantations of grafted, high-yielding clones producing kernels attracting a premium price on the world market. All studies used a tree density of 200 trees ha⁻¹, and a plantation size of 100 ha with the crop sold as NIS to overseas buyers, except that of Hinton which was based on a plantation size of 200 ha. These studies estimated somewhat different yields and price structures required for similar IRRs and payback periods (Table 1). Thus, the required yields ranged from 2.8 to 5.0 t ha⁻¹, NIS prices ranged from \$1.10 kg⁻¹ to \$1.63 kg⁻¹, and IRRs ranged from 6.6%, which may not be attractive to investors, to 14.3%.

Table 1. Ranges in yields, prices, IRR, and payback periods estimated for economic viability of cashew enterprises in Australia

NIS Yield (t ha ⁻¹)	NIS Price (\$ kg ⁻¹)	IRR (%)	Payback period (y)	Reference
5.0	1.10	8.8	–	Cann <i>et al.</i> (1987)
3.84	1.30	8.35	13	Oliver <i>et al.</i> (1992)
3.84	1.40	10.0		
4.5	1.30	10.0		
3.5	1.29	8.8	–	AGTRANS RESEARCH (1996)
3.85	1.29	10.5		
4.2	1.29	12.1		
3.5	1.16	6.6		
2.8	1.63	14.3	11	Hinton (1998)

Oliver *et al.* (1992) estimated that the total capital investment required was approximately A\$1.0 million, with a peak debt in year 4 of approximately A\$1.37 million, whereas for a plantation twice the size, Hinton (1998) calculated that the developmental cash budget would have a peak deficit of A\$1.88 million in year 2.

As greater experience has accumulated with the highly mechanised nature of the Australian industry, the estimated NIS yield required for economic viability has been declining – from 5.0 t ha⁻¹ estimated by Cann *et al.* (1987) to 2.8 t ha⁻¹ estimated by Hinton (1998). Nevertheless, the question remains: Are yields of 2.8–5 t NIS ha⁻¹ achievable under Australian conditions?

At a tree density of 200 trees ha⁻¹, yields of 2.8–5 t NIS ha⁻¹ equate to yields of 14–25 kg NIS tree⁻¹. Research data indicate that the genetic material capable of producing these NIS yields exist within the current varieties planted in Australian orchards; NIS yields of 10–18 kg tree⁻¹ have been reported from selected clonal stock (Kuppelwieser 1990, 1991; Kulkarni and Hamilton 1994; O'Farrell *et al.* 1996), while yields from single hybrid trees of about 19–36 kg NIS tree⁻¹ were reported by Chacko *et al.* (1990). Whether these yields from single trees or a few selected trees growing under carefully controlled research management can be achieved from a large number of trees growing under commercial plantation management has not yet been confirmed for any Australian trial or commercial plantation.

Edaphic factors

Temperature

Air

No studies have been completed in Australia on the effects of air temperature on growth and fruiting of cashew, but studies overseas give valuable information on the optimum air temperatures for cashew growth. Ohler (1979) recommended daily minimum air temperatures of 15–25 °C, and daily maximums of 25–35 °C, although in its native habitat, cashew extends into regions where daily maximum air temperatures may exceed 40 °C. Frota (1988) listed 27 °C as the ideal average temperature for development and normal fruit set, and stated that while cashew can withstand temperatures of 33–35 °C, it is very sensitive to air temperatures below 22 °C. In South African studies, vegetative growth was checked when temperatures were maintained between 9 °C and 24 °C for 3 to 9 weeks, but resumed when warmer temperatures (19 °C to 35 °C) returned (IDC 1995). However, if the cooler temperatures persisted for longer than 8 weeks, severe leaf drop occurred. In other studies, Snyman (1995) reported that a single night where the air temperature dropped to -2 °C and the ground temperature to -5 °C, killed 20% of both young and mature cashew trees.

Soil

Vogelzang (1992) reported that when the soil temperature at Kununurra, WA, was maintained at 22 °C, the tap root of cashew seedlings was about twice as long, the specific root length was greater (ie the roots were thicker), and shoot and root weights were heavier than in seedlings growing in soil at 38 °C. These findings had implications for root growth of trees at Kununurra where the temperature of the bare soil during summer rose to the mid-40s °C at 10 cm, and to the mid-30s °C at 20 and 50 cm. Mulching with straw could decrease soil temperature at 10 cm by 7–12 °C (Vogelzang 1992).

Rainfall

No in-depth studies appear to have been made of the rainfall requirements of cashew – it is being grown successfully throughout the world in locations where the average annual rainfall ranges from 500 to 4,000 mm (Frota 1988). Although it has developed a reputation for being very drought tolerant, the ideal rainfall pattern is considered to be one where 500 to 1,500 mm is well distributed during the vegetative phase of growth, with a further 100 mm during fruit setting (Veeraraghavan and Vasavan 1979; Frota 1988; Veeraraghavan and Pushpalatha 1990; Prasada and Gopakumar 1994). Heavy rains during flowering and fruit set reduce nut quality and encourage insect pests. In Australia, where mechanical harvesting is essential for economic viability of the enterprise, it is most important that a dry period coincides with peak nut-drop to facilitate mechanical harvesting of the crop. Wait and Jamieson (1987) identified areas in Queensland around Mareeba and Georgetown which had a satisfactory rainfall distribution, but which have cool winters that may delay flowering and fruit set in some years so that fruit drop would probably occur during the wet season and the harvest might be lost.

Soils

Overseas experience demonstrates that cashew grows best on deep, well drained, light textured soils which have no physical restrictions to root growth (Ohler 1979). Unfavourable soils include heavy textured soils, poorly drained clay soils, soils with hardpans that restrict root growth, or soils with a high water-table (Ramos 1988). Australian experience has confirmed these observations. Toohill (1991) and Toohill and Johnson (1992) reported that trees grew more quickly and were larger on the light textured, freely draining Cockatoo sands than on the alkaline, heavy, self-mulching, cracking clays at Kununurra, WA. O'Farrell (1992) reported that at Dimbulah, North Queensland, where the soil is a freely draining sandy loam to >2 m, trees growing where the water-table rose to within 1 m of the soil surface had a mean height of 1.27 m compared with 2.84 m for trees growing where the water-table did not rise closer than about 1.5 m to the soil surface.

Plant breeding and varietal selection

The aim of a breeding program is to concentrate into a single variety those traits that lead to ease of culture and higher yield of marketable product. Because cashew is a highly heterozygous tree that has a long history of propagation from seeds produced by natural cross pollination, great variation in phenotypic characteristics and yield potential have been preserved in the cashew plantations throughout the world. In fact, little dedicated plant breeding appears to have been completed, and the so-called varieties or cultivars are really selections of higher performing seedlings of unknown parentage from either a 'common type' – a tall-growing tree with a canopy to 8–15 m high and 10–20 m wide; the first flowering usually occurring in the third to fifth year, and full production being reached in the twelfth to fourteenth year; or a 'dwarf type' – a short-growing tree with a canopy whose spread is usually twice as wide as it is high, rarely greater than 5 m tall; the first flowering usually commencing at 6 to 18 months of age, usually flowering about 1 month earlier than the 'common type' and with a longer flowering season than the 'common type' (Ohler 1979, Barros 1988d).

Early Australian selections were based on varieties of both the 'common type' and the 'dwarf type' (Baker and Kuppelwieser 1989; Kuppelwieser 1989b, 1990, 1991; Duncan *et al.* 1991; Duncan 1992a; Millington 1989, 1990, 1991a, 1991b, 1992, 1993). More recently, an extensive hybridisation program has been undertaken to combine superior traits from the 'common type' and the 'dwarf type' to develop high-yielding, precocious cultivars that have very large, high quality kernels (Chacko 1990, 1991, 1992, 1993, 1994, 1997, undated; Chacko *et al.* 1996).

No studies have been completed in Australia, and very few in the rest of the world, on the heritability of characteristics in cashew. Faluyi (1986, 1987) examined the heritability of vigour of seedlings and found that broad-sense heritability was high for emergence percentage (74%) and seedling height (85%), and recommended that these traits could be used as selection indices for seedling vigour. Seedlings from large nuts were consistently more vigorous than those from small nuts. For nut yield characteristics, Faluyi found that variability was greatest for nuts tree⁻¹ and nut weight tree⁻¹. For all characters, genotypic variance was over 50% of the phenotypic variance. Kernel weight nut⁻¹ and shell weight nut⁻¹ were closely correlated and were in a ratio of about 1:2. Broad-sense heritability estimates ranged from 51.1% for nut weight tree⁻¹ to 60.5% for shell weight nut⁻¹. Only nut weight tree⁻¹ and its components had values for expected genetic advance of over 20%. Based on a study of correlation coefficients, Faluyi suggested that selection for nut yield characteristics should be based on NIS yield tree⁻¹.

Salleh *et al.* (1989a, 1989b) demonstrated that there was a significant 'year X cultivar' interaction for nut number tree⁻¹ and nut weight tree⁻¹ in an evaluation of 16 cultivars over a 7 year period in Malaysia. Cultivars that gave the highest mean yields were generally less stable in yield over time, whereas stable cultivars generally gave only mediocre mean yields. They also showed that nut number tree⁻¹ was negatively correlated with nut weight tree⁻¹ ($r = -0.4$) over a population of >4,000 cashew seedlings. Sena *et al.* (1994) reported that the number of fruit set per panicle and individual nut weight had the greatest effect on nut yield tree⁻¹, and that nut weight and apple weight had a high positive association with nut yield.

General agronomy

Propagation

Where propagation has been based on seedlings, the seed is planted directly in the field in many overseas countries (Nair *et al.* 1979; Ohler 1979; Almeida 1988), but in Australia, the plants have been raised more often in nurseries before being planted out into prepared seedbeds in the field (I. Duncan, personal communication; P. Shearer, personal communication).

Various vegetative propagation techniques have been used, including patch budding and numerous grafting techniques (Ohler 1979; Almeida 1988). Cuttings and air-layering have been widely used in India and Brazil, but development of roots can be slow and difficult in some cultivars, and research has been directed at using plant growth regulators to assist root development on cuttings and during air-layering (eg Coester and Ohler 1976; Hore and Sen 1992, 1993).

In Australia, the majority of cashew trees are now nursery-raised, grafted trees. However, there appears to have been little research on grafting techniques suitable for Australian conditions. At Kununurra, McFadden (1992) obtained a 70% take using a wedge graft when the root stock was between 4 and 10 weeks-old. Chacko *et al.* (1990) reported the development of a softwood micro-grafting technique, but failed to describe how it was done.

Throughout the world, no specific rootstock is recommended because there are no adverse effects in the grafted plant that can be attributed to the rootstock (Almeida 1988; Kuppelwieser 1990); in fact the scion appears to be dominant over the rootstock at least in controlling plant size (IDC 1995). To overcome an iron-deficiency chlorosis in cashew at Katherine, NT, Smith and Bowman (1994) investigated the performance of selected seedling lines as rootstocks. Although there were significant differences between seedling lines in their sensitivity to iron-chlorosis and in root growth and development, they concluded that the genetic diversity of cashew was a major obstacle to the development of rootstocks derived from seed. Hence, opportunities to increase productivity through the use of high-performance rootstocks, in a manner similar to that achieved in mango and other tropical tree crops (Smith 1993), remains largely unexplored in cashew.

In vitro multiplication of cashew tissues and then establishment of explants in the field has been successfully achieved overseas (Hegde *et al.* 1990; D'Silva and D'Souza 1992a, 1992b; Das *et al.* 1996) but not to date in Australia (Chacko 1990, 1992, 1993).

Potting mixtures to optimise growth and development of seedlings used in grafting, or for planting to the field has received little attention both overseas and in Australia. McFadden (1992) reported that a potting medium of 1:1 sand:peat moss containing Terrasorb® at 3.0 kg m⁻² gave the best growth of roots, but did not increase the rate of survival of trees (about 50%) over the control treatment when measured 120 days after out-planting at Kununurra.

Out-planting

The optimum time to move plants from the nursery to the field, in terms of the age of the grafted tree and the month of the year, does not appear to have been studied overseas. However, at Kununurra, McFadden (1992) found that trees grafted at 4 to 10 weeks of age had the highest survival rate at out-planting. The optimum time from grafting to out-planting was found to be 22 weeks or a combined 'grafting + hardening' time of 28 weeks. Under these conditions, survival rates were 60%.

Jennings (1992, 1993), again at Kununurra, found that out-planting in the months November-December to April gave the best growth rates and root activity, and it appeared that relative humidity and rainfall were the major factors determining plant survival and growth. Although there were positive correlations between shoot growth, root activity and the presence of endomycorrhizae in the roots, Jennings concluded that the presence of endomycorrhizae in the roots was encouraged by the development of an active root system – by itself endomycorrhizal colonisation did not appear to assist plant establishment and development.

Tree spacing and arrangement

There appears to be no common planting density and arrangement, and tree spacings ranging from 3 m x 3 m to 20 m x 20 m have been reported (Nair *et al.* 1979; Ohler 1979; Barros 1988a). Whilst most Australian plantations have been planted at a tree density of 200 trees ha⁻¹, recent studies suggest that higher yields can be obtained from planting densities about 3-fold higher. Toohill (1991) reported on the use of a Tatura trellis system with 9 m inter-rows and 1.0 m, 2.5 m and 3.5 m between plants, giving tree densities of 1,666, 666, and 476 trees ha⁻¹ respectively on Cockatoo sand in the ORIA. Averaged over 2 years and 3 clones, yields of NIS tree⁻¹ and yields of NIS ha⁻¹ were highest at a density of 666 trees ha⁻¹.

In contrast, Martin and Kasuga (1995) reported that maximum production from rainfed cashews in Tanzania usually occurred with tree densities equivalent to 40–80 trees ha⁻¹. They calculated the ratio between the area of the plantation and the surface area of the canopy of the trees, which they called the canopy ground cover ratio, and demonstrated that when the canopy ground cover ratio decreased below 0.4, cashew production per ha was usually low, and was at its maximum when the canopy ground cover ratio was between 0.5 and 0.6.

van Eijnatten and Abubaker (1983) realised that the yielding potential of a plantation was related to the area of the fruit-bearing canopy of the plantation, and proposed using hedgerow plantings with rows spaced 9 m or 12 m apart, with trees planted at 2 m to 3 m within the row, to increase the rapid build-up of a fruit-bearing canopy in cashew plantations in Kenya. When they compared the average gross margins from the traditional 6 m square pattern of planting with those from a hedgerow with 9 m inter-rows, they estimated that returns from the hedgerow plantings would be about 6-fold higher in the first 5 years, about 8-fold higher in the first 10 years, and about 17-fold higher in the first 25 years.

Weed control

Control of weeds within the cashew plantation has been attempted by three techniques: intercropping, mulching, and chemical weedicides. Adeyemi (1989) described using intercropping with food crops (maize, cassava, cowpea, plantain bananas) to reduce weed incidence in cashew crops in Nigeria during the early years after transplanting the young trees to the plantation. Similar techniques using forage sorghum as the intercrop were reported by Heading (1992) to be successful in reducing weed growth in young trees during establishment at Kununurra.

In India, Kumar *et al.* (1989) demonstrated that mulching with coconut coir-pith to a depth of 7.5 cm resulted in retention of about 14% more moisture and suppressed weed growth. Heavy mulching of young cashew trees at Kununurra was partly effective in controlling weed growth, but was laborious to apply (Millington 1992).

Toohill and Millington (1992) examined the use of a number of residual and knockdown herbicides at Kununurra because, during the wet season, machinery access for mulching and application of herbicides was not possible. They recommended the use of Gesatop® (at 6 L ha⁻¹; a.i. = simazine or 2-chloro-4,6-bis(ethylamino)-1,3,5-triazine) or Surflan® (at 6 L ha⁻¹; a.i. = oryzalin or 3,5-dinitro-N⁴N⁴-dipropyl sulphanilamide) or Diuron® (at 10 L ha⁻¹; a.i. = diuron or N-(3,4-dichlorophenyl)-N¹N¹-dimethylurea), or a combination of Gesatop (at 3 L ha⁻¹) + Surflan (at 3 L ha⁻¹) for control of weeds. Gesatop and Diuron were the most cost effective, and all weedicides needed to be applied with care to minimise their appreciable phytotoxicity to cashew trees. At Dimbulah, North Queensland, weeds have been effectively controlled by repeated mowing of the inter-rows and the use of Roundup® (a.i. = glyphosate or N-(phosphonomethyl) glycine) to maintain a weed-free zone underneath the dripline of the trees to facilitate harvesting of the nuts (P. Shearer, personal communication).

