



RURAL INDUSTRIES RESEARCH
& DEVELOPMENT CORPORATION

**Researchers' Extension
Program for the
Native Foods
Industry**

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

by A.E. Hele

March 2003

RIRDC Publication No 03/013
RIRDC Project No ANS-2A

© 2003 Rural Industries Research and Development Corporation.
All rights reserved.

ISBN 0642 58581 4
ISSN 1440-6845

Researchers' Extension Program for the Native Foods Industry

Publication No. 03/013

Project No. ANS-2A

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 enquiries concerning reproduction, contact the Publications Manager on phone 02 6272 3186.

Researcher Contact Details

Anthony E. Hele
PO Box 547
RENMARK SA 5341

Email: hele@nativecrops.com.au

In submitting this report, the researcher has agreed to RIRDC publishing this material in its edited form.

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 March 2003
Printed on environmentally friendly paper by Canprint

Foreword

The Native Food Industry R&D Advisory Group reviews and provides assessments of research proposals on native foods submitted to the RIRDC. Recently the Group has considered that many proposals have shown an imperfect understanding of the current commercial and technical situation in native foods, the crops of interest, previous work and appropriate industry partners.

To address these concerns, an extension program for researchers was conducted, consisting of the production and communication of a native foods bibliography and presentations at the 5th Australian Horticultural Conference on the native foods industry and its research needs and opportunities.

Increasing researcher's awareness and knowledge of these factors and bibliographic resource is likely to improve the efficiency of researchers, industry advisors and RIRDC and other funding agency personnel by better matching research proposals to industry needs, and increase the quality and quantity of research proposals and outcomes.

This report outlines the operation of this extension program, provides feedback on researcher perceptions of the native food industry and makes recommendations on how the industry can help researchers improve the quality of their project proposals.

This project was funded from RIRDC Core Funds which are provided by the Federal Government.

This report, a new addition to RIRDC's diverse range of over 900 research publications, forms part of our New Plant Products R&D 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/eshop

Simon Hearn

Managing Director

Rural Industries Research and Development Corporation

Contents

Foreword	iii
Executive Summary	v
1. Introduction	1
2. Methodology	2
Bibliography	2
Conference Presentation	2
Researcher Discussions	2
3. Results of Researcher Discussions	3
Knowledge of Industry	3
Knowledge of R&D Needs	3
Crop Potential Assessments	3
4. Discussion & Recommendations	5
Appendix 1 – Acacia Bibliography	6
Appendix 2 – General Bibliography	9
Appendix 3 – Quandong Bibliography	11

Executive Summary

To improve the quality and quantity of research into Australian native crops, an extension program was conducted for researchers, consisting of the production and communication of a native food bibliography and presentations to researchers, at the 5th Australian Horticultural Conference, on the native foods industry and its research needs and opportunities.

During the conference, several informal discussion and product examination sessions were conducted with delegates to further inform them of native food R&D needs and opportunities; provide them with information on the industry; assess their current knowledge levels, perceptions and information needs and to seek their views on the likely production and technological potential of some individual crops.

The R&D community encountered during the discussion sessions generally had a limited knowledge of the current status of the native food industry and perceived it as being small-scale, both in terms of production and R&D expenditure, and not being undertaken with, or focussed on, conventional horticultural production technologies. These features were perceived to be a deterrent to the involvement of mainstream researchers or research agencies. The industry should consider the need to further market the industry to the R&D community. In particular, developing and communicating information on industry 'success stories', both in terms of larger-scale commercial production and research projects, could help lift industry credibility and the level of research interest and activity.

Researchers had little knowledge of the research needs of individual native food species and considered the current industry R&D plan provided only general guidance as to requirements and priorities. After examining information on some crops they tended to consider that, as a general rule, species which had a relatively short establishment to harvest timeframes, such as bush tomatoes, mountain pepper and acacias, would be more amenable to plant and production technology improvements from research than longer-period woody perennial species, such as quandongs. Plant and production technology improvements were also perceived as being more problematic in species whose harvested commodity was a fruit, such as quandong, in which product appearance was thought to be a more important, but difficult to manipulate consideration. Given these assessments by experienced researchers, the industry should consider the need to examine the current 'core species' of interest to determine, at least in terms of production technology research, which crops are likely to give an adequate return on R&D investment within a reasonable timeframe. To provide better guidance to researchers, they should also consider examining and detailing specific research needs and priorities for each individual crop, rather than the current approach of generic R&D priorities.

