Integrated pest management in ornamentals information kit
Reprint – information current in 2000

REPRINT INFORMATION – PLEASE READ!
For updated information please call 13 25 23 or visit the website www.deedi.qld.gov.au

This publication has been reprinted as a digital book without any changes to the content published in 2000. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research: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 Infostore www.infpest.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• Financial information—costs and returns listed in this publication are out of date.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.deedi.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 2000. 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 ornamental horticulture. 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.
Further Reading

What can you expect to learn from this section?

Where you can get more information, either printed or electronic, that might be useful to you.

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Further reading

Web sites

This list of web sites is based on the book Horticultural Sites on the World Wide Web by V. Lane, Department of Primary Industries, Queensland. It is available from:
GrowSearch Australia
PO Box 327
CLEVELAND QLD 4163
Ph. (07) 3821 3784

Australasian Biological Control—Goodbugs
http://www.goodbugs.org.au
The home page of the Australasian Association of Beneficial Arthropod Producers, contains a fact sheet What is IPM? and a list of Australian commercial producers of biocontrol agents.

AgNet—a big list of Australian agricultural sites

AgriWeb Australia
On-line information for Australian farmers. Look here for market reports, classified advertisements and information on agricultural mailing lists.

Association of Natural Bio-control Producers
http://www.anbp.org
A collection of biocontrol fact sheets and the on-line Bio-control Matters newsletter. The association is based in Western North America.

Biological Control Virtual Information Centre
http://ipmwww.ncsu.edu/biocontrol/biocontrol.html
Look here for general information on biocontrol.

Biological Control at the University of California
http://www.biocontrol.ucr.edu/
An excellent resource on biocontrol from this university.

BioResources
http://www.bioresources.com.au
The home page of BioResources, a biocontrol company based in Queensland.

Bugs for Bugs
The home page of a major Australian biocontrol agent producer and monitoring service based in Queensland.

Cornell University Biological Control Site
http://www.nysaes.cornell.edu/ent/biocontrol/
Photographs and descriptions of biocontrol of major insect, disease and weed pests in North America. The site also contains a biocontrol/IPM tutorial.

Entomology on the Web
http://www.colostate.edu/Depts/Entomology/www_sites.html
A collection of entomology links.

HINT
Search the web on key words: IPM, greenhouse, biological control.

John Bunker, from Redlands Nursery in Queensland, has gathered information from workshops, cooperative research and trial programs with research agencies or the Department of Primary Industries in Queensland, magazines, overseas publications and the Internet. He says:

“On my Internet site at home I have a couple of favourite IPM programs from Europe and the United States, which have very interesting information that is regularly updated.”
Further reading

Entomology Resources at Iowa State
http://www.ent.iastate.edu/List/
On-line directory and search engine of insect-related resources on the Internet. Look here for information on beekeeping, biocontrol, IPM and pesticides; chapters on palm genera; common names of palms; palm conservation.

Entomology Virtual Library
http://www.colostate.edu/Depts/Entomology/WWWVL-Entomology.html
Search here for entomology bulletin boards, list servers, and news groups.

FarmingOnLine
Rural Press Ltd is Australia’s leading publisher of regional and rural newspapers and magazines. Farming OnLine, the company’s electronic publication, contains agricultural news, market reports, weather reports and classified advertising.

Florida Entomologist
http://www.fcla.ufl.edu/FlaEnt/fehmpg.htm
On-line journal features full-text papers on pest and pest control issues.

Flowerbase
http://www.flowerweb.nl/
A list of Dutch flower auctions. Information on Dutch companies involved in the floriculture industry can also be accessed.

Greenem Biological Control
http://www.greenem.com.au
Biocontrol product information and contact details from a company based in Victoria.

Greenhouse Coverings
http://www.agric.gov.ab.ca/crops/hort/grnhouse/index.html
This Alberta, Canada site contains a regular monthly newsletter on IPM in greenhouse crops and is full of practical advice.

Greenhouse Pest Management
http://www.wvu.edu/~agexten/ipm/common/insect/Greenhs/index.html
This US site links to a wealth of greenhouse pest management resources including on-line pest identification guides. Look here for information on biocontrol agents and pesticides.

Horticultural Auctions (wholesale) Aalsmeer, the Netherlands
http://www.netland.nl/~hanns/Welcome.html
The wholesale prices of flowers, pot plants and garden plants at the Dutch markets can be viewed at this site.

Hortnet
http://www.hortnet.com/
Hortnet links to sites with information on chemicals, equipment and greenhouses. The site also connects to the HortNet Bulletin Board—a place for growers to exchange ideas.

Introduction to Insecticides
http://ipmworld.umn.edu/chapters/ware.htm
Background to insecticide use and function.

Wayne Bacchi, from Wholesale Indoor Foliage in Queensland, has been practising IPM for 10 years. He has gathered IPM information from books, Australian and overseas workshops, and has asked suppliers of biocontrol agents or his local agricultural department. He says:

“A lot of the training is on-site learning through experience, what works and what doesn’t.”
Further reading

IOBC/SEAPRS Working Group on IPM in Greenhouse Crops
A working group based in Australia and New Zealand and representing scientific and industry interests in south-east Asian and Pacific region countries. The aim of the Working Group on IPM in Greenhouse Crops is to promote the development and adoption of IPM in the greenhouse industry and to facilitate the frequent exchange of information and progress in research. This site contains the Monitor, the group’s on-line newsletter. The proceedings of the 1999 grower workshop, The Latest Overseas Developments in IPM, can also be viewed on-line.