Beneficial soil organisms

Although it is known widely that some soil bacteria and fungi form relationships that assist in nutrient and water uptake in a wide range of plant species, this aspect of cashew biology has been relatively neglected until recently. Krishnaraj and Gowda (1990) reported the presence of phosphate-solubilising

bacteria in the rhizosphere of cashew in India, and the colonisation of cashew roots by vesicular-arbuscular mycorrhizal (VAM) fungi has been reported from Malaysia (Azizah *et al.* 1983), India (Krishna *et al.* 1983; Sivaprasad *et al.* 1992), and Australia (Haugen 1991; Haugen and Smith 1992, 1993; Jennings 1993; Vogelzang 1992; Smith, undated).

Smith (undated) and Haugen and Smith (1992, 1993) found that levels of VAM fungi were low in the field in Kununurra, WA, while in glasshouse trials in Adelaide, seedlings rarely became infected and inoculations with *Glomus intraradices* gave no growth benefit. Consequently, they concluded that the commercial adoption of inoculation in the nursery was unwarranted.

In contrast to the low levels of VAM colonisation reported by Haugen and Smith, Jennings (1992, 1993) demonstrated that trees planted to the field at Kununurra in December through to April had colonisation rates greater than 75% about 6 months after out-planting, but colonisation of new roots was slower in trees out-planted between May and October. As a result, Jennings recommended that out-planting of cashew in Kununurra be confined to the wet season (December–April), the period associated with active shoot and root growth. Vogelzang (1992) showed that the natural alkalinity of the Kununurra clay was less favourable for mycorrhizal colonisation; pH levels above 7.6 decreased infection rates. Furthermore, while VAM could survive the high soil temperatures experienced in the field, high temperatures depressed root development which led to low colonisation levels.

Plant protection

Protection of the tree against attack by disease pathogens, and nematode, arthropod, and animal pests is essential if NIS yields are to be maximised. Hence a great deal of research has been directed towards control measures for the numerous pest and disease agents that attack cashew trees, flowers, the developing fruit, and the mature nut and kernel. Much of this literature is site specific in that an organism which attacks cashew in one area may not be a serious problem in another location or country. In this respect, the Australian cashew industry is most fortunate in that it is free of many of the serious pest and disease organisms that have been reported on cashew in other countries.

Diseases

Teixeira (1988) recorded over 50 disease pathogens and agents affecting cashew throughout the world. However, almost all of these disease pathogens have not been reported in Australian plantations to date, and those that have, namely anthracnose caused by *Colletotrichum gloeosporioides*, sooty mould caused by various fungi growing on the exudates of several sap-sucking insects, and soft rots on the apple caused by a number of fungi, are very minor problems in Australian cashew orchards (Grundon *et al.* 1998).

Animal pests

Parasitic nematodes commonly found in cashew roots in other countries (Lopez and Azofeifa 1985; Lopez and Salazar 1978; Cohn and Duncan 1990; Rahaman *et al.* 1996) have yet to be recorded from Australian plantations. However, native fruit bats (*Pteropus* sp.) will remove the cashew 'apple' and attached nut to feeding roosts where the nut is dropped, unharmed, after the fruit is eaten (McCoy 1989, 1992). Growing tall trees within the orchard as feeding roosts for the fruit bat was suggested as a suitable management strategy to minimise the loss of nuts from the plantation.

Grundon *et al.* (1998) reported that wild pigs can cause localised but minor destruction, but rats can cause widespread damage to poly-irrigation pipes and fittings, resulting in high labour and material repair costs. They suggested that rats can be controlled by reducing the areas where they could hide from predators and by strategic baiting. Encouraging owl populations by placing nesting boxes and perches in the orchard was suggested as a method of increasing predator pressure on rat populations.

Insect pests

While Ohler (1979) reported over 50 insects that cause major damage to cashew trees, fruit and nuts,

only a few of these or related species have been found to cause damage in Australian plantations. Lever (1982), Smith (1985), Sandry (1990) and Stonedahl *et al.* (1995) identified the tea mosquito bug (*Helopeltis pernicialis*), mango shoot caterpillar (*Penicillaria jacosatrix*), and leaf roller (*Anigraea ochrobasis*) as major pests, and the fruit spotting bug (*Amblypelta lutescens*), pink wax scale (*Ceroplastes rubens*), oriental scale (*Aonidiella* sp.), and three species of flatid planthoppers (*Colgaroides* sp.) as minor pest species in NT.

Malipatil and Houston (1990) and Houston (1990, 1991) listed over 300 species of insects and spiders found on cashew in the NT, but considered that only 8 were major pest species – leaf roller, mango shoot caterpillar, red-shouldered beetle (*Monolepta* sp.), tea mosquito bug, pink wax scale, red-banded thrip (*Selenothrips rubrocinctus*), the giant termite (*Mastotermes darwiniensis*), and a flatid planthopper (*Colgaroides acumniata*). Four other insects were considered to be minor pests – aphids, a coreid bug (*Amblypelta* sp.), oriental scale, and a cerambycid beetle borer. Predators, parasites and pathogens were also recorded.

Estimation of yield loss from insect pests

When trees are killed as a result of insect attack, the lost yield is obvious, but less obvious is the amount of yield lost from attack by leaf-eating and sap-sucking insects. Strickland and Knight (1992) assessed the likely yield loss from failure to control leaf-feeding insect pests at Wildman River, NT, by comparing NIS yields from trees sprayed to kill all leaf-eating pests with those left unsprayed. They also assessed yield from trees that were manually defoliated of new leaves to simulate loss of leaf from leaf-eating insects at different stages of the reproductive cycle. Trees to which five insecticide sprays were applied against mango leaf caterpillar, leaf roller, and tea mosquito bug, yielded 39% more NIS than unsprayed trees (8.03 kg NIS tree⁻¹ compared with 5.77 kg NIS tree⁻¹). Manual removal of new leaves to simulate insect attack greatly affected NIS yields. When new leaves were removed every month over the February to June period, NIS yields were 2.3 kg tree⁻¹, compared with 9.2 kg tree⁻¹ for the control trees. Less frequent defoliation had a graded effect in the following order: control = (May + June) > (February + March + April) > (March + April + May) > (April + May) > continuously defoliated from February to June.

In a subsequent experiment, Strickland and Williams (1993) assessed the yield lost from attack to developing panicles by sap-sucking bugs such as the fruit spotting bug and the tea mosquito bug. Using a similar experimental protocol, they demonstrated that these two insects had a markedly different effect on cashew yield. When tea mosquito bug was able to attack panicles from emergence to nut set, NIS yields were about 1.8 g panicle⁻¹ compared with 30.2 g panicle⁻¹ when no tea mosquito bug was present. When the bug was present only at stages during nut development, NIS yields ranged from 29.5 g panicle⁻¹ to 32.4 g panicle⁻¹. These data indicate both the severity of yield loss from tea mosquito bug (about 94% on an individual panicle basis), and the narrow window during which the bug is effective against cashew during the reproductive stage.

When fruit sucking bug was present at a rate of 1 bug per panicle from panicle emergence to nut set, and from nut set to the full nut size stage, NIS yields were 0.7 g panicle⁻¹ and 10 g panicle⁻¹ respectively, compared with 20.1 g panicle⁻¹ when no bug was present. When the bug was present for 10 or 20 days after the full nut size stage (ie during apple development), NIS yields were 33.3 g panicle⁻¹ and 28.1 g panicle⁻¹ respectively. Again, severe yield loss occurred from attack during panicle emergence (about 97%), but losses continued during nut development (about 50%) probably because of the more robust size of the fruit sucking bug. Strickland and Williams concluded that while NIS yields were not affected by fruit sucking bugs feeding during apple development, kernel quality may be affected by the ability of the bug to penetrate deeply and feed extensively even on fully developed nuts during this stage. Unfortunately, no assessments were completed on kernel quality.

Control of giant termite

Houston (1990), Miller and Watson (1991, 1992), Miller (1993, 1994), Foord (1996), Foord and Smith (1996), and Foord *et al.* (1997) examined methods for controlling the giant termite (*Mastotermes*

darwiniensis) in cashew plantations at Wildman River, NT, and Katherine, NT. Houston reported great difficulty in using sawdust impregnated with mirex or an arsenic preparation as a bait. Miller and his co-workers found that mirex baits were the most effective method of control of giant termites, but it was difficult to ensure that sufficient bait had been taken by the colony to give control because of insecticide repellency. As mirex use is now restricted, they examined alternative substances (sulfluramid, boric acid) in laboratory tests, and these have since been tested in the field (Foord *et al.* 1997). Although baits containing 0.5% boric acid were consumed by termites, trees were still lost to termites and it was assumed that the amount of boric acid consumed was insufficient to kill a large colony. AMDRO®, a hydramethylnon formulation which had proved effective at killing termites in the laboratory, was applied using moist corrugated cardboard as a bait in field trials, but this combination proved to be unsuitable because the cardboard became mouldy and was unattractive to termites in this state (Foord and Smith 1996).

As an alternative to sawdust impregnated baits, Miller and Watson (1992) suggested the use of cassava as a cheap, expendable and easily replaceable 'bait crop'.

Integrated pest management and biocontrol

In recent years there has been a shift from relying solely upon chemical pesticides towards the use of IPM to control insect pests in cashew. A key feature of IPM is the economic injury level or control threshold – the lowest pest population that will cause economic damage. These levels have not been established for the majority of insects that attack cashew in Australia or overseas.

With respect to damage by tea mosquito bug, Peng *et al.* (1996a, 1997b) determined a control threshold based on a combination of the net income from increased yield and the frequency of insecticide use. A damage level of 1% to 5% achieved the highest profit, but a damage level of 6% to 10% resulted in a yield that was over 73% of the yield of the 1% to 5% damage level and required one third less pesticide. They concluded that a damage level of 6% to 10% could be regarded as a control threshold.

In a series of papers, Peng and his co-workers (Peng *et al.* 1994, 1995, 1996a, 1996b, 1996c, 1997a, 1997b) examined the effect of the green tree ant (*Oecophylla smaragdina*) on insect pests of cashew trees in NT. They demonstrated that the ant was a dominant predator and was abundant in the native vegetation of the area. It significantly reduced the numbers of the four most important species of insect pests (tee mosquito bug, leaf roller, fruit sucking bug and mango leaf caterpillar) and trees with higher numbers of the ant produced higher quality nuts than trees with fewer numbers. They observed that although trees with a constant green ant population received slight damage from tea mosquito bug, the damage level never exceeded the control threshold of 6% to 10%. Following the work of Peng and his co-workers, similar studies are now being undertaken in Sri Lanka, India and Malaysia on the possible use of native ant species as biological control agents in cashew (Rickson and Rickson 1998).

Hood (1993, 1994, 1997) examined the use of biological control methods as part of an IPM program to control the mango leaf caterpillar in cashew at Wildman River, NT. He found that, while the pest is present all year round, its abundance is determined primarily by the presence of new leaves and developing panicles, being most abundant during the warmer weather of the post-flowering vegetative flush from September to November. In the field, one mango shoot caterpillar was capable of reducing terminal leaf area by about 34%. A wide range of natural predators (eg hemipteran bugs, spiders and ants) caused at least a 3-fold reduction in the number of caterpillars surviving to the pupal stage. While broad spectrum insecticides reduced the population of natural predators, a comparable range of predators returned within 4 months of cessation of pesticide applications. Biologically active selective insecticides such as Biobit® (a.i. = *Bacillus thuringiensis* subsp. *kurstaki*) and NeemGold® (a.i. = azadirachtin) had limited efficacy against the caterpillar, but Hood concluded that both insecticides had potential if used in conjunction with additives and/or natural predators.

Irrigation

Although cashew is traditionally grown under rainfed conditions in overseas countries, significant yield increases have been demonstrated from supplemental irrigation. Thus Ghosh (1995) reported yields of

nut increased about 400% when 10-year-old seedling cashew trees were watered with 30 L tree⁻¹ every 50 days during the reproductive phase. Because the Australian industry is based on the use of supplementary irrigation, comprehensive studies have been undertaken here on the physiological factors underlying tree stress and water use (Schaper 1991; Schaper and Chacko 1991, 1992, 1993; Schaper *et al.* 1996; Blaikie and Chacko, 1996, 1998).

Schaper (1991) and Schaper and Chacko (1992, 1993) demonstrated that there were pronounced diurnal variations in leaf water potential, turgor potential, transpiration and leaf temperature because of fluctuating vapour pressure deficits. The light saturation of photosynthesis in mature leaves occurred at about 1200 $\mu\text{mol m}^{-2}\cdot\text{s}^{-1}$ photosynthetic photon flux density, and net photosynthesis and stomatal conductance remained constant during hours of full sunlight at a vapour pressure deficit less than 4 kPa, indicating that the trees were suffering no stress. However when the vapour pressure deficit between leaf and air increased to greater than 4 kPa, the net photosynthesis of the leaves started to decline even at high soil moisture levels. At a vapour pressure deficit of about 7 kPa and leaf temperatures of 41–44 °C, a low level of photosynthesis was maintained. Turgor pressure was held at around 0.50 MPa under atmospheric stress, preventing total stomatal closure but reducing stomatal conductance. There was a significant positive relationship between net photosynthesis and stomatal conductance. Leaf gas exchange and leaf water potential were similar in irrigated and non-irrigated trees until flowering which lead them to conclude that the trees were not stressed before flowering.

Blaikie and Chacko (1998), using container-grown small plants, reported that the water use of trees in drying soil, measured using Granier's sap flow system and expressed as sap flux density, declined progressively over a 4-day period to a minimum level that was only 10% of the sap flow in the well watered trees. The drying trees were severely stressed, evidenced by low photosynthesis rates, low transpiration rates, and low stomatal conductance. When the stressed trees were rewatered, sap flow and leaf gas exchange recovered to the high levels of the well watered trees over 3–4 days. An important outcome of this study was the knowledge that decreases in photosynthetic rates were due mainly to stomatal closure, rather than a reduction in photochemical activity, and that stomatal closure, and hence a return to full photosynthetic activity, could be readily reversed by irrigation.

In the field at Darwin, NT, Schaper *et al.* (1996) and Blaikie and Chacko (1996) found that soil moisture content declined at all depths measured (0–0.9 m) with no differences in moisture content between sprinkler and drip treatments. Leaf gas exchange and sap flow (both diurnal and long term) were not consistently different between treatments, and NIS yields of all trees were similar.

Water use

Although the benefits of irrigating cashew trees have been demonstrated in the ORIA, WA, at Wildman River, NT, and at Dimbulah, North Queensland, there have been only limited attempts to quantify the irrigation requirements of cashew under Australian conditions. Thus, Sherrerd *et al.* (1992, 1993) and Heading (1992) used flood irrigation in the ORIA to provide supplemental water to cashew on the Cununurra clay. The water requirements of the crop were estimated by determining the extent of the effective root system and by examining the response of 4-year-old seedlings and grafted trees when irrigation was withheld until 150 mm, 300 mm, or 600 mm of pan evaporation has occurred. Yield of NIS was similar when irrigation occurred after 150 mm or 300 mm of pan evaporation, but was decreased due to a decrease in nut number per tree when irrigation was withheld until 600 mm of evaporation had taken place. Frequency of irrigation had no effect on nut weight, tree height, trunk girth, shoot terminal density, and ratio of floral to vegetative terminals. Soil moisture measurements indicated that water was extracted to a depth of only 80 cm, and that when the frequency of irrigation was reduced, the zone of water extraction increased laterally but not vertically.

On sandy red earths at Wildman River, NT, Richards (1990, 1991, 1993b) found that cashew could withdraw water to a depth of at least 1.8 m, and that irrigation in the absence of adequate fertilisers was wasted. Irrigation and nutrient applications together gave larger trees and greater yield. He suggested that for 5-year-old trees, the peak water requirement occurred during peak nut set, was equivalent to about 400–500 L per tree per week, and could be restricted to the period from the commencement of

flowering, or possibly later, until harvesting was finished.