1. Introduction

The Rural Industries Research and Development Corporation provides funding for native foods research under its New Plant Products program and with industry has developed a five year R&D plan for the sector.

Comments on research proposals submitted to the Corporation are provided by a five person Advisory Group, drawn from and nominated by industry participants. Concern has been expressed by the Advisory Group over the quality of many recent funding proposals. Concerns have included proposals which indicate a lack of understanding of the current commercial and technical situation in native foods, the crops of interest, previous work and appropriate industry partners.

To help address these concerns, an extension program for researchers was conducted, consisting of the production and communication of a native foods bibliography and presentations to researchers on the native foods industry and its research needs and opportunities at the 5th Australian Horticultural Conference. During the conference, several informal discussion and product examination sessions were also conducted with researchers to further inform them of native food R&D needs and opportunities; provide them with information on the industry; assess their current knowledge levels, perceptions and information needs and to seek their views on the likely production and technological potential of some individual crops.

2. Methodology

Bibliography

A native food bibliography was compiled, using standard academic paper and electronic based literature search tools, and from examining reference works and the author's professional library resources. The bibliography included papers in refereed scientific journals, published books, extension publications and some unpublished undergraduate and postgraduate theses. Unless the reference included significant previously unpublished information, articles in magazines and newspapers were not included.

This literature search uncovered around 150 references. These references were subdivided into three bibliography categories, reflecting the nature and number of references uncovered. The categories employed were 'General References', 'Acacia References' and 'Quandong References'.

The bibliographies were compiled into tab-delimited text documents, which allows them to be read by word processors and also imported into spreadsheet and database software for enhanced search and sorting functions. They have been made available for download from the Native Food Industry Website (www.nativecrops.com.au/industry).

Conference Presentation

During the 5th Australian Horticultural Conference, organised by the Australian Society for Horticultural Science and held at the University of Sydney from 29 September to 2 October 2002, presentations were conducted for delegates on the native foods industry and its research needs and opportunities.

The presentations covered the current status of the industry and of cultivation, the main species of interest to the industry (the 'core crops'), the industry's R&D plan, RIRDC funding sources and industry information sources, including the recently compiled bibliography.

The presentations were accompanied by several handout publications on the industry and on specific crops.

Researcher Discussions

During the conference, several informal discussion and product examination sessions were conducted with researchers to further inform them of native food R&D needs and opportunities; provide them with information on the industry; assess their current knowledge levels, perceptions and information needs and to seek their views on the likely production and technological potential of some individual crops. The whole range of the industry's 'core crops' were not examined, but rather a representative group, where the author considered he had a greater depth of knowledge and where product samples were at hand for examination. Researcher comments and perceptions were noted and are reported, but were not subject to statistical analysis.

3. Results of Researcher Discussions

Knowledge of Industry

There was a common perception among researchers that the native food industry was totally or largely based on wild harvested supplies and many researchers were surprised that some products were now being sourced from cultivation.

Of the researchers that were aware of native food cultivation, many believed that production was largely undertaken using permaculture/polyculture/faux wild/organic cultivation technologies and that the industry was focused on such systems. As a result many thought that they would have little to offer the industry, as they considered that their expertise and experience was in ‘conventional’ technologies. They also tended to view the industry as small-scale and thought that most participants were likely to be ‘hobbyists’ or ‘enthusiasts’. They were surprised to learn of and view photographs of larger scale conventional plantings of crops such as bush tomatoes, lemon myrtle and quandongs.

Most researchers had been exposed to some native food products, but few were aware of the category range of processed products currently available or the main processors and their brands.

Knowledge of R&D Needs

Few researchers were aware of the current Industry R&D Plan. On examining the Plan most thought that it provided guidance as to industry requirements, but was short on specific information that would help them assess further industry research opportunities. Many suggested that research priorities along the lines of – *crop X requires selection work to produce varieties with Y characteristics* – would provide a clearer indication of needs and opportunities.

