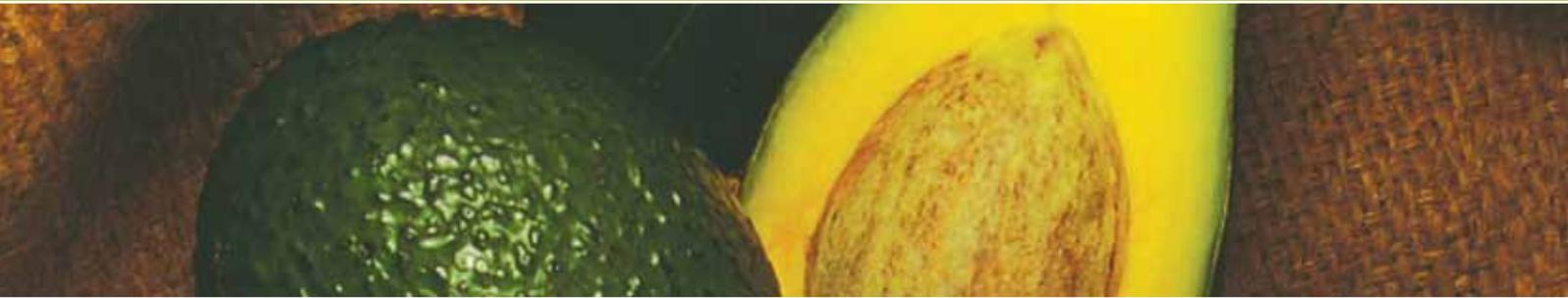


# Avocado information kit

Reprint – information current in 2001



## REPRINT INFORMATION – PLEASE READ!

For updated information please call 13 25 23 or visit the website [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au)

This publication has been reprinted as a digital book without any changes to the content published in 2001. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research:

- Chemical recommendations—check with an agronomist or Infopest [www.infopest.qld.gov.au](http://www.infopest.qld.gov.au)
- Financial information—costs and returns listed in this publication are out of date. Please contact an adviser or industry body to assist with identifying more current figures.
- Varieties—new varieties are likely to be available and some older varieties may no longer be recommended. Check with an agronomist, call the Business Information Centre on 13 25 23, visit our website [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au) or contact the industry body.
- Contacts—many of the contact details may have changed and there could be several new contacts available. The industry organisation may be able to assist you to find the information or services you require.
- Organisation names—most government agencies referred to in this publication have had name changes. Contact the Business Information Centre on 13 25 23 or the industry organisation to find out the current name and contact details for these agencies.
- Additional information—many other sources of information are now available for each crop. Contact an agronomist, Business Information Centre on 13 25 23 or the industry organisation for other suggested reading.

Even with these limitations we believe this information kit provides important and valuable information for intending and existing growers.

**This publication was last revised in 2001. The information is not current and the accuracy of the information cannot be guaranteed by the State of Queensland.**

This information has been made available to assist users to identify issues involved in the production of avocados. This information is not to be used or relied upon by users for any purpose which may expose the user or any other person to loss or damage. Users should conduct their own inquiries and rely on their own independent professional advice.

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained in this publication.



Queensland Government

# Avocado Information Kit

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**Agrilink**  
your growing guide  
to better farming  
**SERIES**  
**QAL9906**

Department of Primary Industries, Queensland  
Queensland Horticulture Institute  
In collaboration with  
New South Wales Agriculture  
and Agriculture Western Australia

## **Avocado Information Kit**

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From the Agrilink series first published 1997

Agrilink concept devised by Noel Vock and Brian Cull

Agrilink products are proudly produced by the Agrilink Project Team:

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### **Disclaimer**

This information kit is distributed by the Department of Primary Industries as an information source only. The information contained in the kit and other material incorporated by reference is provided solely on the basis that the reader will be responsible for making his/her own assessment of the content and seek professional advice. Readers must note that the information contained in this kit has been developed for growers in Australia, and the Department of Primary Industries and its collaborators in this product give no warranty that the information is suitable for conditions outside the Australian areas for which it is written.

# Foreword

The Queensland Horticulture Institute is a business unit of the Department of Primary Industries with staff located at 17 centres across the State. It is the service delivery arm of the Queensland Government's support for the fruit, vegetable and amenity horticultural industries.

The core business of the Queensland Horticulture Institute is providing effective technical, scientific and market driven solutions for the horticultural industries. A key element of this is information. Our team of researchers, extension officers and other skilled professionals generates, formats and distributes information to advance the horticultural sector.