Fertiliser requirements

Black (1993) describes the principles and concepts involved in estimating the economics of fertiliser application using response functions that quantitatively relate crop response (for cashew, measured as NIS yield or kernel quality) to nutrient supply (measured as native fertility of the soil, fertility status of the soil following amendment by fertilisers, or as rate of applied fertiliser nutrients). Unfortunately, no attempts have been made to date to establish yield-nutrient supply response functions for cashew. Nevertheless, there are numerous Australian (eg Richards 1990, 1991, 1992, 1993a, 1993b, 1994; Robinson *et al.* 1993; Robinson and Kesavan 1994; Kesavan 1996; O'Farrell *et al.* 1996; Grundon 1998) and overseas studies (eg Falade 1984; Sawke *et al.* 1985; Hanamashetti *et al.* 1985; Mahanthesh and Melanta 1994; Latha *et al.* 1996; Ghosh and Bose 1986; Ghosh 1989, 1990a, 1990b) demonstrating that cashew responds readily to fertiliser applications. As would be expected the rates giving the fastest growth of young trees, or highest NIS yields of bearing trees differ greatly from site to site. From data on fertiliser responses in the literature, Grundon (1998) summarised the recommended rates of application of N, P and K fertilisers for optimal growth and yield of cashew trees of different ages; repeated here in Table 2. Insufficient studies have been completed on responses of cashew to other nutrient elements to provide recommended rates of application for these elements.

Table 2. Range in recommended rates of application of N, P and K for optimal growth and yield of cashew trees of different ages (Adapted from Grundon 1998).

Age of tree (years)	Range in recommended rates (g tree ⁻¹)		
	N	P	K
1	40	9–26	0
2	46–150	13–31	25–150
3	60–520	13–196	75–260
4	100–780	13–270	42–430
5	120–1200	13–400	42–600
7	500	200	200
8	125	112	423

Application of nutrient elements to the leaves is a favoured means of supplying some elements, especially when soil conditions prevent ready absorption by the roots, or when only small amounts are required such as with the micro-nutrients. No research has been completed in Australia on the foliar absorption of nutrients, although Grundon *et al.* (1998) recommended the following optimum concentrations (w/v; ie kg of compound per 100 L of water) for application of micro-nutrients based on overseas data and local experience with cashew and other tree crops: Zn, 0.5%; Cu, 0.5%; B, 0.1%; Mo, 0.05%; Mn, 0.5%; and Fe, 0.5%.

No studies have been undertaken in Australia on the effect of placement of fertilisers on cashew growth and yield, although Grundon *et al.* (1998) recommended that insoluble fertilisers are best applied as surface dressings in the dripline of the canopy, while soluble fertilisers could be applied either as surface dressings or dissolved in the irrigation water by fertigation. In most overseas recommendations on the agronomy of cashew, it is usual to place the fertiliser in the planting hole at the time of planting the seed or transplanting the seedling tree from the nursery to the field (Ohler 1979; Barros 1988b). Thereafter, if fertilisers are applied at all, they are broadcast around the base of the trunk and lightly mixed with the soil (Ohler 1979; George *et al.* 1984; Subramanian *et al.* 1995) or applied in a single circular trench, 25 cm wide and 15 cm deep, at 1.5 m or 3 m from the trunk (George *et al.* 1984; Radhakrishna *et al.* 1993).

In a field study at Dimbulah, North Queensland, O'Farrell and his co-workers (O'Farrell 1993, 1994;

O'Farrell *et al.* 1996) have examined the effect of applying N fertilisers either (a) only during the vegetative growth phase (December to April), or (b) only during the reproductive growth phase (June to October), or (c) split equally between the vegetative and reproductive growth phase. The same source and amount of N was applied in all treatments, and a complete basal dressing of all other essential elements was applied in this fully irrigated, closely managed study. In the first two years, time of application of N had no significant effect on shoot number and length, number of panicles produced or NIS harvested by November. However, in treatments receiving all their N during the reproductive phase, total NIS yields were higher because flowering and fruiting were extended and a significant number of nuts developed during December in these trees.

Diagnosis of nutritional disorders

Visual symptoms

The principles underlining the use of visual symptoms to diagnose nutritional disorders in plants and the limitations of this technique have been described by Grundon (1987) and Grundon *et al.* (1997). While no research into visual symptoms has been undertaken in Australia to date, overseas studies have supplied descriptions of visual symptoms associated with known nutritional disorders – these are listed in Table 3. Only deficiency symptoms have been described to date.

Table 3. References where visual symptoms of nutritional disorders are described for cashew.

Reference	Elements
Lefebvre (1973)	Deficiency: Zn
Haag <i>et al.</i> (1975a)	Deficiency: N, P, K, Ca, Ms, S
Sarruge <i>et al.</i> (1975)	Deficiency: B, Cu, Fe, Zn, Mo
Rovira and Brasil Sob (1976)	Deficiency: N, P, K, Ca, Mg, S
Falade (1978)	Deficiency: N
Ohler (1979); Ohler and Coester (1979)	Deficiency: N, P, K, Ca, Mg, S, Fe, B, Mn, Zn, Cu, Mo
Menon and Sulladmath (1981)	Deficiency: N, P, K, Ca, Mg, S, Fe, B, Mn, Zn
Zech (1984)	Deficiency: K, Zn
Gopikumar and Aravindakshan (1986)	Deficiency: N, P, K, Mg, S, Fe, Mn, Zn
Subbaiah <i>et al.</i> (1986)	Deficiency: Mo
Barros (1988b)	Deficiency: N, P, K, Ca, Mg, S, Mn, B, Zn, Fe, Cu, Mo
Latis and Chibiliti (1988)	Deficiency: Zn, Fe, Mn, B

The symptoms described in the various studies were generally similar for a given element, with the exception of Mo. Ohler (1979), Ohler and Coester (1979), and Barros (1988b) stated that there were no clearly defined symptoms for Mo deficiency; the younger leaves became generally paler green to yellow in colour with greener veins. In some instances, the seedlings developed more branches. By contrast, Subbaiah *et al.* (1986) described well defined symptoms consisting of large pale yellow, interveinal spots on the leaves that spread into blotches across the veins. Menon *et al.* (1979) had described the same yellow leaf spotting symptom earlier, but did not identify the cause of the disorder except to state that the cause was apparently non-pathogenic.

In addition to the mainly foliar symptoms described in the references listed in Table 3, Bhattacharyya *et al.* (1989) identified a nut-cracking problem in one plantation in India that was not associated with pathogens or soil conditions as possible causes. The symptom appeared about 3 weeks before nut maturity on trees that had leaves which were much smaller than normal. Based on the latter observation, they suggested that Zn deficiency may be the cause.

Chapman and Millington (1992) described young cashew trees grown on clay soils that developed symptoms including interveinal chlorosis (brown spotting) or severe chlorosis (whitening) of leaves. They attributed these symptoms to multiple deficiencies of Zn, Fe, Cu, and possibly Ca and B, because of the high soil pH.

While descriptions of symptoms are useful, colour photographs of the characteristic symptoms are more instructional. Several overseas publications contain colour photographs of nutrient deficiencies, namely those of Rovira and Brasil Sob (1976), Ohler and Coester (1979), Gopikumar and Aravindakshan (1986), Barros (1988b), and Latis and Chibiliti (1988).

Plant analysis

The use of plant analysis depends on a constant relationship between element concentration and nutritional status, but the concentration of an element changes naturally in tissues during growth and development. Three approaches have been adopted to overcome problems associated with such changes in element concentration as tissues age: (1) a rigid standardisation where the index tissue, usually the whole above ground parts, are sampled and analysed at a defined stage of growth; (2) the whole shoot is sampled and analysed but the weight of the plant is used to adjust the results to a standardised weight to account for variations in stage of growth; and (3) to define a standard index tissue for analysis that is the same physiological age at all sampling dates (Smith and Loneragan 1997). In annual crop species, all three approaches can be used, but in perennial tree crops such as cashew, only the third approach can be applied, although the time of sampling the standard index tissue may be limited to a defined phenological stage.

With cashews, neither a standard index tissue nor a standard time to collect the samples has been defined to date. Therefore a variety of tissues have been analysed: in Australia, Richards (1993a) sampled “recently matured, fully hardened leaves from non-flowering, non-flushing shoots”; in Malaysia, Yaacob and his co-workers (Yaacob and Kamal 1982, 1983; Yaacob *et al.* 1985) collected “the fourth leaf on mature branches”; while in India Kumar and Sreedharan (1987) retained “fully matured leaves”, Beena Bhaskar (1992) collected the “last fully matured leaf on the current season’s flush”, and Gopikumar and Aravindakshan (1986) included “all leaves” from cashew seedlings.

The stability of the concentration of nutrients in the selected index tissue throughout a year are affected by seasonal conditions and tree phenology. There is general agreement from Australian, Indian, and Brazilian studies that N concentrations are highest during vegetative flushing and early fruiting, and decline during fruit maturation (Correa *et al.* 1991; Beena Bhaskar 1992; Richards 1994). However, the relationships between tree phenology and element concentrations were less clear for other nutrients. Richards (1994) reported that there were no true stages of nutrient stability for leaf P and K concentrations at Wildman River, NT – concentrations rose and fell across months and were not associated with any particular phenological even. By contrast, Beena Bhaskar (1992) found in India that concentrations of N, P and K all followed the same pattern, being highest during vegetative “flushing and early flowering” and falling during fruit maturation. In Brazil, Correa *et al.* (1991) reported that P and K concentrations decreased during winter, ie during flowering, fruit set and fruit maturation.

Beena Bhaskar (1992) stated that concentrations of Ca, S, Mn and Zn were highest during the post-harvest phase, which presumably would equate to the rainy season which is when Correa *et al.* (1991) found that Ca concentrations were highest. They differ however with respect to Mg concentrations – Beena Bhaskar (1992) report that Mg and Cu concentrations were highest during “flowering and fruiting” whereas Correa *et al.* (1991) found that there were no variations in leaf Mg concentration throughout the year.

Kumar *et al.* (1982, 1985) and Martin-Prevel *et al.* (1984) demonstrated that tissues of the same physiological age (eg mature leaves) but from different phenological cycles (eg previous season’s growth versus current season’s growth) can have very different element concentrations at the same time of sampling. In India, matured leaves from the previous year’s growth had lower levels of P and K than similar leaves on the current season’s growth (Kumar *et al.* 1982, 1985), whilst in African plantations,

the N, P, K and Ca concentrations were much lower in mature leaves from shoots bearing fruit than in mature leaves from non-fruiting shoots (Martin-Prevel *et al* 1984).

To overcome this lack of stability of nutrient concentrations in index tissues over time, Richards (1994) recommended a two-stage leaf sampling technique, the first sample being collected in March just after the peak vegetative flush, with the second sample collected at the commencement of flowering in May–June. Martin-Prevel *et al.* (1984) suggested a complex sampling routine. Because changes in leaf concentrations were minimal in leaves of 4- to 5-months old, leaves should be collected from non-fruiting shoots in March–April, and from fruiting shoots in July–August. However, to maximise the sensitivity to differences in nutritional status for K, Ca, and Mg, they recommended that (a) 10- to 11-month-old leaves should be sampled from non-fruiting shoots in October–November, and that (b) 8- to 9-month-old leaves should be collected from fruit-bearing shoots in November–December.

In itself, the mineral composition of plant tissue yields no information about the nutritional status of the tree. Interpretation of plant analysis data is based on the concept of the critical nutrient concentration or range, usually defined as the concentration in the index tissue corresponding to 90% maximum yield (Smith and Loneragan 1997). To establish critical nutrient concentrations or ranges, a full response curve relating yield to nutrient concentration must be established (Smith and Loneragan 1997). Despite many reports giving nutrient concentrations associated with “high yields” and “low yields”, or with “healthy trees” and “unthrifty trees”, no definitive yield-nutrient response relationships have been published for cashew to date. Nevertheless, limited data are available showing what might be expected in terms of plant nutrient status when the mineral composition of the tree or plant part falls to given levels for N, P, K, Ca, Mg, S, Fe, Mn, Zn, Cu, Mo and B (Tables 4, 5, 6 and 7). Based on the data published in the literature, Robinson *et al* (1997) presented deficient and adequate levels for concentrations of N, P, K, Ca, Mg, S, Cu, Zn, Mn, Fe, and B in the most recently matured hardened leaf on an actively growing shoot during the non-flowering vegetative flush; these data are summarised in Table 8.

Soil analysis

For Australian conditions, Richards (1993a) was able to gather sufficient data to report “preliminary ranges” for pH (1:5 soil:water), and levels of total N (Kjeldahl), nitrate-N, available-P (bicarbonate-extractable; Colwell 1963), exchangeable K, exchangeable Ca, and exchangeable Mg (exchangeable cations extracted in 1 Molar ammonium chloride at pH 7.0) associated with high and low yields of cashew at Wildman River, NT. Because no other data are available, these ranges are summarised in Table 9. In later studies, Richards (1994) refined his estimates of critical ranges for soil levels for N, P and K using graphical and non-linear regression techniques: *viz* total soil N, 0.060–0.090%; available soil P, 36–80 mg kg⁻¹; and exchangeable K, 0.18–0.37 cmol (+) kg⁻¹.

Panchaban *et al.* (1989) examined the tolerance of cashew to salinity (0, 0.2, 0.4 and 0.6% NaCl, dry weight basis) in pot trials. Toxicity symptoms were evident even at 0.2% NaCl, and all plants died at 0.6% NaCl.

Table 4. Concentrations of N associated with a given nutritional status in the cashew tree.

Nutrient	Concentration range	How established ¹	Tree age	Index tissue	Comments	Reference
N (%)	2.96 1.29	G-SC	60 d	Upper leaves	Complete nutrients Minus N	Rovira and Brasil Sob (1976)
	2.77 1.20	G-SC	60 d	Lower leaves	Complete nutrients Minus N	
	3.24 1.49	G-SC	6 mth	All leaves	Complete nutrients Minus N	Gopikumar and Aravindakshan (1986)
	1.72–2.29	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and	Menon and Sulladmath (1981); Latis and Chibiliti

	1.44–1.80	Field	Mature	Leaves	Madagascar	(1998)
	2.09	Field	Mature	Leaves	Preliminary ‘critical range’	Richards (1992, 1993a)
					‘Critical concentration’	Kumar and Sreedharan (1987)

¹How established codes: G-SC = Glasshouse sand culture; Field = field grown tree

Table 5. Concentrations of P, K, and Ca associated with a given nutritional status in the cashew tree.

Nutrient	Concentration range	How established ¹	Tree age	Index tissue	Comments	Reference
P (%)	0.34 0.12	G-SC	60 d	Upper leaves	Complete nutrients Minus P	Rovira and Brasil Sob (1976)
	0.22 0.10	G-SC	60 d	Lower leaves	Complete nutrients Minus P	
	0.34 0.11	G-SC	6 mth	All leaves	Complete nutrients Minus P	Gopikumar and Aravindakshan (1986)
	0.92	Field	Mature	Leaves	Healthy tree	Subbaiah <i>et al.</i> (1986)
	0.02–0.21	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)
	0.110–0.135	Field	Mature	Leaves	Preliminary ‘critical range’	Richards (1992, 1993a)
	0.14	Field	Mature	Leaves	‘Critical concentration’	Kumar and Sreedharan (1987)
K (%)	2.70 0.99	G-SC	60 d	Upper leaves	Complete nutrients Minus K	Rovira and Brasil Sob (1976)
	2.28 0.35	G-SC	60 d	Lower leaves	Complete nutrients Minus K	
	3.17 1.06	G-SC	6 mth	All leaves	Complete nutrients Minus K	Gopikumar and Aravindakshan (1986)
	0.30 0.19	Field	Mature	Leaves	Healthy tree K deficiency symptoms	Zech (1984)
	0.09–1.69	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)
	0.72–1.10	Field	Mature	Leaves	Preliminary ‘critical range’	Richards (1992, 1993a)
Ca (%)	0.57 0.08	G-SC	60 d	Upper leaves	Complete nutrients Minus Ca	Rovira and Brasil Sob (1976)
	0.94 0.24	G-SC	60 d	Lower leaves	Complete nutrients Minus Ca	
	2.42 0.74	G-SC	6 mth	All leaves	Complete nutrients Minus Ca	Gopikumar and Aravindakshan (1986)
	0.09–0.28	Field	Mature	Leaves	Healthy trees in Zambia,	Menon and Sulladmath

					Brazil, Kenya and Madagascar	(1981); Latis and Chibiliti (1998)
--	--	--	--	--	---------------------------------	---------------------------------------

¹How established codes: G-SC = Glasshouse sand culture; Field = field grown tree

Table 6. Concentrations of Mg, S, Fe and Mn associated with a given nutritional status in the cashew tree.