Most researchers were not aware that RIRDC provided funding for native food research. While most suggested that they would investigate further, there was an opinion that the funding amounts available were likely to be small and thus the projects that could be supported were likely to be modest. As one researcher said “*it costs almost as much time and effort to apply for and administer a \$10,000 project as it does a Million dollar project, and I find it hard to justify such an effort to my organisation’s administration*”.

Crop Potential Assessments

Acacias

Most researchers were aware of food uses of acacias and that the crop had attracted some institutional R&D interest, with ACIAR, CSIRO, CALM WA, and RIRDC mentioned. This institutional interest seems to have given the crop ‘credibility’ and many researchers considered that, as a result, the plant must have good production potential and could be an attractive research opportunity.

Bush Tomatoes

Few researchers were aware of bush tomatoes. When made familiar with the plant, they tended to believe that the crop could respond to research efforts because of its taxonomic status (many important crop plants, such as potatoes and tomatoes, are also solanaceous); its short period from establishment to cropping, which could favour rapid selection; and the level of agronomic development efforts already undertaken (particularly mechanical harvesting).

Lemon Myrtle

Many researchers were aware of lemon myrtle products. Fewer were aware of the extent of current production. When made familiar with the plant, they tended to believe that the crop would respond to

research efforts because of its relatively short period from establishment to harvest and the simple objective criteria that could be utilised for evaluating management technology and for plant selection and breeding.

Mountain Pepper

Few researchers were aware of mountain pepper. When made familiar with the plant, they tended to believe that the crop would respond to research efforts because of its relatively short period from establishment to harvest and the simple objective criteria that could be utilised for evaluating management technology and for plant selection and breeding.

Native Citrus

Many researchers were aware of Australia's native citrus species, largely due to the plant's representation in several research station variety blocks and the interest that has been shown in the plant in 'conventional' citrus breeding programs. However, few considered that native species held much production promise or research interest in their own right (*"the world is full of citrus species and varieties, does it really need another that is small, seedy and thorny?"*).

Quandongs

Many researchers were aware of quandongs and more experienced researchers were aware of early CSIRO work on the plant. However, the perception that resulted from this awareness tended to be negative and along the lines of *"didn't the CSIRO give up on quandongs? That must mean there can't be much potential."* When made familiar with details of the plant and its current production status, there was surprise that the plant was being cultivated, but a general perception that a large amount of research would be required to develop the crop, in areas such as variety selection and management of the host-parasite relationship. When examining samples, they often unfavourably compared characteristics such as size, colour, fleshiness and texture to other 'fruit' crops (*"That's what apricots probably looked like a few thousand years ago"*).

4. Discussion & Recommendations

The R&D community encountered during the discussion sessions generally had a limited knowledge of the current status of the native food industry and perceived it as being small-scale, both in terms of production and R&D expenditure, and not being undertaken with, or focussed on, conventional horticultural production technologies. These features were perceived to be a deterrent to the involvement of mainstream researchers or research agencies. The industry should consider the need to further market the industry to the R&D community. In particular, developing and communicating information on industry 'success stories', both in terms of larger-scale commercial production and research projects, could help lift industry credibility and the level of research interest and activity.

Researchers had little knowledge of the research needs of individual native food species and considered the current industry R&D plan provided only general guidance as to requirements and priorities. After examining information on some crops they tended to consider that, as a general rule, species which had a relatively short establishment to harvest timeframes, such as bush tomatoes, mountain pepper and acacias, would be more amenable to plant and production technology improvements from research than longer-period woody perennial species, such as quandongs. Plant and production technology improvements were also perceived as being more problematic in species whose harvested commodity was a fruit, such as quandong, in which product appearance was thought to be an important, but more difficult to manipulate, consideration. Given these assessments by experienced researchers, the industry should consider the need to examine the current 'core species' of interest to determine, at least in terms of production technology research, which crops are likely to give an adequate return on R&D investment within a reasonable timeframe. To provide better guidance to researchers, they should also consider examining and detailing specific research needs and priorities for each individual crop, rather than the current approach of generic R&D priorities.

The industry should also consider the mechanisms for maintaining and expanding the bibliographies prepared during this project and for providing an ongoing means of accessing these resources, and other information on the native foods industry. The formation of a national association, with its own website, may be a means to achieve this result.