Agrilink is a new concept in developing and packaging the information that is regularly sought by producers of horticultural commodities.

Each Agrilink kit has been designed to be both comprehensive and practical. As the kits are arranged to answer questions of increasing complexity, they are useful references for both new and experienced producers of specific crops. Agrilink integrates the technology of horticultural production with the management of horticultural enterprises.

Agrilink is a team effort. Each kit has been conceived and written by a team of extension and research staff with specialist knowledge of the crop and commodity. Most of the kits have been field-tested by producers and other users. Agrilink products are being produced to high quality standards so that you can obtain maximum benefit from your investment in information.

Technology and crop management information are changing rapidly. Agrilink has been designed so that each kit can be regularly updated and kept relevant as a practical aid for horticultural producers.

The Queensland Horticulture Institute aims to be the key provider of innovative research services and support for the development of horticulture in Queensland. We seek to find solutions through science. Agrilink is a means of bringing that information to you.

Grant Hall  
Director  
Queensland Horticulture Institute

# Acknowledgements

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Photographs for the *Problem solver* were kindly provided by Tony Whiley, Simon Newett, Ken Pegg, Peter Hofman, Geoff Waite, Bruno Pinese, Roger Broadley, Scott Ledger and Noel Vock, from the Department of Primary Industries, Queensland; and the authors and editors of the following publications:

- *Avocado pests and disorders*, Roger Broadley et al, Department of Primary Industries, Queensland;
- *Diseases of fruit crops*, Denis Persley (ed), Department of Primary Industries, Queensland;
- *Insect pests of fruit and vegetables*, G.A. Swaine, D.A. Ironside and R.J. Corcoran (eds), Department of Primary Industries, Queensland;
- *Plant nutrient disorders 3 – Tropical fruit and nut crops*, R.G. Weir and G.C. Cresswell, NSW Agriculture.

Some of the information and diagrams for this kit were derived from: AVOMAN software package; *Avocado pests and disorders* by Roger Broadley et al; *Protect your avocados* by Roger Broadley et al; and the prototype of the *Agrilink Queensland avocado information kit* by Simon Newett and Noel Vock.

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The authors particularly thank Australian avocado growers for freely providing information for reference by the authors.

We also thank Sarah Heaton for helping compile the *Key issues* section of the kit; Ann Slade and Larissa Bartel for helping compile the *Contacts* section; Rose Swete Kelly and Jenny Kemp for providing the line drawings; and

# Preface

To be viable and competitive, horticultural growers face many challenges. These require significant economic and social restructuring and the adoption of new, complex and high risk technologies. The main prerequisite for these decisions is the availability of high quality, timely and relevant information.

Producing this information was the challenge that triggered the Agrilink information concept in 1992. Agrilink evolved from research that showed our existing information at that time lacked completeness, quality, easy access and regular updating. Over the past nine years, Agrilink has developed, tested and produced a new information system to address these deficiencies.

Agrilink is built around several important principles. Its products focus on the core information that is most needed and regularly sought by growers. The information is presented in line with how it has been sought from us over the past 15 years. The contents are packaged into integrated information kits that make access and information retrieval easy. For the first time, we are providing a commitment to updating the information each year. The whole system is being operated under quality management to guarantee product quality and integrity.

The development of Agrilink has been a team effort. I thank all of the DPI staff, consultants and growers who have cooperated in our information gathering workshops. I also thank the artists, printing consultants and editors who have helped to turn the raw information into information kits. This new stage of Agrilink is possible through the funding support of DPI's New Initiatives Program, for which I am particularly grateful. This support has enabled a specialist project team to be developed to carry on the work. I thank this team for the wonderful effort they have put in to getting this new stage off the ground.

Four people deserve special mention. Brian Cull helped to develop the Agrilink concept and has vigorously encouraged its development since. Geoff Behncken provided the initial funding and was instrumental in helping secure the special funding for this new stage. Loraine Chapman has provided a range of specialist design and desktop publishing skills, a contribution which has been outstanding. Cheryl Hutchings helped to develop the Agrilink logo and has provided valuable commercial advice throughout.

I believe that Agrilink has made considerable progress in the challenge to provide high quality, timely and relevant information to Queensland's horticultural industries. The Agrilink project team looks forward to continuing the work into the new millennium.

Noel Vock  
Agrilink Project Leader

# About the authors

Ethna Brown for digitising the images.