Nutrient	Concentration range	How established ¹	Tree age	Index tissue	Comments	Reference
Mg (%)	0.49 0.11	G-SC	60 d	Upper leaves	Complete nutrients Minus Mg	Rovira and Brasil Sob (1976)
	0.46 0.10	G-SC	60 d	Lower leaves	Complete nutrients Minus Mg	
	1.61 0.28	G-SC	6 mth	All leaves	Complete nutrients Minus Mg	Gopikumar and Aravindakshan (1986)
	0.07–0.34	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)
S (%)	0.061 0.017	G-SC	60 d	Upper leaves	Complete nutrients Minus S	Rovira and Brasil Sob (1976)
	0.061 0.026	G-SC	60 d	Lower leaves	Complete nutrients Minus S	
	0.23 0.03	G-SC	6 mth	All leaves	Complete nutrients Minus S	Gopikumar and Aravindakshan (1986)
	0.15–0.18	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)
Fe (mg kg ⁻¹)	181.6 61.4	G-SC	6 mth	All leaves	Complete nutrients Minus Fe	Gopikumar and Aravindakshan (1986)
	132	Field	Mature	Leaves	Healthy tree	Subbaiah <i>et al.</i> (1986)
	45–87	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)
	66	Field	Mature	Leaves	Fe deficiency; Zambia	Latis and Chibiliti (1998)
Mn (mg kg ⁻¹)	83.2 24.4	G-SC	6 mth	All leaves	Complete nutrients Minus Mn	Gopikumar and Aravindakshan (1986)
	150	Field	Mature	Leaves	Healthy tree	Subbaiah <i>et al.</i> (1986)
	73–174	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)

¹How established codes: G-SC = Glasshouse sand culture; Field = field grown tree

Table 7. Concentrations of Zn, Cu, Mo and B associated with a given nutritional status in the cashew tree.

Nutrient	Concentration range	How established ¹	Tree age	Index tissue	Comments	Reference
Zn (mg kg ⁻¹)	65.6 20.0	G-SC	6 mth	All leaves	Complete nutrients Minus Zn	Gopikumar and Aravindakshan (1986)
	14–19 8.0	Field	Mature	Leaves	Healthy tree Zn deficiency symptoms	Zech (1984)
	19.4	Field	Mature	Leaves	Healthy tree	Subbaiah <i>et al.</i> (1986)
	8.7–25.0	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)
	4.83	Field	Mature	Leaves	Zn deficiency; Zambia	Latis and Chibiliti (1998)
Mo (mg kg ⁻¹)	0.32 0.14 0.10	Field	Mature	Leaves	Green leaves; healthy Green leaves; sick tree Mottled leaves; sick tree	Subbaiah <i>et al.</i> (1986)
	5.2	Field	Mature	Leaves	Healthy tree	Subbaiah <i>et al.</i> (1986)
	5.7–16.0	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)
B (mg kg ⁻¹)	9–52	Field	Mature	Leaves	Healthy trees in Zambia, Brazil, Kenya and Madagascar	Menon and Sulladmath (1981); Latis and Chibiliti (1998)

¹How established codes: G-SC = Glasshouse sand culture; Field = field grown tree

Table 8. Proposed nutrient concentrations in fully matured leaves on an actively growing shoot during the non-flowering vegetative flush associated with deficient and adequate nutrition of cashew trees (Adapted from Robinson *et al.* 1997).

Nutrient	Deficient	Adequate
N (%)	<1.38	2.40–2.58
P (%)	<0.14	0.16–0.20
K (%)	<0.26	1.10–1.20
S (%)	<0.08	0.11–0.14
Ca (%)	<0.11	0.24–0.75
Mg (%)	<0.11	0.22–0.31
Cu (mg kg ⁻¹)	<7	>7
Zn (mg kg ⁻¹)	<12	>20
Mn (mg kg ⁻¹)	<26	91–204
Fe (mg kg ⁻¹)	<92	148–165
B (mg kg ⁻¹)	<39	56–67

Table 9. Preliminary ranges of nutrient concentrations in the soil associated with high and low yields in cashew trees at Wildman River, NT. (Adapted from Richards 1993a).

Nutrient	High yield range	Low yield range
Total N (%)	0.067–0.078	0.045–0.057
Nitrate N (mg kg ⁻¹)	92–159	113–159
Available P (mg kg ⁻¹)	65–73	6–8
Exchangeable K (cmol (+) kg ⁻¹)	0.05–0.41	0.06–0.30
Exchangeable Ca (cmol (+) kg ⁻¹)	1.72–2.0	1.33–1.47
Exchangeable Mg (cmol (+) kg ⁻¹)	0.25–0.39	0.41–0.42
pH	5.5–5.6	5.6–5.9

Tree phenology, and growth of the canopy and roots

Tree phenology

An understanding of the phenology of a plant is basic to determining the appropriate times of many management operations, including propagation, irrigation, fertiliser application, and plant protection programs. In its native habitat, the tree undergoes a period of rapid vegetative growth, followed by a short 'rest', then a long period of pre-floral vegetative flushes, followed by flowering and fruit development and maturation. The major period of vegetative growth coincides with the period of greatest rainfall, and the flowering and fruiting phases coincide with the dry season (Ohler 1979; Lima 1988b).

In cultivation, the number of vegetative flushes and the length of flowering and fruiting phases depend on local temperatures and rainfall patterns, as well as on irrigation and fertiliser management strategies. In Australia at Kununurra, cashew trees growing on clay and pruned trees growing on sand had two post-harvest vegetative flushes, one from August to October which coincided with the end of the fruiting phase, and another during January-February (McFadden and Toohill 1992). Unpruned trees growing on sand had only one post-harvest vegetative flush during January-February. All trees developed pre-floral and floral vegetative flushes followed by flower panicles, then fruit set and fruit maturation over the period July to October.

At Katherine, Foord *et al.* (1997) reported that the post-harvest vegetative flushes were produced during November-December, while the pre-floral and floral vegetative flushes took place during April-July with fruit development and nut drop occurring from June to September.

Richards (1993c) described a phenology model having two post-harvest vegetative flushes, one in November-December, and a second in February-April, followed by pre-floral flushes in May for cashews growing at CPRS, near Darwin, NT. Peak flowering occurred in July, with peak nut set in September.

At Dimbulah, O'Farrell (1992, 1993) and O'Farrell *et al.* (1996) observed two major vegetative flushes, one during September-October at the end of fruiting, and another in February-April during the main vegetative growth phase. Flower panicles emerged from April onwards, with peaks in early May and again after winter in August-October. Time of application of N fertiliser did not affect the number of vegetative shoots produced, but when N was applied only during the vegetative growth phase, more flower panicles were produced in June at the beginning of the flowering phase, and about 91% of the NIS yield was recorded by the end of November. When 50% of the N was applied during the vegetative phase (February to May) and the remaining 50% was applied during the reproductive phase (ie July to December), about 87% of the nuts had been harvest by the end of November. However, if all the N was applied only during the reproductive phase from June to December, only about 53% of the NIS yield had been recorded by the end of November, there being a significant proportion of nut drop taking place during December and January.

Canopy growth

The rate of growth of the tree after out-planting, especially the rate of growth of the canopy, will determine how rapidly the young tree comes into economic production. However, only limited studies have been completed on the rate of growth of the cashew tree or the fruit-bearing canopy. Only Richards (1993c) appears to have attempted to quantify the dry matter production of the whole tree and its components over an extended period of time (between 6 months and 70 months). His data, developed from trees grown at CPRS, NT, demonstrate that at all ages covered in the study, the tops accounted for >75% of the dry matter, with roots <20%. When present, cashew apples and NIS accounted for <10% of the total top dry matter. As would be expected, the leaves contributed most of the tops dry matter at 6 months of age, but at 70 months, stems and branches were the dominant fraction, being about 69% of the tops dry matter while the leaves made up about 19%. Reddy and Reddy (1987) reported a similar distribution pattern of whole tree dry matter in 8-year-old cashew trees

in India: eg roots, 23%; whole tops, 77% (leaves, 16%; stems, 16%; wood, 34%; bark, 11%).

Richards (1993c) applied multiple stepwise regression to his data to develop a model for tops dry matter production (Y; in kg) based on measurements of the canopy silhouette area (A; measured as the area of a silhouette of the canopy taken by photographing the canopy from two directions, and scaling up to actual size), stem circumference (C; in cm), and canopy height (H; in m):

$$Y = 44.9 + 18.9A + 2.107C - 88.5H \quad \dots\dots\dots (1)$$

$$R^2 = 89\%.$$

Researchers in South Africa (IDC 1995) attempted to model increase in canopy size using data from trees of different ages (1–16 years), different selections, and different countries (South Africa and Brazil). Their models are listed below:

$$\text{Maximum canopy diameter} = 166.61X - 11.93X^2 + 0.29X^3 - 44.45 \quad \dots\dots\dots (2)$$

$$R^2 = 98\%; \text{ Standard error of 'Y' estimate} = 34.6 \text{ cm.}$$

$$\text{Average canopy diameter} = 37.89 + 170.13X - 14.34X^2 + 0.39X^3 \quad \dots\dots\dots (3)$$

$$R^2 = 98\%; \text{ Standard error of 'Y' estimate} = 37.8 \text{ cm.}$$

$$\text{Minimum canopy diameter} = 143.15X - 13.96X^2 + 0.43X^3 - 74.03 \quad \dots\dots\dots (4)$$

$$R^2 = 97\%; \text{ Standard error of 'Y' estimate} = 28.0 \text{ cm.}$$

In all models; the value 'X' is time in years.

These models predict that growth trends are very rapid over the first 6 years, then slow markedly over the next 4 years so that canopy surface area reaches a plateau after about 10 years.

Because cashew bears its flowers on the terminals of new growths, it is believed that the yield potential of an individual tree is determined in the first instance by the surface area of the canopy (Parameswaran *et al.* 1984a). Toohill (1991) reported that, on the basis of unit canopy surface area, there appeared to be substantial differences between cultivars in the total number of shoots, and number of floral shoots, as well as differences in number of fruit set per panicle, and mature nuts harvested per panicle.

At Kununurra, McFadden and Toohill (1992) reported that trees growing on clay soil had a higher density of vegetative (69 m^{-2}) and floral terminals (27 m^{-2}) than pruned (vegetative, 50 m^{-2} ; floral, 18 m^{-2}) or unpruned (vegetative, 33 m^{-2} ; floral 9 m^{-2}) trees growing on sand. They attributed the stimulated vegetative growth to an effect of manual pruning or dwarfing from growing on a less suitable soil (clay), and suggested that such effects might increase the potential productivity of the trees.

O'Farrell *et al.* (1996) found that rate and time of application of N fertiliser had little effect on the number of shoots produced, or the length of shoots in both June (mid-panicle development stage) and December (after fruiting had finished). However, time of N application affected the rate of panicle development – in June the mean number of panicles per branch was about 0.6 when N was applied prior to June, compared with 0.3 when the N applications were delayed until after June. By contrast, in December at the end of nut harvest, time of N application had no effect on number of panicles produced, all treatments producing about 1.3 panicles branch⁻¹.

Root growth

While a number of techniques have been developed to estimate the extent of the root systems of trees and other plants *in situ*, including root excavation (Atkinson 1983; Milchunas *et al.* 1992), electrical capacitance methods (Chloupek 1977; Dalton 1995), models of root growth using proximal root diameter (van Noordwijk *et al.* 1994; Spek and van Noordwijk 1994), and injection of radioisotopes followed by soil coring to recover roots and measure levels of radioactivity (Milchunas *et al.* 1992), only root excavation appears to have been used on cashew trees.

Ohler (1979) stated that the cashew tree has an extensive lateral root system and a tap-root that

penetrates deeply into the soil profile. However, Nable *et al.* (1996) demonstrated that compacted soil layers, hardpans, and similar obstructions within the soil profile can restrict root penetration and cause the tree to develop a shallow root system under Australian conditions. Nevertheless, at both Darwin, NT, and Dimbulah, North Queensland, when a hard layer occurred within 1 m of the surface and penetration by large roots was restricted, some smaller roots penetrated through or into the lateritic or decomposing granitic barriers. They concluded that, although the root architecture of cashew is highly variable, the roots have the capacity to explore the entire soil profile, but the majority of the roots occur in the top 100 cm of the soil profile. In India, Salam *et al.* (1995) reported that about 89% of the roots were within 3 m of the trunk laterally and within the top 100 cm of soil profile.

Of equal importance to the architecture and distribution of the roots is knowledge of which roots are active during each phenological stage of the trees growth. A number of techniques have been developed for measuring the extent of the active root system of trees *in situ*, including measurements of natural-abundance levels of deuterium (Thorburn and Ehleringer 1995), soil injection of radioisotopes followed by sampling of tree parts and measuring radioactivity levels (Ellis and Barnes 1973; Bojappa and Singh 1974; Purohit and Mukherjee 1974; Wahid *et al.* 1989), and extraction of soil water as measured by neutron moisture probe (Sherrard *et al.* 1992; O'Farrell 1994). Of these, only the latter two have been employed to estimate the extent of the active roots of cashew trees.

Sherrard *et al.* (1992) found that cashews growing on heavy clay soils under flood irrigation at Kununurra extracted water to a depth of 80 cm both within the tree row to distances of 1 m and 2 m from the tree, and to a distance of 2.7 m between rows. This water extraction pattern was taken as evidence of root activity at these distances from the trunk. On a coarse sandy loam at Dimbulah, North Queensland, O'Farrell (1994) using 4-year-old cashew trees demonstrated that roots extracted water to a depth of at least 1.2 m at points 1 m, 1.5 m, 2 m, and 3 m from the trunk of the trees, suggesting a well distributed and active root system.

Using a ^{32}P soil injection technique, Wahid *et al.* (1989) and Beena Bhaskar *et al.* (1995a) examined the uptake of nutrient elements to assess root activity. Wahid *et al.* found that 50% of the root activity of 20-year-old trees was confined to the top 15 cm of the soil profile, and about 72% of the root activity occurred within a 200-cm radius of the trunk. Beena Bhaskar *et al.* (1995a) demonstrated that the highest root activity and peak absorption of N, P and K occurred during the 'flushing and early flowering' phase of development, whilst root activity appeared to be lowest during nut 'maturity and harvesting' phase. However, irrigation during this latter period greatly enhanced uptake of ^{32}P by roots.

Floral biology

Flower and panicle development

The cashew is an andromonoecious plant with male (staminate) and hermaphrodite flowers on the same terminal inflorescence. Pavithran *et al.* (1985) and Moncur and Wait (1986) describe the ontogeny of flower bud and panicle development, whilst Ohler (1979) provides a comprehensive coverage of the morphology of flower and panicle development.

Although cashew trees can continue to flower throughout the year if sufficient water and fertilisers are available, flowering normally occurs over about 4 months as reported under Australian conditions by Foltan and Ludders (1994) and O'Farrell (1992, 1993) and O'Farrell *et al.* (1996). However, there are large differences amongst cultivars for duration of the peak flowering period, ranging from about 84 days to about 130 days (Parameswaran *et al.* 1984b; Hallard and Sulikeri 1992; Sapkal *et al.* 1994). In studies of 4 cultivars at Darwin, NT, Foltan and Ludders (1994) found that one variety, Ullal-1, had a short and early period of hermaphrodite flower development, a characteristic that would be advantageous for synchronisation of nut fall and ease of mechanical harvesting of the nuts.

The number of flowers per panicle vary greatly, both between panicles on an individual tree and between cultivars – number of flowers ranging from as low as 21 to as high as 1,600 have been reported (Thimmaraju *et al.* 1980; Barros 1988c; Heard *et al.* 1990; Sapkal *et al.* 1994).

There is considerable variation amongst cultivars in the proportion of hermaphrodite flowers in the panicle, reported values ranging from as low as 3% to as high as 69% (Reddy *et al.* 1989; Heard *et al.* 1990; Sapkal *et al.* 1994). Foltan and Ludders (1994) reported that, at Darwin, NT, shading led to enhanced formation of hermaphrodite flowers, while exposure to sunlight resulted in a shift towards differentiation of male flowers, indicating temperature effects on sex ratio.

Anthesis

On an individual panicle, there are normally three phases of flower opening: the first being dominated by staminate flowers; the second being a mixed phase of both staminate and hermaphrodite flowers; and the final phase being again dominated by staminate flowers (Ohler 1979; Barros 1988c; Sapkal *et al.* 1994). High NIS yields are associated with a high proportion of the total duration of flowering being contributed by the second phase (Parameswaran *et al.* 1984b).