Appendix 1 – Acacia Bibliography

- Anderson, D. M. W. and Bell, P. C. 1976 Partial structural studies of four Acacia gum exudates of the series Phyllodineae. *Phytochemistry* 15: 301-303
- Anderson, D. M. W., Bell, P. C. and McNab, C. G. 1972 Analysis of six Acacia gum exudates of the series Phyllodineae. *Phytochemistry* 11: 1751-1754
- Aswathappa, N., Marcar, N. E. and Thomson, L. A. J. 1987 Salt tolerance of Australian tropical and sub-tropical acacias. *In* Turnbull, J. W. (ed.), *Australian Acacias in developing Countries*. ACIAR Proceedings No. 16, pp. 70-73
- Bennett, B. 1995 Seed Saviours. *Ecos* 85: 25-33
- Bindon, P. and Maslin, B. R. 1984 Preliminary account of Acacia usage by Aborigines in part of the Great Sandy Desert, Western Australia. *International Conference on Indian Ocean Studies II*, 9 pp
- Bindon, P. 1996 *Useful Bush Plants*. Western Australian Museum: Perth
- Brand, J. C. and Cherikoff, V. 1985 The nutritional composition of Australian Aboriginal food plants of the desert regions. *In* Wickens, G. E., Goodin, J. R. and Field, J. V. (eds), *Plants for Arid Land*, pp. 53-68. George Allen and Unwin: London
- Brand, J. C. and Maggiore, P. 1992 The nutritional composition of Australian Acacia seeds. *In* House, A. P. N. and Harwood, C. E. (eds) *Australian dry-zone acacias for human food*, pp. 54-67. Australian Tree Seed Centre, CSIRO Division of Forestry: Canberra
- Brown, A. J., Cherikoff, V. and Roberts, D. C. K. 1987 Fatty acid composition of seeds from the Australian Acacia species. *Lipids* 22: 490-494
- Charlson, A. J., Nunn, J. R. and Stephen, A. M. 1955 The composition of *Acacia cyanophylla* gum. *Journal Chemical Society* 269-273 University of Cape Town
- Cherikoff, V. and Isaacs, J. 1989 *The Bushfood Handbook*. Ti Tree Press: Balmain
- Devitt, J. 1992 Acacias: a traditional aboriginal food source in Central Australia. *In* House, A. P. N. and Harwood, C. E. (eds) *Australian dry-zone acacias for human food*, pp. 37-53. Australian Tree Seed Centre, CSIRO Division of Forestry: Canberra
- Doran, J. C., Turnbull, J. W., Boland, D. J. and Gunn, B. V. 1983 *Handbook on seeds of dry-zone acacias. A guide for collecting, extracting, cleaning and storing and for treatment to promote germination*. Food and Agriculture Organisation of the United Nations: Rome
- El-Lakany, M. H. 1987 Use of Australian acacias in north Africa. *In* Turnbull, J. W. (ed.), *Australian Acacias in Developing Countries*. ACIAR Proceedings No. 16, pp. 116-117
- Fowler, K. M. and Fox, J. E. D. 1995 Review of the ecological characteristics of *Acacia victoriae* Benth. *Mulga Research Centre Journal* 12: 65-71
- Fox, J. E. D. 1995 A review of the ecological characteristics of *Acacia saligna* (Labill.) H. Wendl. *Mulga Research Centre Journal* 12: 39-55
- Gott, B. 1997 Choosing Acacia Species for Bushtucker. *Australian Bushfoods Magazine*. 4: 3-5