## **Simon Newett**

Simon is an Extension Horticulturist with DPI's Queensland Horticulture Institute, based at Maroochy Research Station, Nambour. He has 20 years' experience in the subtropical fruit industries of Queensland. Since joining DPI in 1992, he has been involved in providing extension and industry development services to the avocado, pineapple and passionfruit industries. A major part of his role with the avocado industry has been the development, adoption and maintenance of the AVOMAN decision support software package and the AVOINFO information database.

## **Tony Whiley**

Tony is a Principal Horticulturist with DPI's Queensland Horticulture Institute, based at Maroochy Research Station, Nambour. He has 33 years' experience in horticultural research, with a major involvement in physiology, agronomy and plant improvement within the avocado, mango, ginger and banana industries. In avocados, he has played a major role in the development of phosphonate fungicide for root rot disease, canopy management, nutrition and pheno-physiological modelling for research and extension. He has also been a key member of the AVOMAN and AVOINFO project teams.

## **John Dirou**

John is a District Horticulturist with NSW Agriculture, based at the Tropical Fruit Research Station, Alstonville. He has 24 years' experience in horticulture in New South Wales, the last 14 of those on the North Coast. John managed the Tropical Fruit Research Station before taking up his present extension role. He currently provides extension services to the avocado, passionfruit and mango industries.

## **Peter Hofman**

Peter is a Senior Principal Horticulturist with DPI's Queensland Horticulture Institute, based at Maroochy Research Station, Nambour. He has been involved in research on subtropical and tropical tree fruit in South Africa and Australia for over 21 years; the past 13 years concentrating on postharvest quality of avocados and mangoes. His current involvement in avocado research includes two major projects: leader of the *Avocare* project, which is identifying practices contributing to quality loss from the grower to retail store; and the development of rootstock and nutrition practices in Hass to reduce diseases and internal disorders.

### **Greig Ireland**

Greig is an Extension Horticulturist with NSW Agriculture, based at Coffs Harbour. He has 27 years' experience in subtropical fruits, with involvement in the avocado, banana, blueberry, kiwifruit, flower and nursery industries. He is a past secretary of the Coffs Harbour Branch of the Avocado Growers' Association, and has been a member of the AVOMAN project team responsible for the development and adoption of the program in New South Wales, Victoria and South Australia.

### **Irene Kernot**

Irene is a Senior Information Extension Officer with DPI's Queensland Horticulture Institute, based at the Centre for Tropical Agriculture, Mareeba. For the past 11 years she has worked with local avocado growers to improve production, handling and marketing practices, with particular emphasis on the Shepard variety. As a member of the AVOMAN project team, she produced picking and quality control guides along with other contributions to the AVOMAN project.

### **Scott Ledger**

Scott is a Principal Extension Horticulturist with DPI's Queensland Horticulture Institute, based at the Indooroopilly Research Centre. He has worked as a horticultural extension officer for 27 years, the past 20 years' specialising in postharvest handling and marketing of horticultural produce. He has extensive experience with a wide range of crops, covering technology development, identifying and quantifying quality hazards and implementing quality management systems, and has worked with businesses throughout the supply chain from grower to retailer. Recent avocado projects have included development of the AVOMAN software package, working with supply chains to improve quality management throughout the chain, and conducting practical training courses in quality management for growers.

### **Alec McCarthy**

Alec is a Horticulturist with Agriculture Western Australia, based at Bunbury District Office. He has 13 years' experience in fruit and amenities horticulture. Since joining AGWEST in 1992, he has been involved in industry development and research for most major fruit crop industries in the state's south-west, including avocado, persimmon, stonefruit, pomefruit, citrus and viticulture. A major part of his role with the avocado

industry has been assisting in the development and adoption of the AVOMAN software package, the AVOINFO information database and a base SQF2000<sup>cm</sup> package for avocado growers and packers.

### **Julie Miller**

Julie was formerly an Information Extension Officer with DPI's Queensland Horticulture Institute, based at the Centre for Tropical Agriculture, Mareeba. With a degree and background in agricultural economics, she compiled economic analyses for a range of Agrilink information kits, as well as various DPI Notes on gross margins for crops grown in Far North Queensland. A major part of her role was providing information and extension services to horticulture producers across the Atherton Tablelands.

### **Ken Pegg**

Ken is a Senior Principal Plant Pathologist with DPI's Queensland Horticulture Institute, based at the Indooroopilly Research Centre. He has 43 years' experience in developing disease management programs for tropical and subtropical fruit crops. In avocados he played a major role in developing an integrated management system for *Phytophthora* root rot. This included biological and cultural control strategies as well as the application of phosphonate fungicides. He is currently



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