At Darwin, NT, Wunnachit and Sedgley (1992a) found that the majority of hermaphrodite flowers were produced during the first 3 weeks of the flowering period, 2 weeks before the peak opening period of the male flowers, and that there were 2 peaks of opening per day for both types of flower, one in the early morning and one around midday. However, Thimmaraju *et al.* (1980) reported that in India anthesis commenced early in the morning (at 06.00 h), with sporadic anthesis after mid-morning (10.00 h), whilst Barros (1988c) reported that in Brazil male flowers begin to open from about 06.00 h and continue opening until approximately 16.00 h, with opening of hermaphrodite flowers being concentrated between 10.00 h and 12.00 h.

Pollination

Claims that defective or under-pollination affects NIS yields (Reddi 1987) lead to studies to determine if cashew is wind or insect pollinated, and to examine the type and fertility of pollen, the period of stigma receptivity, timing of pollen tube growth, and relative self- and cross-fertility amongst selected cashew cultivars.

The sticky nature of cashew pollen and its failure to be released with force from the anthers suggested to Reddi (1991) that cashew was not wind pollinated. In a series of studies on floral and extra-floral nectaries at Kununurra, WA, Wunnachit *et al.* (1992a) suggested that the primary function of the floral and panicle nectaries is to attract foraging insects for pollination, and that a secondary function of the floral and panicle nectaries and the primary function of the leaf and fruit nectaries may be the attraction

of protective ants.

By using various exclusion devices, flying insects, including the European honey bee (*Apis mellifera* L.), ants (*Camponotus* spp.), wasps, flies, moths and butterflies have been shown to be the main pollinators of cashew flowers in India, Brazil and Australia (Heard *et al.* 1990; Reddi 1991; Maelzer and Goodhand 1991; Maelzer *et al.* 1992; Freitas and Paxton 1996, 1998). In Australia, Heard *et al.* (1990) concluded that night flying insects played no role in pollination, while Maelzer and Goodhand (1991) at Kununurra, WA, concluded that ants played only a small role in pollination. Freitas and Paxton (1998) found that some bee species were more efficient pollinators than others. Thus, in the native habitat of cashew, NE Brazil, a native bee, *Centris tarsata*, collected pollen from the staminate flower only, and was more efficient at depositing pollen on stigmas than the introduced honey bee, *Apis mellifera*. However, they concluded that both bee species may be suitable for the pollination of commercially grown cashew, and recommended that additional bee hives could be provided in commercial orchards to obtain good nut yields.

With respect to bee pollination, Jackson and Millington (1992) used isozymes to record gene movements to examine bee behaviour in cashew plantations at Kununurra, WA. They found inconclusive results – in one trial, there was considerable transfer of pollen across rows, whereas in a second trial, there was an absence of lateral movement of pollen.

Wunnachit and Sedgley (1992b) and Wunnachit *et al.* (1992b) found that cashew trees at Kununurra, WA, produced four types of pollen from the large and small stamens of the hermaphrodite and male flowers. Anther and pollen grain numbers and dimensions of the four pollen types were similar, and viability of all pollen types had declined by 48 h after anthesis. Pollen from the large anther of the male flower had the highest capacity to germinate on the stigma and penetrate the ovule, followed by the pollen from the small anther of the male flower, then the pollen of the large anther of the hermaphrodite flower and the pollen from the small anther of the hermaphrodite flower. They concluded that the pollen of the male flower is specialised for pollination and fruit set, whereas that of the hermaphrodite flower may be specialised for insect attraction.

The stigma of the hermaphrodite flower has been found to be receptive one day before the flower opens and remained receptive for two days after opening (Thimmaraju *et al.* 1980). Based on hand pollination experiments conducted in Australia, Wunnachit *et al.* (1992c) and Leonardi *et al.* (1993) concluded that for optimum pollen tube growth and fruit set in cashew, pollination should occur within 3 h to 6 h of the hermaphrodite flower opening. Upon successful transfer of pollen to the receptive stigma, germination and pollen tube growth in the style was rapid, with pollen tubes reaching the base of the style by 3 h after pollination. However, penetration of the ovules was delayed until between 6 and 24 h after pollination.

Although Wunnachit *et al.* (1992c) and Wunnachit and Sedgley (1992c) found that there were no differences in pollen germination and tube growth between self- and cross-pollinated fruit at Kununurra, there was generally reduced nut yield following self-pollination. They concluded that cashew was partially self-incompatible and therefore recommended that a mix of genotypes should be planted in the orchard for optimum yields, and that active insect pollinators should be provided to transfer pollen as soon as possible after anthesis of the hermaphrodite flowers. As a result of this recommendation, trees of the same variety were not planted adjacent to each other at Kununurra to overcome any problems associated with self-incompatibility of pollen (Millington 1992). On the other hand, Leonardi *et al.* (1994a) and Foltan and Ludders (1995) found no indications of incompatibility amongst cultivars at Darwin and Wildman River, NT.

Fruit set and pre-mature nut drop

Poor fruit set and a high rate of premature fruit abscission have been identified as major restrictions to nut yield in Australian cashew plantations (Chacko 1990, 1991, 1992, undated; Leonardi *et al.* 1994a, 1994b; Foltan and Ludders 1995). For example, at Darwin, NT, Chacko (1990) found that only 25% of the successfully pollinated flowers produced mature nuts. Foltan and Ludders (1995) reported that less than 41% of the hermaphrodite flowers showed initial fruit set, and only 1–18% developed mature

nuts. Retention rates of 5% to 18% have been reported from India (Sapkal *et al.* 1994; Narayan and Ghosh 1996). By contrast, Thimmaraju *et al.* (1980) reported fruit set of 80% from hand pollination, 48% from open pollination, and 40% from natural selfing in 20-year-old trees in Bangalore, India.

In studies undertaken at Darwin and Wildman River, NT, Leonardi *et al.* (1994a) found that the maximum abscission of flowers and young nuts occurred when nuts were less than 10 mm in length. Nuts of this size had embryos that were undergoing the first stage of zygote formation, usually 10–12 days after pollination. Because previous self- and cross-pollination experiments indicated no self- and cross-incompatibility problems associated with pollen germination on the stigma or pollen tube entry into the ovule, they suggested that the high rate of abscission coinciding with the first stage of zygote formation indicated there may be a post-fertilisation incompatibility in cashew. They suggested also that incompatibility should not be considered the only reason for high rates of abscission because resource allocation might also play a vital part in nut drop.

In subsequent studies, Leonardi *et al.* (1994b), showed that the distribution of carbon assimilates was mainly towards the roots and lower stem in non-cinctured vegetative plants, whereas in non-cinctured fruiting plants and cinctured reproductive shoots on mature trees, assimilates were directed towards the panicle and developing nuts rather than to vegetative organs. The distribution of assimilates to developing nuts followed the pattern of dry matter accumulation. During nut enlargement, assimilates accumulated mainly in the shell, and when the shell has reached maximum size, the assimilates were directed to the kernel. Discrimination between developing nuts within a panicle for assimilates was observed. At early stages of nut development, unopened flowers incorporated more assimilates than pollinated flowers. Based on these results, they concluded that competition for current assimilate may contribute to the high levels of abscission recorded in flowers and young nuts.

Mechanisation

General farm operations

Millington (1992), Heading (1992), Duncan (1994) and Shearer (P. Shearer, personal communication) state that successful mechanised methods have been developed for undertaking a number of farm management tasks within Australian plantations, including planting of nursery-raised seedlings or grafted trees, pruning of trees using a rotary pruning machine, air blast sprayers for application of insecticides, and mechanical de-applers for separating the nut from the dried apple. However, no details of the machinery are given.

Because of the high cost of labour in Australia, mechanical harvesters have been developed from the sweepers and Florey harvesters that were designed originally for harvesting pecans and macadamias (Duncan 1992a,1994; Duncan *et al.* 1991; Heading 1992; P. Shearer, personal communication).

Processing

Processing of the nut, which includes decortication or removal of the shell and then the testa, can be done by mechanical shellers or by manual labour (Ohler 1979; Duncan 1992b, 1994). Ohler (1979), Kuppelwieser (1989a) and Raikar and Murthy (1991) describe the manual shelling process in detail, while Ohler (1979) provides detailed descriptions of the different techniques used by the various mechanical shellers based the Oltremare system, the Peabody-Sturtevant system, the Cashco system, and the Widmer & Ernst system.

To date, the Australian cashew crop has been sent to processors in southern China for manual shelling, before the kernels are reimported for sale in local market outlets (Peter Shearer, personal communication). However, Wait and Jamieson (1987), Millington (1990, 1991a, 1992), Duncan (1992b), and Shearer (Peter Shearer, personal communication) identified the need for a local mechanical shelling capability to ensure that the Australian cashew industry could maximise its returns by retaining ownership of the kernel and value-adding to the product before point-of-sale in Australia. High capacity mechanical shellers are well suited to large processing plants, and, according to Wait and Jamieson (1987), would require a producing area of 3,000 to 4,000 ha to maximise their economic viability under Australian conditions. To handle smaller amounts of nuts, small mechanical shellers have been developed in overseas countries that can be used by individual smallholders or by small plantations (Thivavarnvongs 1989; Thivavarnvongs *et al.* 1995a, 1995b; Ajav 1996). Millington (1992) describes a small mechanical sheller based on the Peabody-Sturtevant system that can fit into a shipping container and has a capacity to process 500 kg NIS day⁻¹ and yielded 78% whole kernels. Such small mechanical shellers might be attractive to Australian producers whose production of nuts would be too small to interest overseas processors (ie < about 100 t NIS) and who have a ready local market for their kernel.

Labour input in removal of the testa after decortication was identified as a major constraint to establishing a processing facility in Australia. To overcome this constraint, Baker (1989, 1990, 1991) and Baker and Kuppelwieser (1989) assessed various mechanical methods of removing the testa, including abrasive blasting using salt or sugar as the abrasive, and soaking and brushing to remove the testa. Air pressure and agitation had little impact on ease of removal of the testa, and the 'best' treatment produced over 60% completely peeled whole kernels, 20% completely peeled broken, and 5% kernels not peeled (Unfortunately, the parameters of the 'best' treatment were not described in the paper.). Although soaking was effective in loosening the testa, no system was found that could effectively remove the loosened testa without causing an unacceptable level of broken kernel. Overall, air-blasting of dry kernels gave a higher return of kernels with testa completely removed than soaking and brushing. However, Baker (1991) concluded that "to remove all testa from all kernels and maintain breakages below 40% is difficult and further work will be required to achieve this target." Unfortunately, there are no reports of any further work on testa removal.

References

- Adeyemi, A. A. (1989). Cultural weed control in cashew plantations: Use of intercrops to reduce weed incidence in cashew plots. Proceedings: Integrated Pest Management in Tropical and Subtropical Cropping Systems '89, Volume 3. Bad Durkheim, Germany, February 8-15 1989. 827-42. (DLG Verlag GmbH: Frankfurt am Main; Germany.)
- AGTRANS RESEARCH (1996). The Cashew Research and Development Program: Performance and Future Prospects for Industry Development - Background Report, Chapters 1-4. 26p. Report to RIRDC.
- Ajay, E. A. (1996). The design and testing of a low-cost cashew-nut cracker for peasant farmers. *Tropical Agriculture* **73**, 180-6.
- Alexander, M. and Possingham, J. V. (1974). The potential for horticulture in tropical Australia. *Journal of the Australian Institute of Agricultural Science* **40**, 36-42.
- Almeida, J. I. L. de (1988). Propagation methods. In: Cashew Tree Culture in Northeast of Brazil (ed. V. de P. M. S. Lima). pp. 83-104. (Foraleza: Brazil).
- Anonymous (1989). *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory*. (not paginated).
- Anonymous (1990). *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. 43p.
- Anonymous (1991). *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated).
- Anonymous (1992). *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 138p.
- Anonymous (1993). *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated).
- Anonymous (1994). *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. 92p.
- Anonymous (1996). *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kuranda, North Queensland*. 83p.
- Antarkar, M. A., Joshi, G. D. and Prabhu Desai, V. G. (1991). Influence of different storage conditions on PLW and chemical composition of cashew apple. *The Cashew* **5**, 10-4.
- Akaranta, O., Donbebe, W. and Odozi, T. O. (1996). Plywood adhesives based on red-onion-skin extract modified with cashew nut-shell liquid. *Bioresource Technology* **56**, 279-80.
- Atkinson, D. (1983). The growth, activity and distribution of the fruit tree root system. *Plant and Soil* **71**, 23-35.
- Azizah, C., Yaacob, O., Kamal, A. J. M. and Paramanathan, S. (1983). Distribution of VA mycorrhizal spores in sandy beach soils under cashew. *Pertanika* **6**, 15-20.
- Baker, I. and Kuppelwieser, W. (1989). Cashew research activities. Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory. (not paginated).
- Barros, L. de M. (1988a). Technical aspects of planting and cashew orchard management. In: Cashew Tree Culture in Northeast of Brazil (ed. V. de P. M. S. Lima). pp. 106-29. (Foraleza: Brazil).
- Barros, L. de M. (1988b). Mineral nutrition and fertilizers. In: Cashew Tree Culture in Northeast of Brazil (ed. V. de P. M. S. Lima). pp. 131-55. (Foraleza: Brazil).
- Barros, L. de M. (1988c). Floral biology, harvest and yield. In: Cashew Tree Culture in Northeast of Brazil (ed. V. de P. M. S. Lima). pp. 200-11. (Foraleza: Brazil).
- Barros, L. de M. (1988d). Improvement. In: Cashew Tree Culture in Northeast of Brazil (ed. V. de P. M. S. Lima). pp. 213-34. (Foraleza: Brazil).
- Beena Bhaskar (1992). Uptake Pattern of Major and Minor Nutrients in Selected Cashew Types. MScAgr Thesis. 142p. (Kerala Agricultural University: Vellanikkara, Thrissur, Kerala, India.)
- Beena Bhaskar, Salam, M. A. and Wahid, P. A. (1995a). Root activity of cashew (*Anacardium occidentale* L.) varieties in relation to phenological phases. *Journal of Plantation Crops* **23**, 35-9.
- Beena Bhaskar, Salam, M. A. and Wahid, P. A. (1995b). Nutrient offtake in cashew. *The Cashew* **9**, 9-

- Behrens, R. (1996). Cashew As an Agroforestry Crop. Prospects and Potentials. 83p. (Margraf Verlag: Weikersheim, Germany.)
- Bhattacharyya, A. K., Bera, P. K., Roy, G. C. and Mazumdar, B. C. (1989). Studies on nut-cracking problem of cashewnut (*Anacardium occidentale* L.) in the southern part of West Bengal. *Cashew Bulletin* **26**, 1-5.
- Black, C. A. (1993). Soil Fertility Evaluation and Control. 746p. (Lewis Publishers: Boca Raton, USA.)
- Blaikie, S. J. and Chacko, E. K. (1996). A preliminary study of the effect of irrigation method on leaf water relations, gas exchange and yield of cashew in northern Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. 43-51.
- Blaikie, S. J. and Chacko, E. K. (1998). Sap flow, leaf gas exchange and chlorophyll fluorescence of container-grown cashew (*Anacardium occidentale* L.) trees subjected to repeated cycles of soil drying. *Australian Journal of Experimental Agriculture* **38**, 305-11.
- Bleeker, P. and Laut, P. (1987). A soil survey and land evaluation for oil palm and cashew nut of the Lockhart River Valley, Cape York, Queensland. CSIRO Division of Water and Land Resources, Divisional Report No. 87/1. 67p.
- Bojappa, K. M. and Singh, R. N. (1974). Root activity of mango by radiotracer technique using ³²P. *Indian Journal of Agricultural Science* **44**, 175-80.
- Cann, B., Baker, I. and Kuppelwieser, W. (1987). An economic assessment of cashew production in the Northern Territory Top End. Department of Industries and Development, Australia, Technical Bulletin No. 110. 30p.
- Carrara, G., Munoz, G. C. and Damho, L. (1984). Larvicidal effect of cashew nut husk bagasse: its possible use in malariology in the antivector control programmes. *Revista Medica de Mocambique* **2**, 78-82.
- Casadei, E., Bruheim, S. and Latis, T. (1984). Active substances in cashew nut shell with molluscicidal activity: possible use in schistosomiasis control programmes. [Principios activos da casca de castanha de caju com accao moluscocida: possivel emprego no programa de luta contra a esquistossomose.]. *Revista Medica de Mocambique* **2**, 35-9.
- Chacko, E. K. (1990). Summary of research work by CSIRO. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. 14-8.
- Chacko, E. K. (1991). Summary of cashew research at the CSIRO Division of Horticulture, Darwin, NT. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated).
- Chacko, E. K. (1992). Cashew research at the CSIRO Division of Horticulture A status report (1992). *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 77-83, 94-102.
- Chacko, E. K. (1993). Cashew research at CSIRO Division of Horticulture. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated).
- Chacko, E. K. (1994). Cashew hybridisation during 1988 - 92 (CSH-36H) and evaluation of progenies planted at four test sites in Northern Australia. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. 1-10.
- Chacko, E. K. (1997). Evaluating cashew hybrids in Northern Australia. RIRDC Research Paper Series No 97/56. 43p. (RIRDC: Canberra, ACT.)
- Chacko, E. K. (undated). Improving productivity of cashews in Northern Australia. A Final Report Prepared by CSIRO Division of Horticulture for the Rural Industries Research and Development Corporation. 108p. (CSIRO Division of Horticulture: Adelaide)
- Chacko, E., Baker, I. and Downton, J. (1990). Towards a sustainable cashew industry for Australia. *Agricultural Science* **3**, 39-43.
- Chacko, E., O'Farrell, P, and Blaikie, S (1998). Cashews. *In: The New Rural Industries. A Handbook*