- Graham, C. and Hart, D. 1997 Prospects for the Australian Native Food Industry. Rural Industries Research and Development Corporation. RIRDC Research Paper No. 97/22.
- Hall, N. and Turnbull, J. W. 1976 *Acacia saligna* (Labill.) H. Wendl. formerly known as *A. cyanophylla* Lindl. Australian Acacias Leaflet No 4, CSIRO Division of Forest Research
- Harwood, C. E. 1994 Human food potential of the seeds of some Australian dry-zone *Acacia* species. *Journal of Arid Environments* 27: 27-35
- Hele, A. 2001 Wattleseed Production Factsheet. Primary Industries & Resources South Australia
- Horner, R. 1992 Collection of *Acacia* seeds in Central Australia. In House, A. P. N. and Harwood, C. E. (eds) Australian dry-zone acacias for human food, pp. 68-73. Australian Tree Seed Centre, CSIRO Division of Forestry: Canberra
- Johnston, T. H. and Cleland, J. B. 1943 Native names and uses of plants in the north-eastern corner of South Australia. *Transactions of the Royal Society of South Australia* 67 (1): 149-173
- Jones, C. 2001 *Acacia retinodes* var. *retinodes*: economic potential. *Australian Bushfoods Magazine*. 16: 15
- Kenrick, J. and Knox, R. B. 1985 Self-incompatibility in the nitrogen-fixing tree, *Acacia retinodes*: quantitative cytology of pollen tube growth. *Theoretical and Applied Genetics* 69: 481-488
- Knott, A. A. 1985 Characteristics of the protease inhibitors of *Acacia* seeds. In Jones, G. P. (ed.), *The Food Potential of Seeds from Australian Native Plants*, pp. 121-145. Deakin University Press: Geelong
- Kube, P. 1987 Growth rates, establishment techniques and propagation of some central Australian acacia. In Turnbull, J. W. (ed.), *Australian Acacias in Developing Countries*. ACIAR Proceedings No. 16, pp. 77-80
- Latz, P. K. 1995 *Bushfires and Bushtucker: Aborigines and Plants in Central Australia*. IAD Press: Alice Springs
- Lister, P. 1999 Wattleseed. *Australian Bushfoods Magazine* 13: 18-19
- Maiden, J. H. 1889 *The Useful Native Plants of Australia*. Technological Museum of New South Wales: Sydney
- Maslin, B. R. 1974 Studies in the genus *Acacia* - 3. The taxonomy of *A. saligna* (Labill.) H. Wendl. *Nuytsia* 1: 332-340
- Maslin, B. R. 1981 *Acacia*. In Jessop, J. (ed.), *Flora of Central Australia*, pp. 115-142. A. H. and A. W. Reed: Sydney
- Maslin, B. R. 1992 *Acacia* miscellany 6. A review of *Acacia victoriae* and related species (Leguminosae: Mimosoideae: section Phyllodineae). *Nuytsia* 8: 285-309
- Maslin, B. R., Thomson, L. A. J., McDonald, M. W. and Hamilton-Brown, S. 1998 *Edible Wattle Seeds of Southern Australia. A review of species for use in semi-arid regions*. CSIRO Publishing: Melbourne
- McDonald, M. W., Maslin, B. R. and Harwood, C. E. 1996 Taxonomic studies of tropical dry-zone *Acacia* species facilitate their domestication. QFRI-IUFRO Conference, Tree improvement for sustainable tropical forestry. 1: 96-98

- Meagher, S. 1974 The food resources of the Aborigines of the south-west of Western Australia. Records of the Western Australian Museum 3 (1): 14-65
- O'Connell, J. E., Latz, P. K. and Barnett, P. 1983 Traditional and modern plant use among the Alywarra of central Australia. Economic Botany 37 (1): 80-109
- Ryan, P. A. and Bell, R. E. 1989 Growth, coppicing and flowering of Australian tree species trials in south-east Queensland, Australia. *In* Boland, D. J. (ed.), Trees for the Tropics, pp. 49-68. ACIAR Monograph No. 10
- Searle, S. 1991 The rise and demise of the black wattle bark industry in Australia. Technical paper no. 1. CSIRO Division of Forestry: Canberra
- Simmons, M. H. 1981 Acacias of Australia. Nelson: Melbourne
- Simmons, M. H. 1988 Acacias of Australia. Vol. 2. Viking O'Neil, Penguin Books Australia Ltd: Melbourne
- Simpson, S. and Chudleigh, P. 2001 Wattle Seed Production in Low Rainfall Areas. Rural Industries Research and Development Corporation. RIRDC Research Paper No. 01/08.
- Tame, T. 1992 Acacias of Southeast Australia. Kangaroo Press: Kenthurst
- Thomson, L. A. J. 1992 Australia's subtropical dry-zone Acacia species with human food potential. *In* House, A. P. N. and Harwood, C. E. (eds) Australian dry-zone acacias for human food, pp. 37-53. Australian Tree Seed Centre, CSIRO Division of Forestry: Canberra
- Thomson, L. A. J., Turnbull, J. W. and Maslin, B. R. 1994 The utilisation of Australian species of Acacia, with particular reference to those of the subtropical dry-zone. Journal of Arid Environments 27: 279-295
- Thomson, L. A. J., Harwood, C. H. and Rinaudo, T. 1996 Australian acacias - untapped genetic resources for human food production in dry tropical Sub-saharan Africa. FAO Forest Genetic Resources Information 24: 69-75
- Thorburn, A. W., Brand, J. C., Chirikoff, V. and Truswell, A. S. 1987 Lower postprandial plasma glucose and insulin after addition of *Acacia coriacea* flour to wheat bread. Australian and New Zealand Medicine 17: 24-26
- Whibley, D. J. E. and Symon, D. E. 1992 Acacias of South Australia. Government Printer: Adelaide

Appendix 2 – General Bibliography

- Anon. 1990 Plants for medicines - a chemical and pharmacological survey of plants in the Australian region. CSIRO Publishing: Melbourne
- Bailey, F.M. 1898 Edible fruits indigenous to Queensland. Queensland Agricultural Journal. Vol 2, part 6
- Bindon, P. 1996 Useful Bush Plants. Western Australian Museum: Perth
- Brand, J. C. and Cherikoff, V. 1985 The nutritional composition of Australian Aboriginal food plants of the desert regions. *In* Wickens, G. E., Goodin, J. R. and Field, J. V. (eds), Plants for Arid Land, pp. 53-68. George Allen and Unwin: London
- Brand, J.C., Rae, C., McDonnell, J., Lee, A., Cherikoff, V., and Truswell, A.S. 1983 The nutritional composition of Australian Aboriginal bush foods. Food Technology in Australia. 35: 293-298
- Cherikoff, V. and Isaacs, J. 1989 The Bushfood Handbook. Ti Tree Press: Balmain
- Cooper, W. and Cooper, W.T. 1994 Fruit of the rainforest. RD Press: Sydney
- Cribb, A.B. and Cribb, J.W. 1981 Wild food in Australia. Collins: Sydney
- Cribb, A.B. and Cribb, J.W. 1984 Wild medicine in Australia. Collins: Sydney
- Graham, C. and Hart, D. 1997 Prospects for the Australian Native Food Industry. Rural Industries Research and Development Corporation. RIRDC Research Paper No. 97/22.
- Hardwick, P. 1996 Davidson's plum. Australian Rainforest Bushfood Industry Association Newsletter, Issue 3 pp 4-13
- Hele, A. 2001 Australian native citrus - wild species, cultivars and hybrids Fact Sheet. Primary Industries and Resources South Australia
- Hele, A. 2001 Bush tomato production Fact Sheet. Primary Industries and Resources South Australia
- Hele, A. 2001 Muntries production Fact Sheet. Primary Industries and Resources South Australia
- Isaacs, J. 1987 Bush food: Aboriginal food and herbal medicine. Weldons Publishing: Sydney
- Johnston, T. H. and Cleland, J. B. 1943 Native names and uses of plants in the north-eastern corner of South Australia. Transactions of the Royal Society of South Australia 67 (1): 149-173
- Jones, G.P. 1985 The food potential of seeds from Australian native plants. Deakin University Press: Geelong
- Lassack, E. and McCarthy, T. 1983 Australian medicinal plants. Methuen: London
- Latz, P. K. 1995 Bushfires and Bushtucker: Aborigines and Plants in Central Australia. IAD Press: Alice Springs
- Low, T. 1988 Wild food plants of Australia. Angus and Robertson: Sydney
- Low, T. 1991 Bush tucker: Australia's wild food harvest. Angus and Robertson: Sydney

Maiden, J. H. 1889 *The Useful Native Plants of Australia*. Technological Museum of New South Wales: Sydney

Meagher, S. 1974 The food resources of the Aborigines of the south-west of Western Australia. *Records of the Western Australian Museum* 3 (1): 14-65

O'Connell, J. E., Latz, P. K. and Barnett, P. 1983 Traditional and modern plant use among the Alywarra of central Australia. *Economic Botany* 37 (1): 80-109

Page, T. 1999 *Developing a sustainable Australian industry based on Kunzea pomifera*. Burnley College: Melbourne