- for Farmers and Investors. (Ed. K W Hyde). pp. 415-21. (RIRDC: Canberra.)
- Chakraborty, N. (1986). Assessment of feeding value of cashew (*Anacardium occidentale*) skin powder on starting chicks. *Indian Journal of Animal Health* **25**, 133-6.
- Chapman, A. L. and Millington, A. J. (1992). Evidence of micronutrient deficiencies in cashew on clay soils of the Ord River Irrigation Area (ORIA). *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 49-56.
- Chloupek, O. (1977). Evaluation of the size of a plants root system using its electrical capacitance. *Plant and Soil* **48**, 525-32.
- Coester, W. A. and Ohler, J. G. (1976). Cashew propagation by cuttings. *Tropical Agriculture* **53**, 353-8.
- Cohn, E. and Duncan, L. W. (1990). Nematode parasites of subtropical and tropical fruit trees. *Plant Parasitic Nematodes in Subtropical and Tropical Agriculture*. pp. 347-362. (CAB International: Wallingford, UK.)
- Colwell, J. D. (1963). The estimate of phosphorus fertilizer requirements of wheat in southern New South Wales by soil analysis. *Australian Journal of Experimental Agriculture and Animal Husbandry* **3**, 190-97.
- Correa, L. d. S., Nascimento, V. M. d. and Neves, L. H. (1991). Variations in leaf N, P, K, Ca and Mg contents in three types of cashew (*Anacardium occidentale* L.) during one year. [Variacoes dos teores foliares de N, P, K, Ca e Mg em tres tipos de cajueiro (*Anacardium occidentale* L.) durante um ano.]. *Cientifica Jaboticabal* **19**, 19-29.
- D'Silva, I. and D'Souza, L. (1992a). *In vitro* bud proliferation of *Anacardium occidentale* L. *Beitrag Zur Biologie Der Pflanzen* **67**, 273-9.
- D'Silva, I. and D'Souza, L. (1992b). *In vitro* propagation of *Anacardium occidentale* L. *Plant Cell Tissue and Organ Culture* **29**, 1-6.
- Dalton, F. N. (1995). In-situ root extent measurements by electrical capacitance methods. *Plant and Soil* **173**, 157-65.
- Das, S., Jha, T. B. and Jha, S. (1996). *In vitro* propagation of cashewnut. *Plant Cell Reports* **15**, 615-9.
- Diogenes, M. J. N., Demorais, S. M. and Carvalho, F. F. (1996). Contact dermatitis among cashew nut workers. *Contact Dermatitis* **35**, 114-5.
- Divakaran, P. M. and Haveri, R. R. (1979). Bibliography on Cashew (*Anacardium occidentale* L.). 92p. (Central Plantation Crops Research Institute: Kasaragod, Kerala, India.)
- Duncan, I. (1992a). Brief summary of Wildman River Project. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 116-20.
- Duncan, I. (1992b). World Cashew Market: 1992. 100p. (RIRDC: Canberra, ACT.)
- Duncan, I. (1993). World cashew market. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated).
- Duncan, I. E. (1994). The Wildman River Cashew Project: An Introductory Profile. 14p. (Wildman River Plantations Pty Ltd:)
- Duncan, I., Fitzgerald, C. and Knight, P. (1991). An overview of Britannia operations at Wildman River. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated).
- Echendu, T. N. C. (1991). Ginger, cashew and neem as surface protectants of cowpeas against infestation and damage by *Callosobruchus maculatus*. *Tropical Science* **31**, 209-11.
- Ellis, F. B. and Barnes, B. T. (1973). Estimation of the distribution of living roots of plants under field conditions. *Plant and Soil* **39**, 81-91.
- Evans, D. A. and Raj, R. K. (1988). Extracts of Indian plants as mosquito larvicides. *Indian Journal of Medical Research* **88**, 38-41.
- Evans, F. J. and Schmidt, R. J. (1980). Plants and plant products that induce contact dermatitis. *Planta Medica* **38**, 289-316.
- Falade, J. A. (1981). Vitamin C and other chemical substances in cashew apple. *Journal of Horticultural Science* **56**, 177-9.
- Falade, J. A. (1984). Effect of lime on the efficiency of two nitrogen fertilizers applied to cashew in

- acid sandy soil. *Journal of Plantation Crops* **12**, 140-5.
- Faluyi, M. A. (1986). Investigations on seedling vigour in cashew (*Anacardium occidentale* L.). *Plant Breeding* **97**, 237-45.
- Faluyi, M. A. (1987). Genetic variability among nut yield traits and selection in cashew (*Anacardium occidentale* L.). *Plant Breeding Z Pflanzenzucht* **98**, 257-61.
- Ferrao, J. E. M. (1995). The Cashew (*Anacardium occidentale*). 298p. (Centro de Documentacao e Informacao, Instituto de Investigacao Cientifica Tropical: Lisbon, Portugal.)
- Foltan, H. and Ludders, P. (1994). Flowering and sex expression in cashew (*Anacardium occidentale* L.). *Symposium on Tropische Nutzpflanzen, Hamburg, Germany, 22-24 Sep. 1993*. 203-7.
- Foltan, H. and Ludders, P. (1995). Flowering, fruit set, and genotype compatibility in cashew. *Angewandte Botanik* **69**, 215-20.
- Foord, G. (1996). Developing cashew management systems for Katherine, NT. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. 60-2.
- Foord, G. S. and Smith, M. W. (1996). Amadro® for field control of mastotermes. *In: Horticulture Division Technical Annual Report 1994-1995*. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 242. pp. 62-3. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
- Foord, G., Smith, M., Hoult, M., McAlister, S., Bright, J. and Smith, S. (1997). Management techniques for cashew. *In: Horticulture Division Technical Annual Report 1995-1996*. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 257. pp. 59-60. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
- Freitas, B. M. and Paxton, R. J. (1996). The role of wind and insects in cashew (*Anacardium occidentale*) pollination in NE Brazil. *Journal of Agricultural Science* **126**, 319-26.
- Freitas, B. M. and Paxton, R. J. (1998). A comparison of two pollinators - the introduced honey bee *Apis mellifera* and an indigenous bee *Centris trarsata* on cashew *Anacardium occidentale* in its native range in NE Brazil. *Journal of Applied Biology* **35**, 109-21.
- Frota, P. C. E. (1988). Climate and phenology. *In: Cashew Tree Culture in Northeast of Brazil* (ed. V. de P. M. S. Lima). pp. 43-54. (Foraleza: Brazil).
- Ganesan, T. (1994). Antifungal properties of wild plants. *Advances in Plant Sciences* **7**, 185-7.
- Garg, S. C. and Kasera, H. L. (1984). Antibacterial activity of the essential oil of *Anacardium occidentale* Linn. *Indian Perfumer* **28**, 95-7.
- George, T. E., Veeraraghavan, P. G. and Rao, D. S. (1984). Studies on the leaf nutrient content of cashew (*Anacardium occidentale* L.) in relation to methods of fertilizer application. *Indian Cashew Journal* **16**, 11-3.
- Ghosh, S. N. (1989). Effect of nitrogen, phosphorus and potassium on flowering duration, yield and shelling percentage of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **19**, 19-23.
- Ghosh, S. N. (1990a). Studies on the NPK requirement of cashew in laterite tract of West Bengal. *The Cashew* **4**, 6-9.
- Ghosh, S. N. (1990b). Effect of different levels of nitrogen on growth and yield of cashew in old plantation. *The Cashew* **4**, 15-7.
- Ghosh, S. N. (1995). Studies on effect of watering during flowering and fruiting on yield of cashew. *The Cashew* **9**, 5-8.
- Ghosh, S. N. and Bose, T. K. (1986). Nutritional requirement of cashew (*Anacardium occidentale*L.) in laterite tract of West Bengal. *Indian Cashew Journal* **18**, 11-6.
- Gibbon, D. and Pain, A. (1985). Crops of the Drier Regions of the Tropics. 157p. (Longman: London, UK.)
- Giuliani, F. (1993). Cashew Cultivation. 263p. (Istituto Agronomico per l'Oltremare: Firenze, Italy.)
- Gopikumar, K. and Aravindakshan, M. (1986). Sand culture studies in cashew. *Indian Cashew Journal* **18**, 9-14.
- Grundon, N. J. (1987). Hungry Crops: a guide to nutrient deficiencies in field crops. Queensland Department of Primary Industries Information Series Q187002. 246p. (Department of Primary Industries: Brisbane, Australia.)

- Grundon, N. J. (1996). Fertiliser requirements of the cashew tree. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kuranda, North Queensland*. 30-7.
- Grundon, N. J. (1998). Fertilising Cashews: Validation of fertiliser strategies in North Queensland. RIRDC Publication No. 98/122. 42p. (Rural Industries Research and Development Corporation: Barton, Australia.)
- Grundon, N. J., Blaikie, S. J. and Chacko, E. K. (1996). The CSIRO cashew multi-divisional project. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kuranda, North Queensland*. 25-9.
- Grundon, N. J., Robson, A. D., Lambert, M. J. and Snowball, K. (1997). Nutrient deficiency and toxicity symptoms. In: *Plant Analysis: an Interpretation Manual*. (eds. D. J. Reuter and J. B. Robinson.) pp. 37-51. (CSIRO Publishing: Collingwood, Australia.)
- Grundon, N., O'Farrell, P., Hinton, A., Kulkarni, V., Leonardi, J., Blaikie, S., Richards, N., Armour, J., Shearer, P., Duncan, I. and Hood, S. (1998). Cashew Information Kit. Agrilink Series QAL9806. (Department of Primary Industries, Queensland: Brisbane.)
- Gunn, R. H. and Cocks, K. D. (1971). Potentialities for cashew in Northern Australia. *The Journal of the Australian Institute of Agricultural Science* **37**, 25-31.
- Haag, H. P., Sarruge, J. R., Oliveira, G. D. d. and Dechen, A. R. (1975a). Mineral nutrition of cashews (*Anacardium occidentale*). I. Macronutrient deficiency - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.). I. Deficiencia dos macronutrientes - nota previa.]. *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 185-90.
- Haag, H. P., Sarruge, J. R., Oliveira, G. D. d., Scoton, L. C. and Dechen, A. R. (1975b). Mineral nutrition of cashews (*Anacardium occidentale*) III. The uptake of nutrients - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.) III. Absorcao de nutrientes - nota previa.]. *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 197-204.
- Hallard, J. S. and Sulikeri, G. S. (1992). Studies on flowering behaviour in different cashew cultivars. *The Cashew* **6**, 8-9.
- Hanamashetti, S. I., Hegde, M., Hiremath, I. G. and Khan, M. M. (1985). Effect of different levels of fertilizers on yield of young cashew trees. *South Indian Horticulture* **33**, 190-2.
- Haugen, L. (1991). Mycorrhizas in Cashews. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated).
- Haugen, L. M. and Smith, S. E. (1992). The effect of high temperature and fallow period on infection of mungbean and cashew roots by the vesicular-arbuscular mycorrhizal fungus *Glomus intraradices*. *Plant and Soil* **145**, 71-80.
- Haugen, L. M. and Smith, S. E. (1993). The effect of inoculation of cashew with NutriLink on vesicular arbuscular mycorrhizal infection and plant growth. *Australian Journal of Agricultural Research* **44**, 1211-20.
- Heading, F. (1992). Cashew establishment and management techniques on Kununurra clay. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 25-7.
- Heard, T. A., Vithanage, V. and Chacko, E. K. (1990). Pollination biology of cashew in the Northern Territory of Australia. *Australian Journal of Agricultural Research* **41**, 1101-14.
- Hegde, M., Kulasekaran, M., Shanmughavelu, K. G. and Jayasankar, S. (1990). *In vitro* culture of cashew seedlings and multiple plantlets from mature cotyledons. *Indian Cashew Journal* **20**, 19-24.
- Hill, D. J., Hosking, C. S., Zhie, C. Y., Leung, R., Baratwidjaja, K., Iikura, Y., Iyngkaran, N., Gonzalezandaya, A., Wah, L. B. and Hsieh, K. H. (1997). The frequency of food allergy in Australia and Asia. *Environmental Toxicology and Pharmacology* **4**, 101-10.
- Hinton, A. (1998). Cashew Production in North Queensland: Estimating Profitability. 21p. (Department of Primary Industries, Queensland: Brisbane.)
- Hood, S. (1993). Biological control of two of the major pests of cashew: the mango tip borer and the cashew leafroller A PhD Project. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated).
- Hood, S. (1994). The mango tip borer a major pest of cashew. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. 69-74.

- Hood, S. (1997). Role of Parasites and Predators in Cashew Pest Control. Development of an IPM Program. PhD Thesis. (The University of Queensland: Brisbane, Queensland.)
- Hore, J. S. and Sen, S. K. (1992). Role of non - auxic compounds and IBA on ventitious root formation in air - layers of cashewnut. *The Cashew* **6**, 11-5.
- Hore, J. K. and Sen, S. K. (1993). Effect of non-auxinic compounds and NAA on adventitious root formation in layers of cashew. *Journal of Plantation Crops* **21**, 114-5.
- Houston, W. (1990). Biological and chemical control of the Giant Termite *Mastotermes darwinensis*. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. 19-21.
- Houston, W. (1991). Overview of cashew insect pests at Wildman River Plantations. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated).
- IDC. (1995). Factors Affecting Cashew Spacing: Local Observations and a Literature Review. 24p. (IDC: South Africa.)
- Inyang, U. E. and Abah, U. J. (1997). Chemical composition and organoleptic evaluation of juice from steamed cashew apple blended with orange juice. *Plant Foods for Human Consumption* **50**, 295-300.
- Jackson, J. F. and Millington, A. J. (1992). Cashew isozymes and bee pollination. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 103-6.
- Jennings, B. (1992). Time of outplanting of cashews. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 20-4(a).
- Jennings, B. (1993). Time of outplanting of cashews in Kununurra, WA. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated).
- Kesavan, V. (1996). NPK nutrition of cashew on Cununurra Clay at the Ord River Irrigation Area, Kununurra, Western Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. Supplement.
- Kirkpatrick, J. (1996). Cashews. A new industry full of promise. *Good Fruit and Vegetables* **7**, 11-4.
- Krishna, K. R., Balakrishna, A. N. and Bagyaraj, D. J. (1983). Mycorrhizal symbiosis in cashew. *Current Research, University of Agricultural Sciences, Bangalore* **12**, 17-8.
- Krishnaraj, P. U. and Gowda, T. K. S. (1990). Occurrence of phosphate-solubilizing bacteria in the endorhizosphere of crop plants. *Current Science* **59**, 933-4.
- Kubo, I., Komatsu, S. and Ochi, M. (1986). Molluscicides from the cashew *Anacardium occidentale* and their large-scale isolation. *Journal of Agricultural and Food Chemistry* **34**, 970-3.
- Kubo, I., Ochi, M., Vieira, P. C. and Komatsu, S. (1993). Antitumour agents from the cashew (*Anacardium occidentale*) apple juice. *Journal of Agricultural and Food Chemistry* **41**, 1012-5.
- Kubo, I., Schilcher, H., Phillipson, J. D. and Loew, D. (1993). Non-isoprenoid long chain phenols from the cashew *Anacardium occidentale* (Anacardiaceae) nut shell oil as potential antibacterial agents. *First World Congress on Medicinal and Aromatic Plants for Human Welfare (WOCMAP), Maastricht, Netherlands, 19-25 July 1992*. 199-205.
- Kulkarni, V. and Hamilton, D. (1994). Evaluation of Brazilian cashew seedlings at CPRS Darwin A preliminary report. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. 11-3.
- Kumar, D. P., Subbarayappa, A., Hiremath, I. G., Khan, M. M. and Sadashiviah (1989). Use of coconut coir-pith - A biowaste as soil mulch in cashew plantations. *The Cashew* **3**, 23-4.
- Kumar, P. H., Nair, B. P., Rakiappan, P., Nagabhushanam, S. and Mohan, E. (1982). Variation in mineral composition of leaves of cashew (*Anacardium occidentale* L.) as affected by season, position and age. *Indian Cashew Journal* **14**, 7-10.
- Kumar, P. H., Rakiappan, P., Nair, B. P., Mohan, E. and Nagabhushanam, S. (1985). Effect of season, position and age of leaf on the major nutrient composition of cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. 293-4.

- Kumar, P. H. and Sreedharan, R. (1987). Determination of critical concentrations of N and P in cashew leaf. *Indian Cashew Journal* **18**, 22-3.
- Kuppelwieser, W. (1989a). Processing and Analysis of Cashews. Agdex No. 246/56. 2p. (Northern Territory DPIF: Darwin.)
- Kuppelwieser, W. (1989b). Variety selection in cashew plantations in northern Australia (in the Darwin area). [Über die Sortenselektion im Kaschunussanbau in Nordaustralien (Umgebung Darwin)]. *Erwerbsobstbau* **31**, 216-20.
- Kuppelwieser, W. (1990). Summary of research at CPRS and BARC : Northern Territory DPIF. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory*. 8-13.
- Kuppelwieser, W. (1991). Some results and comments derived from cashew research at CPRS and BARC. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated).
- Lakshmi pathi, V., Thirumalai, S., Vishwanathan, M. R. and Venkatakrishnan, R. (1990). Cashew apple-meal as feed for chicks. *Indian Journal of Poultry Science* **25**, 296-7.
- Latha, A., John, P. S. and George, M. (1996). Response of cashew to nutrient application in laterite soil. *Journal of Tropical Agriculture* **34**, 41-3.
- Latis, T. and Chibiliti, G. (1988). Foliar diagnosis of nutrient deficiencies in cashew: a study conducted in the Western Province of Zambia. *Rivista di Agricoltura Subtropicale e Tropicale* **82**, 677-89.
- Laurens, A., Fourneau, C., Hocquemiller, R., Cave, A., Bories, C. and Loiseau, P. M. (1997). Antivectorial activities of cashew nut shell extracts from *Anacardium occidentale* L. *Phytotherapy Research* **11**, 145-6.
- Lefebvre, A. (1973). Little leaf abnormality of the cashew nut tree. *Fruits* **28**, 631-6.
- Leonardi, J., Chacko, E. K. and Vithanage, V. (1993). Studies on pollination, pollen tube growth and fruit set in cashew. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated).
- Leonardi, J., Chacko, E. K., Vithanage, V. and Turnbull, C. G. N. (1994a). Studies on premature flower and nut abscission in cashew (*Anacardium occidentale* L). *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. 52-9.
- Leonardi, J., Chacko, E. K., Vithanage, V. and Turnbull, C. G. N. (1994b). Distribution of C-assimilates in vegetative and reproductive organs of cashew (*Anacardium occidentale* L). *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. 60-8.
- Lever, R. A. (1982). *Amblypelta* spp. (Hem.: Coreidae), new Australian records. *Proceedings and Transactions of the British Entomological and Natural History Society* **15**, 88.
- Lima, V. de P. M. S. (1988a). Cashew Tree Culture in Northeast of Brazil. 306p. (Foraleza: Brazil).
- Lima, V. de P. M. S. (1988b). Botany. *In: Cashew Tree Culture in Northeast of Brazil* (ed. V. de P. M. S. Lima). pp. 11-41. (Foraleza: Brazil).
- Lima, V. de P. M. S. (1988c). Models of exploitation. *In: Cashew Tree Culture in Northeast of Brazil* (ed. V. de P. M. S. Lima). pp. 74-81. (Foraleza: Brazil).
- Lopes, N. A. (1981). The Cashew Industry in North East Brazil and Other Major Producing Countries. [A Agroindustria Do Caju No Nordeste Do Brasil e Em Outros Paises Grandes Produtores.]. 472p. (Banco do Nordeste do Brasil: Fortaleza, Brazil.)
- Lopez, R. and Azofeifa, J. (1985). Plant-parasitic nematodes associated with fruit-trees in some counties of Alajuela province, Costa Rica. [Nematodos fitoparasitos asociados con frutales en algunos cantones de la provincia de Alajuela.]. *Agronomia Costarricense* **9**, 193-6.
- Lopez, R. and Salazar, L. (1987). Observations on the spatial distribution of plant-parasitic nematodes in fruit trees [Observaciones sobre la distribucion espacial de nematodos fitoparasitos en arboles frutales]. *Agronomia Costarricense* **11**, 141-7.
- Lundquist, D. M. (1972). A bibliography of tree nut production and marketing research, 1965-71. Economic Research Service, US Department of Agriculture, Miscellaneous Publication No. 1255. 37p.
- Maelzer, D. A. and Goodhand, S. (1991). Pollination of cashew-nuts at Kununurra, W.A. *Working*

- Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated).
- Maelzer, D., Goodhand, S. and Millington, A. J. (1992). The pollination of cashew nuts at Kununurra, Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* 63-71.
- Mahanthesh, B. and Melanta, K. R. (1994). Effect of nitrogen, phosphorus and potassium on the yield of cashew apple (*Anacardium occidentale* L.). *The Cashew* **8**, 14-8.
- Mahanwar, P. A. and Kale, D. D. (1996). Effect of cashew nut shell liquid (CNSL) on properties of phenolic resins. *Journal of Applied Polymer Science* **61**, 2107-11.
- Malipatil, M. and Houston, W. (1990). Bioecology of cashew insects at Wildman River, NT. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory.* 22-5.
- Martin, P. J. and Kasuga, L. J. (1995). Variation in cashew tree yields in south-east Tanzania and the implication for management of cashew smallholdings. *Tropical Agriculture* **72**, 261-8.
- Martin-Prevel, P., Gagnard, J. and Gautier, P. (1984). Cashew. *In: Plant Analysis: As a Guide to the Nutrient Requirements of Temperate and Tropical Crops.* (ed. P. Martin-Prevel, J. Gagnard, and P. Gautier.) pp. 445-53. (Lavoisier Publishing Inc: New York.)
- McFadden, D. (1992). Cashew propagation improvements, grafting age, planting age and potting media. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* 14-9.
- McFadden, D. and Toohill, B. (1992). Phenology of cashew trees at the Ord River Irrigation Area (ORIA) North East Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* 126-9.
- Menon, A. R. R. (1997a). Flame-retardant characteristics of natural rubber modified with a bromo derivative of phosphorylated cashew nut shell liquid. *Journal of Fire Sciences* **15**, 3-13.
- Menon, A. R. R. (1997b). Stress-relaxation characteristics of natural rubber modified with phosphorylated cashew nut shell liquid prepolymer. *Journal of Applied Polymer Science* **65**, 2183-9.
- Menon, M. A., Mohanan, R. C., Kumar, P. H., Rakkiyappan, P. and Nair, B. P. (1979). Yellow leaf spot of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **12**, 15-8.
- Menon, M. A. and Sulladmath, U. V. (1981). Mineral nutrition of cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **14**, 7-13.
- Milchunas, D. G., Lee, C. A., Lauenroth, W. K. and Coffin, D. P. (1992). A comparison of ^{14}C , ^{86}Rb , and total excavation for determination of root distributions of individual plants. *Plant and Soil* **144**, 125-32.
- Miller, L. R. (1993). Specific problems in mastotermes research. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated).
- Miller, L. R. (1994). *Mastotermes* in cashew. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* 87-90.
- Miller, L. R. and Watson, J. A. L. (1991). *Mastotermes darwinensis* : A pest of cashew plantations . *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated).
- Miller, L. R. and Watson, J. A. L. (1992). *Mastotermes darwiniensis* in cashew plantations Research progress and plans. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* 57p.
- Millington, A. J. (1989). Voyager Enterprises Pty Ltd. *Working Papers of the Second Annual Cashew Research and Development Workshop, May 1989, Darwin, Northern Territory.* (not paginated).
- Millington, A. J. (1990). Voyager Enterprises : Cashew Project : Kununurra. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory.* 35-6.
- Millington, A. J. (1991a). Report for 1990-91 as at 15-3-91. Voyager Enterprises Pty Ltd - Kununurra. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9,*

- 1991, Redlynch, North Queensland. (not paginated).
- Millington, A. J. (1991b). An overview of Voyager Enterprises Development Program and Research Support at Kununurra. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated).
- Millington, A. J. (1992). Cashew research: Overview Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* 1-6.
- Millington, A. J. (1993). Cashew review: Voyager, Kununurra 1992 -93. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated).
- Mitchell, J. D. and Mori, S. A. (1987). The cashew and its relatives (*Anacardium*: Anacardiaceae). *Memoirs of the New York Botanical Garden English* **42**, 76.
- Moncur, M. W. and Wait, A. J. (1986). Floral ontogeny of the cashew, *Anacardium occidentale* L. (Anacardiaceae). *Scientia Horticulturae* **30**, 203-11.
- Muroi, H. and Kubo, I. (1993). Bactericidal activity of anacardic acids against *Streptococcus mutans* and their potentiation. *Journal of Agricultural and Food Chemistry* **41**, 1780-3.
- Murthy, B. G. K. and Sivasamban, M. A. (1985). Recent trends in CNSL utilization. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* 201-7.
- Nable, R. O., Blaikie, S. J. and Grundon, N. J. (1996). Where are the cashew roots? *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kuranda, North Queensland.* 38-42.
- Nagy, S., Shaw, P. E. and Wardowski, W. F. (1990). Fruits of Tropical and Subtropical Origin. Composition, Properties and Uses. (Florida Science Source, Inc.: Lake Alfred, Florida, USA.)
- Nair, M. K., Bhaskara Rao, E. V. V., Nambiar, K. K. N. and Nambiar, M. C. (1979). Monograph on Plantation Crops - 1 Cashew (*Anacardium occidentale* L.). 153p. (Central Plantation Crops Research Institute: Kerala, India.)
- Narayan, C. and Ghosh, S. N. (1996). Fruit set and fruit drop in cashew in Jhargram conditions. *Environment and Ecology* **14**, 144-6.
- NOMISMA (1994). The World Cashew Economy. 2nd Ed. 218p. (L'Inchiostroblu: Bologna, Italia.)
- O'Farrell, P. J. (1992). Summary of cashew research at Cashews Australia Dimbulah, North Queensland. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* 8-10.
- O'Farrell, P. J. (1993). A report on Queensland Department of Primary Industries cashew research and development program in Northern Queensland. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated).
- O'Farrell, P. J. (1994). QDPI Research at Cashews Australia, Dimbulah. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* 23-31.
- O'Farrell, P. J., Armour, J. D. and Reid, D. J. (1996). Preliminary results on the effect of nitrogen on the growth and nut yield of cashew cv 9/14 in North Queensland. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kuranda, North Queensland.* 52-9.
- Ohler, J. G. (1979). Cashew. 260p. (Koninklijk Instituut voor de Tropen: Amsterdam, Netherlands.)
- Ohler, J. G. and Coester, W. A. (1979). Symptoms of mineral deficiencies in cashew seedlings. *Indian Cashew Journal* **12**, 5-9.
- Oliver, M., Ngo, H. and Kuppelweiser, W. (1992). Cashew production in the Northern Territory Top End: an economic evaluation. Northern Territory, Department of Primary Industry and Fisheries Technical Bulletin No. 198. 25p.
- Onifade, A. K. and Fawole, B. (1996). Effect of some plant extracts on the pathogenicity of *Meloidogyne incognita* on cowpea. *Global Journal of Pure and Applied Sciences* **2**, 9-15.
- Panda, R. and Panda, H. (1991). Antifouling coatings based on cashew nutshell liquid (CNSL) modified rosin. *Paint and Ink International* **4**, 30-2.
- Parameswaran, N. K., Damodaran, V. K. and Prabhakaran, P. V. (1984a). Factors influencing yield in

- cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **16**, 9-15.
- Parameswaran, N. K., Damodaran, V. K. and Prabhakaran, P. V. (1984b). Relationship between yield and duration of different phases in flower opening in cashew (*Anacardium occidentale* L.). *Indian Cashew Journal* **16**, 15-9.
- Pavithran, K., Shaffi, M. and Indira, E. P. (1985). Development, differentiation and evolution of sex-dimorphism in cashew. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*, 17-9.
- Peng, R. K., Christian, K. and Gibb, K. (1994). The effect of the green ant on cashew insect pests with particular reference to the tea mosquito bug . *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland*. 75-86.
- Peng, R. K., Christian, K. and Gibb, K. (1995). The effect of the green ant, *Oecophylla smaragdina* (Hymenoptera, Formicidae), on insect pests of cashew trees in Australia. *Bulletin of Entomological Research* **85**, 279-84.
- Peng, R. K., Christian, K. and Gibb, K. (1996a). The Effect of Native Vegetation on the Cashew Arthropod Fauna With Particular Reference to the Most Important Pest - *Helopeltis perniciosa*. 70p. (Northern Territory University: Darwin.)
- Peng, R. K., Christian, K. and Gibb, K. (1996b). Control efficiency of the green ant, *Oecophylla smaragdina*, in relation to the control threshold of the tea mosquito bug, *Helopeltis perniciosa*, in Northern Australia. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. 63-70.
- Peng, R. K., Christian, K. and Gibb, K. (1996c). The effect of native vegetation on the diversity of arthropods in cashew plantations with particular reference to the insect pests and their natural enemies. *Working Papers of the Eighth Cashew Research and Development Workshop August 6, 1996, Kurunda, North Queensland*. 71-83.
- Peng, R. K., Christian, K. and Gibb, K. (1997a). Distribution of the green ant, *Oecophylla smaragdina* (F) (Hymenoptera: Formicidae), in relation to native vegetation and the insect pests in cashew plantations in Australia. *International Journal of Pest Management* **43**, 203-11.
- Peng, R. K., Christian, K. and Gibb, K. (1997b). Control threshold analysis for the tea mosquito bug, *Helopeltis perniciosa* (Hemiptera: Miridae) and preliminary results concerning the efficiency of control by the green ant, *Oecophylla smaragdina* (Hymenoptera:Formicidae) in Northern Australia. *International Journal of Pest Management* **43**, 233-7.
- Piteira, M. C. C. (1996). Pests and Diseases of Cashew . 60p. (Setubal)
- Prasada, R. and Gopakumar, C. S. (1994). Climate and cashew. *The Cashew* **8**, 3-9.
- Purohit, A. G. and Mukherjee, S. K. (1974). Characterising root activity of guava trees by radiotracer technique. *Indian Journal of Agricultural Science* **44**, 575-81.
- Radhakrishna, Y., Narayanamma, M. and Ramadevi, M. (1993). Effect of various methods of fertilizer application on the yield of cashew (*Anacardium occidentale* L.). *The Cashew* **7**, 15-6.
- Rahaman, P. F., Ahmad, I. and Jairajpuri, M. S. (1996). Three new species of *Hemicycliophora* de Man, 1921 from India. *Nematologica* **42**, 24-34.
- Raikar, N. A. and Murthy, H. G. S. (1991). Processing of cashewnuts in Karnataka. *Agricultural Situation in India* **46**, 127-31.
- Ramos, A. D. (1988). Soils. In: *Cashew Tree Culture in Northeast of Brazil* (ed. V. de P. M. S. Lima). pp. 56-73. (Foraleza: Brazil).
- Rao, M. S. S. (1985). Scope for development of alcoholic beverage from cashew apple. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. 160-4.
- Reddi, E. U. B. (1987). Under-pollination: a major constraint of cashewnut production. *Proceedings, Indian National Science Academy, B* **53**, 249-51.
- Reddi, E. U. B. (1991). Pollinating agent of cashew - wind or insects? *Indian Cashew Journal* **20**, 13-8.
- Reddy, S. E. and Reddy, K. S. (1987). Partitioning of nitrogen, phosphorus and potassium in cashew (*Anacardium occidentale* L.) trees. *Indian Cashew Journal* **18**, 17-21.
- Reddy, M. A., Krishnappa, K. S., Chandre Gowda, M. and Thirumala Raju, G. T. (1989). Studies on the sex ratio in cashew selections. *The Cashew* **3**, 6-8.