Smith, K. and Smith, I. 1999 *Grow your own bushfoods*. New Holland Publishers: Sydney

Stewart, K. and Percival, B. 1997 *Bush foods of New South Wales: A botanical record of an Aboriginal oral history*. Royal Botanic Gardens, Sydney

Zola, N. and Gott, B. 1992 *Koorie plants Koorie people. Traditional Aboriginal food, fibre and healing plants of Victoria*. Koorie Heritage Trust: Melbourne

Appendix 3 – Quandong Bibliography

- Anderson, R. 1991 A history of the quandong. *In* Quandongs, a viable opportunity. Minnipa Research Centre, Oct. 18, 1991. Dept of Agriculture, South Australia
- Anderson, R. 1991 Aboriginal use of the quandong. *In* Quandongs, a viable opportunity. Minnipa Research Centre, Oct. 18, 1991. Dept of Agriculture, South Australia
- Bailey, P. 1995 The quandong moth, *Paraepermia santaliella*. *In* Proceedings of the 3rd conference of the Australian Quandong Industry Association. Port Augusta.
- Barlass, M., Grant, W. J. R. and Skene, K. G. M. 1980 Shoot regeneration in vitro from Australian native fruit-bearing trees - quandong and plum bush. *Australian Journal of Botany*. 28: 405-409
- Bu'Lock, J.D. and Smith, G.N. 1963 Acetylenic fatty acids in seeds and seedlings of sweet quandong. *Phytochemistry*. 2: 289-296
- Brand, J.C., Rae, C., McDonnel, J., Lee, A., Cherikoff, V., and Truswell, A.S. 1983 The nutritional composition of Australian Aboriginal bush foods. *Food Technology Australia*. 35: 293-298
- Byrne, B.R. 1998 Host-parasite relations of *Santalum acuminatum* (Quandong). *Sandalwood Research Newsletter* 7: 2
- Byrne, B.R. 1998 The physiology and biochemistry of the interaction between the root hemiparasite *Santalum acuminatum* (Quandong) and its host plants. PhD thesis, School of Biological Sciences, The Flinders University of South Australia
- Byrne, B.R. 1998 Practical implications of research on quandong host relations. *Acuminatum*, Spring 1998, p 2
- Conroy, F. 1996 Bush peach becomes a commercial crop. *Rural Research* 172: 11-14
- Deer, T. 1991 Marketing prospects for quandong products. *In* Quandongs, a viable opportunity. Minnipa Research Centre, Oct. 18, 1991. Dept of Agriculture, South Australia
- Ferguson, K. 1999 The quandong moth. *In* Proceedings of the 7th conference of the Australian Quandong Industry Association. Port Augusta.
- George, A.S. 1984 *Santalum*. *In* Flora of Australia Vol. 22, Rhizophorales to Celastrales. Australian Govt Publishing Service, Canberra. 61-66
- George, A.S. 1996 Sandalwoods and quandongs of Australia. *Australian Plants* 13: 318-319
- Gordon-Mills, E. 2000 The Quandong, Australia's premier native fruit. Australian Quandong Industry Association, Upper Sturt, South Australia
- Grant, W.J.R. and Buttrose, M.S. 1978 Domestication of the quandong, *Santalum acuminatum*. *Australian Plants* 9: 316-318
- Gunstone, F.D. and Russell, W.C. 1955 The constitution and properties of santalbic acid. *Journal Chemical Society* 3782-3784
- Hele, A. 2001 Quandong production Fact Sheet. Primary Industries & Resources South Australia.

- Hobman, F.R. 1991 The SA Dept of Agriculture evaluation programme for quandongs. *In* Quandongs, a viable opportunity. Minnipa Research Centre, Oct. 18, 1991. Dept of Agriculture, South Australia
- Jacobs, R. 1998 Some more quandong pests. *Acuminatum*, Winter 1998, p 3
- Jones, G.P., Tucker, D.J., Rivett, D.E. and Sedgley, M. 1985 The nutritional potential of the quandong (*Santalum acuminatum*) kernel. *Journal Plant Foods* 6: 239-246
- Jones, G.P., Rao, K.S., Tucker, D.J., Richardson, B.J., Barnes, A. and Rivett, D.E. 1995 Antimicrobial activity of *Santalum acuminatum* (quandong) kernels. *International Journal Pharmacognosy* 33: 120-123
- Jones, G.P., Birkett, A., Sanigorski, A., Sinclair, A.J., Hooper, P.T., Watson, T. and Rieger, V. 1994 The effect of feeding quandong (*Santalum acuminatum*) oil to rats on tissue lipids, hepatic ctochrome P450 and tissue histology. *Food and Chemical Toxicology* 32: 521-525
- Jones, G.P., Watson, T.G., Sinclair, A.J., Birkett, A., Dunt, N., Nair, S.S.D. and Tonkin, S.Y. 1999 Santalbic acid from quandong kernels and oil fed to rats affects kidney and liver P450. *Asia Pacific Journal Clinical Nutrition* 8: 211-215
- Lethbridge, B. 1998 Germinating bitter quandong. *Acuminatum*, Autumn 1998, p 4
- Lethbridge, B. 1998 Root rot, rootstock and phosphorous acid. *Acuminatum*, Winter 1998, p 4
- Lethbridge, B. 1998 Grafting compatability of quandong. *Acuminatum*, Summer 1998/99, p 2
- Lethbridge, B. 1999 Host plants I - Melaleucas. *Acuminatum*, Autumn 1999, p 4
- Loveys, B.R. and Jusaitis, M. 1994 Stimulation of germination of quandong (*Santalum acuminatum*) and other native plant seeds. *Australian Journal of Botany*. 42: 563-574
- Loveys, B.R., Sedgley, M. and Simpson, R.F. 1984 Identification and quantitative analysis of methyl benzoate in quandong (*Santalum acuminatum*) kernels. *Food Technology Australia*. 36: 280-289
- Possingham, J. 1986 Selection of a better quandong. *Australian Horticulture* 84: 55-59
- Powell, B. 1991 Research history and growing quandongs. Quorn experimental orchard 1974-1991. *In* Quandongs, a viable opportunity. Minnipa Research Centre, Oct. 18, 1991. Dept of Agriculture, South Australia
- Randell, B.R. 1998 Rootstocks and top-grafting in quandong. On-farm selection program for members. *Acuminatum*, Spring 1998, pp 6-8
- Randell, B.R. 1998 Air layering. *Acuminatum*, Summer 1998/99, p 3
- Razikari, H. 1996 An assessment of the commercial potential of quandong (*Santalum acuminatum*) varieties in Broken Hill. Thesis, University of Western Sydney, Hawkesbury
- Rivett, D.E., Jones, G.P. and Tucker, D.J. 1989 *Santalum acuminatum* fruit: a prospect for horticultural development. *In* Wickens, G.E., Haq, N. and Day, P. (eds) *New Crops for Food and Industry*. Chapman and Hall, London. Pp 208-215
- Sedgley, M. 1982 Preliminary assessment of an orchard of quandong seedling trees. *Journal Australian Institute of Agricultural Science*. 1: 52-56

- Sedgley, M. 1982 Floral anatomy and pollen tube growth in the quandong (*Santalum acuminatum*). Australian Journal of Botany. 30: 601-609
- Sedgley, M. 1984 Australia's first commercial fruit? Australian Horticulture 82: 52-59
- Smith, P. 1996 Report on Sunraysia Nurseries quandong orchard progress. *Acuminatum*, Spring 1996, p 11
- Tennakoon, K.U. and Pate, J.S. 1997 Biological and physiological aspects of the *Santalum acuminatum* (quandong) and its hosts in Western Australia. Sandalwood Research Newsletter 6: 1-2
- Tennakoon, K.U., Pate, J.S. and Arthur, D. 1997 Ecophysiological aspects of the woody root hemiparasite *Santalum acuminatum* and its common hosts in south Western Australia. Annals of Botany. 80: 254-256
- Tennakoon, K.U., Pate, J.S. and Stewart, G.R. 1997 Haustorium-related uptake and metabolism of host xylem solutes by the root hemiparasitic shrub *Santalum acuminatum*. Annals of Botany. 80: 257-264
- Walker, R.R. 1989 Growth, photosynthesis and distribution of chloride, sodium and potassium ions in salt affected quandong, *Santalum acuminatum*. Australian Journal of Plant Physiology. 16: 365-377