- Richards, N. K. (1990). Summary of cashew research at Wildman River : Northern Territory DPIF. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory.* 5-7.
- Richards, N. K. (1991). Cashew yield profiles in the Northern Territory. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland.* (not paginated).
- Richards, N. K. (1992). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths of Northern Territory, Australia. *Scientia Horticulturae* **52**, 125-42.
- Richards, N. K. (1993a). Cashew tree yield, growth and macronutrient status, as influenced by fertilizer applications. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 1-16. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
- Richards, N. K. (1993b). Cashew response to water and nutrients in a sandy red earth soil of the Northern Territory. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 17-38. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
- Richards, N. K. (1993c). Evolving cashew orchard systems for the Northern Territory. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 39-49. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
- Richards, N. K. (1993d). Cashew tree nutrition related to biomass accumulation, nutrient composition and nutrient cycling in sandy red earths. Cashew Research in Northern Territory, Australia, 1987-1991. NT, Department of Primary Industry and Fisheries Technical Bulletin No. 202. pp. 50-65. (Department of Primary Industry and Fisheries: Darwin, Northern Territory.)
- Richards, N. K. (1994). Leaf Analysis As a Guide to Nitrogen, Phosphorus and Potassium Status, and Yield and Growth of Cashew in the Killuppa Soil of the Northern Territory. MAgSc Thesis. 153p. (The University of Queensland: Brisbane, Queensland.)
- Rickson, F. R. and Rickson, M. M. (1998). The cashew nut, *Anacardium occidentale* (Anacardiaceae), and its perennial association with ants - Extrafloral nectary location and the potential for ant defense. *American Journal of Botany* **85**, 835-49.
- Robinson, D. and Kesavan, V. (1994). The effect of N P K nutrition on the early growth and yield of cashew on Cununurra Clay soil. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* 32-40.
- Robinson, D., Kesavan, V. and Millington, A. J. (1993). N, P, K nutrition of cashews on Kununurra clay at the Ord River Irrigation Area. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated).
- Robinson, J. B., Treeby, M. T. and Stephenson, R. A. (1997). Fruits, nuts and vines. In: Plant Analysis: an Interpretation Manual. (eds. D. J. Reuter and J. B. Robinson.) pp. 349-82. (CSIRO Publishing: Collingwood, Australia.)
- Rovira, L. A. and Brasil Sob, M. O. C. (1976). Study on the effect of macronutrient deficiency on the growth and mineral composition of cashew plants grown in nutrient solutions. [Estudio de las deficiencias de los macronutrientes sobre el crecimiento y la composicion mineral del merey (*Anacardium occidentale* L.) cultivado en soluciones nutritivas.]. *Agronomia Tropical* **26**, 143-54.
- Salam, M. A., Pushpalatha, P. B. and Suma, A. (1995). Root distribution pattern of seedling raised cashew tree. *Journal of Plantation Crops* **23**, 59-61.
- Salleh, H., Chai, T. B. and Bakri, M. L. (1989a). Seasonal variation in yield performance of 16 cashew clones on bris soil. *MARDI Research Journal* **17**, 167-71.
- Salleh, H., Chai, T. B., Wahab, N. A., Bakri, M. L. and Abidah, T. A. (1989b). Identification of promising materials from a seedling population of cashew based on nut number and nut weight. *MARDI Research Journal* **17**, 155-66.
- Sandry, B. (1990). Cashew entomology at Wildman River. *Working Papers of the Third Annual Cashew Research and Development Workshop, February 21, 1990, Darwin, Northern Territory.*

26-8.

- Sapkal, B. B., Hulamani, N. C. and Nalwadi, U. G. (1994). Flowering and sex-ratio in some cashew (*Anacardium occidentale* L.) selections. *The Cashew* **8**, 7-10.
- Sarruge, J. R., Haag, H. P., Oliveira, G. D. d. and Dechen, A. R. (1975). Mineral nutrition of cashews (*Anacardium occidentale*) II. Micronutrient deficiency - preliminary note. [Nutricao mineral do cajueiro (*Anacardium occidentale* L.) II. Deficiencias dos micronutrientes - nota previa.]. *Anais da Escola Superior de Agricultura 'Luiz de Queiroz'* **32**, 191-5.
- Sawke, D. P., Gunjate, R. T. and Limaye, V. P. (1985). Effect of nitrogen, phosphorus and potash fertilization on growth and production of cashewnut. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979.* 95-9.
- Schaper, H. (1991). Leaf Gas Exchange As Influenced by Environmental and Plant Internal Factors in Cashew (*Anacardium occidentale* L.). Ph D thesis. 96p. (Institut fur Obstbau undgemusebau der Rheinischen Friedrich-Wilhelms-Universitat: Bonn, Germany.)
- Schaper, H. and Chacko, E. K. (1991). Relation between extractable chlorophyll and portable chlorophyll meter readings in leaves of eight tropical and subtropical fruit-tree species. *Journal of Plant Physiology* **138**, 674-7.
- Schaper, H. and Chacko, E. K. (1992). Diurnal variations in gas exchange and water relations of cashew leaves (*Anacardium occidentale* L.). *Gartenbauwissenschaft* **57**, 88-92.
- Schaper, H. and Chacko, E. K. (1993). Effect of irradiance, leaf age, chlorophyll content and branch-girdling on gas exchange of cashew (*Anacardium occidentale* L.) leaves. *Journal of Horticultural Science* **68**, 541-50.
- Schaper, H., Chacko, E. K. and Blaikie, S. J. (1996). Effect of irrigation on leaf gas exchange and yield of cashew in northern Australia. *Australian Journal of Experimental Agriculture* **36**, 861-8.
- Sena, D. K., Lenka, P. C., Jagadev, P. N. and Sashikala, B. (1994). Genetic variability and character association in cashewnut (*Anacardium occidentale* L.). *Indian Journal of Genetics and Plant Breeding* **54**, 304-9.
- Sherrard, J. A., Ateyo, R., Cross, E. and Millington, A. J. (1993). Irrigation of cashew on Kununurra clay soil in the Ord River Irrigation Area. *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory.* (not paginated).
- Sherrard, J. A., Millington, A. J. and Ateyo, R. (1992). Procedures for development of an irrigation management system for flood irrigation of cashew on Kununurra clay in the semi-arid tropics of Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia.* 130-5.
- Sivaprasad, P., Sulochana, K. K., Babu George, and Salam, M. A. (1992). Growth and phosphorus uptake of cashew (*Anacardium occidentale* L.) as influenced by inoculation with VA mycorrhizae. *The Cashew* **6**, 16-8.
- Smith, E. S. C. (1985). New host records of *Amblypelta lutescens lutescens* (Distant) (Hemiptera: Coreidae) in north-western Australia. *Australian Entomological Magazine* **12**, 55-6.
- Smith, F. W. and Loneragan, J. F. (1997). Interpretation of plant analysis: Concepts and principles. In: *Plant Analysis: an Interpretation Manual.* (eds. D. J. Reuter and J. B. Robinson.) pp. 3-33. (CSIRO Publishing: Collingwood, Australia.)
- Smith, M. W. (1993). Mango rootstocks. *Mango Care* **9**, 6-7.
- Smith, M. W. and Bowman, L. (1994). Cashew rootstocks : Why and how. *Working Papers of the Seventh Annual Cashew Research and Development Workshop, May 17, 1994, Cairns, North Queensland.* 14-7.
- Smith, S. E. (undated). The Role of Mycorrhizas in Cashew Seedling Growth and Establishment. Final Report to RIRDC on Project UA8. 22p. (RIRDC: Canberra, ACT.)
- Snyman, J. C. (1995). Unprecedented cold damage in Messina last winter. [Ongekende koueskade in Messina afgelope winter.]. *Inligtingsbulletin Instituut vir Tropiese en Subtropiese Gewasse* **270**, 6-8.
- Spek, L. Y. and van Noordwijk, M. (1994). Proximal root diameter as a predictor of total root size for fractal branching models. II. Numerical model. *Plant and Soil* **164**, 119-27.

- Stonedahl, G. M., Malipatil, M. B. and Houston, W. (1995). A new mirid (Heteroptera) pest of cashew in northern Australia. *Bulletin of Entomological Research* **85**, 275-8.
- Strickland, G. R. and Knight, P. (1992). Cashew tree defoliation studies at Wildman River Cashew Plantation. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 121-5 .
- Strickland, G. R. and Williams, P. (1993). The effect of feeding by bug pests *Amblypelta lutescens* and *Helopeltis* sp on cashew yield at Wildman River Cashew Plantation, Northern Territory . *Working Papers of the Sixth Annual Cashew Research and Development Workshop, May 25, 1993, Darwin, Northern Territory*. (not paginated).
- Sturtz, J. D. (1984). Anacardiaceae. *In: Tropical Tree Fruits for Australia*. (Ed. P. E. Page.) pp. 20-4. (Queensland Department of Primary Industries: Brisbane.)
- Subbaiah, C. C., Manikandan, P. and Joshi, Y. (1986). Yellow leaf spot of cashew: a case of molybdenum deficiency. *Plant and Soil* **94**, 35-42.
- Subramanian, S., Harris, C. V., Manivannan, K. and Thangavelu, S. (1995). Studies on method of fertilizer application in cashew. *South Indian Horticulture* **43**, 38-9.
- Suhaila, M. and Zahariah, H. (1995). Extraction and characterisation of pectin from various tropical agrowastes. *ASEAN Food Journal* **10**, 43-50.
- Sundaram, R. N. S. (1986). Utilization of cashew apple waste in dairy cattle feed. *Indian Journal of Animal Nutrition* **3**, 124-7.
- Teixeira, L. M. S. (1988). Diseases. *In: Cashew Tree Culture in Northeast of Brazil* (ed. V. de P. M. S. Lima). pp. 157-79. (Foraleza: Brazil).
- Thimmaraju, K. R., Reddy, M. A. N., Reddy, B. G. S. and Sulladmath, U. V. (1980). Studies on the floral biology of cashew (*Anacardium occidentale* L.). *Mysore Journal of Agricultural Sciences* **14**, 490-7.
- Thivavarnvongs, T. (1989). The design synthesis of a semi-automatic cashew nut sheller. American Society of Agricultural Engineers Paper No. 89-6615. 6p.
- Thivavarnvongs, T., Okamoto, T. and Kitani, O. (1995a). Development of compact sized cashew nut shelling machinery (Part 1). Syntheses of effective manual and semi-automatic shelling methods. *Journal of the Japanese Society of Agricultural Machinery* **57**, 57-65.
- Thivavarnvongs, T., Sakai, N. and Kitani, O. (1995b). Development of compact sized cashew nut shelling machinery (Part 2). Testing and evaluation of manual and semi-automatic shellers. *Journal of the Japanese Society of Agricultural Machinery* **57**, 85-93.
- Thorburn, P. J. and Ehleringer, J. R. (1995). Root water uptake of field-growing plants indicated by measurements of natural-abundance deuterium. *Plant and Soil* **177**, 225-33.
- Toohill, B. (1991). Cashew research and development at Ord River Irrigation Area (ORIA), north east WA. *Working Papers of the Fourth Annual Cashew Research and Development Workshop, April 9, 1991, Redlynch, North Queensland*. (not paginated).
- Toohill, B. and Johnston, P. (1992). Evaluation of cashew varieties in sandy and clay soils of Kununurra. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 11-3.
- Toohill, B. and Millington, A. J. (1992). Herbicide use in cashew establishment and management on clay soils at the Ord River Irrigation Area (ORIA) North East Western Australia. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 34-41.
- Trongpanich, K., Hiraga, C. and Subhadrabandhu, S. (1992). Jam from cashew apples: mixed jam. *Frontier in Tropical Fruit Research: An International Symposium on Tropical Fruit, Pattaya City, Thailand. 20-24 May, 1991* . 864-70.
- Valeriano, C. (1972). The cashew tree. [O cajueiro.]. *Bol. Inst. Biol. Bahia* **11**, 19-58.
- van Eijnatten, C. L. M. and Abubaker, A. S. (1983). New cultivation techniques for cashew (*Anacardium occidentale* L.). *Netherlands Journal of Agricultural Science* **31**, 13-25.
- Van Noordwijk, M., Spek, L. Y. and Willigen, P. de. (1994). Proximal root diameter as a predictor of total root size for fractal branching models. I. Theory. *Plant and Soil* **164**, 107-17.
- Veeraraghavan, P. G. and Pushpalatha, P. B. (1990). Rainfall and crop production in cashew. *The*

- Cashew* **4**, 8-10.
- Veeraraghavan, P. G. and Vasavan, M. G. (1979). Influence of rainfall on the productivity of cashew. *Indian Cashew Journal* **12**, 23-4.
- Vogelzang, B. (1992). Mycorrhizas in cashew. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 28-33.
- Wahid, P. A., Kamalam, N. V., Ashokan, P. K. and Vidyadharan, K. K. (1989). Root activity pattern of cashew (*Anacardium occidentale* L.) in laterite soil. *Journal of Plantation Crops* **17**, 85-9.
- Wait, A. J. and Jamieson, G. I. (1985). Prospects for a cashew industry in Queensland. *Queensland Agricultural Journal* **111**, 315-6.
- Wait, A. J. and Jamieson, G. I. (1986). The cashew: its botany and cultivation. *Queensland Agricultural Journal* **112**, 253-7.
- Wait, A. J. and Jamieson, G. I. (1987). Cashews - Industry prospects in Queensland. *Farm Note AGDEX 246/00*, 3.
- Weerasena, O. V. D. S. J., Amarasekara, A. S. and Wijesundera, R. L. C. (1993). Fungicidal activity of synthetically modified cashew nut shell. *Journal of the National Science Council of Sri Lanka* **21**, 253-8.
- Wunnachit, W. and Sedgley, M. (1992a). Floral structure and phenology of cashew in relation to yield. *Journal of Horticultural Science* **67**, 769-77.
- Wunnachit, W. and Sedgley, M. (1992b). Characteristics of cashew pollen. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 58-9.
- Wunnachit, W. and Sedgley, M. (1992c). Pollination and yield of cashew. *Working Papers of the Fifth Annual Cashew Research and Development Workshop, May 18-19, 1992, Kununurra, Western Australia*. 60-2.
- Wunnachit, W., Jenner, C. F. and Sedgley, M. (1992a). Floral and extrafloral nectar production in *Anacardium occidentale* L. (Anacardiaceae): an andromonoecious species. *International Journal of Plant Sciences* **153**, 413-20.
- Wunnachit, W., Jenner, C. and Sedgley, M. (1992b). Pollen vigour and composition in relation to andromonoecy in cashew (*Anacardium occidentale* L.: Anacardiaceae). *Sexual Plant Reproduction* **5**, 264-9.
- Wunnachit, W., Pattison, S. J., Giles, L., Millington, A. J. and Sedgley, M. (1992). Pollen tube growth and genotype compatibility in cashew in relation to yield. *Journal of Horticultural Science* **67**, 67-75.
- Yaacob, O. and Kamal, A. J. M. (1982). Soil factors affecting growth and nutrition of cashew in Malaysia. *Plant Nutrition 1982: Proceedings of the Ninth International Plant Nutrition Colloquium*. (Ed. A. Scaife.) pp. 728-33. (Commonwealth Agricultural Bureaux: UK.)
- Yaacob, O. and Kamal, A. J. M. (1983). The nutrition of cashew on the sandy soils of Malaysia. *Communications in Soil Science and Plant Analysis* **14**, 679-88.
- Yaacob, O., Ngah, W. A. R. and Kamal, A. J. (1985). Effect of rainfall, age and position on the nutrient content of cashewnut leaf on tin tailing in Malaysia. *Cashew Research and Development: Proceedings of the International Cashew Symposium, Cochin, Kerala, India. 12-15 March 1979*. 85-90.
- Zech, W. (1984). Investigations on the occurrence of potassium and zinc deficiencies in plantations of *Gmelina arborea*, *Azadirachta indica* and *Anacardium occidentale* in semi-arid areas of West Africa. *Potash Review* **22/31**, 1-5.

Appendix 3.

Cashew Information Kit