Koppert
http://www.koppert.nl/english/
The homepage of Koppert Pty Ltd, the largest biocontrol agent producer in Europe. It provides excellent resources on the large range of beneficials produced by them.

New York State Integrated Pest Management Program
http://www.nysaes.cornell.edu/ipmnet/ny/
Information about New York State’s IPM programs (fruits, vegetables, ornamentals and turf grass).

Nursery Industry Association of Australia (NIAA)
http://www.niaa.org.au/
The Nursery Industry Association of Australia is the peak industry body for the Australian nursery industry. This site details the NIAA’s strategic plan and contains information on marketing and promotional research, industry development, exports and the nursery products levy. Full copies of The Nursery Papers can be viewed. A version of the Nursery Industry Accreditation Scheme, Australia (NIASA) Best Practice Guidelines can also be accessed through this web site. The site also contains a collection of useful links.

National Science Foundation (NSF) Centre for IPM
http://ipmwww.ncsu.edu/cipm/
Pest management and production information for commercial crops (fruits, vegetables and field crops); information on urban and municipal integrated pest management; and specific pesticide recommendations.

Northeast Greenhouse IPM Notes
http://www.rce.rutgers.edu/pubs/greenhouseipmnotes/ghipmnotes
Monthly note containing pest and disease report and IPM articles from experts. Strongly recommended.

Ohio Florists Association
Ohio Floriculture Online is a practical publication aimed at commercial growers of cut flowers. This site links to full-text back issues of the publication.

Ohio IPM
http://www.ag.ohio-state.edu/~ipm/index.html
A wealth of pest management information relevant to field crop producers.

Plant Pathology Internet Guide Book (PPIGB)
http://www.scisoc.org/ppigb/
Further reading

The Plant Pathology Internet Guide Book contains links to plant pathology and applied entomology Internet resources. The site is maintained by Germany’s University of Hanover.

**Queensland Nursery Industry Association (QNIA)**
http://www.qnia.asn.au/
The Queensland Nursery Industry Association is the State’s peak industry body representing the nursery industry (wholesale and nursery industries, garden centres and other allied trades). This site contains a list of association contacts, activities, information and publications.

**Radcliffe’s IPM World Textbook**
http://ipmworld.umn.edu
This on-line Integrated Pest Management textbook features chapters by internationally recognised experts.

**Texas A&M Greenhouse Management Handbook**
http://extension-horticulture.tamu.edu/greenhouse/ghhdbk/handbook.html
A great on-line handbook. Look here for information on greenhouse structures; greenhouse heating; growing media and pH; fertilising greenhouse crops; diagnosing nutritional deficiencies; irrigation; monitoring water quality; water treatments; and managing soluble salts.

**Western flower thrips in Australia**
Information on Australia’s National Strategy for the management of Western Flower Thrips and Tomato Spotted Wilt Virus; on-line western flower thrips newsletters; and links to other sites of interest. It also lists host plants of tomato spotted wilt virus and western flower thrips.

**Whiteflies**
http://www.ifas.ufl.edu/~ent2/wfly/
Look here for information on banded-winged, greenhouse, silverleaf, and sweet potato whiteflies.

**Publications**


*Biological Control: Protected Crops*, Helyer, N. & Richardson, P.N. (1991), Grower Publications.


APS books are available from:
APS Press Headquarters
3340 Pilot Knob Road
ST. PAUL, MN 55121–2097 USA
Ph: +1 651 454 7250
Fax: +1 651 454 0766
E-mail: aps@scisoc.org
Web: http://www.scisoc.org/apspress/


Horticultural Sites on the World Wide Web, Lane, V. (1999, 3rd edn), Department of Primary Industries, Brisbane & GrowSearch Australia.

Further reading


Ornamental Plants—Pests, Diseases and Disorders, Bodman, K.G. et al. (1996), Department of Primary Industries, Brisbane, Information Series QI96001.


The Secretary
Australasian Biological Control Inc.
PO Box 436
Bourke Street
RICHMOND NSW 2753
Ph: (02) 4570 1331; Fax: (02) 4570 1314


Further reading

*Wye College Biological Control Handbook.* Cost: £(Sterling)5.95. Available from:
Defenders Ltd
PO Box 131
Wye
Ashford
KENT TN25 5TQ UK

**The Nursery Papers**


- **TNP 2000#05** Hygiene in the nursery—disinfecting production surfaces; cement, gravel, capillary mats and sand beds.
- **TNP 2000#02** Hygiene and sanitation of working surfaces in the nursery.
- **TNP 2000#01** Western flower thrips insecticide management.
- **TNP 1999#02** Beware of *Chalara elegans*—black root rot.
- **TNP 1999#11** Windbreaks, an investment in quality and profitability.
- **TNP 1999#10** The southern red mite, another new pest.
- **TNP 1999#09** Warning! Industry chemicals under review.
- **TNP 1999#07** Ash whitefly—a new pest.
- **TNP 1999#03** Slow sand filtration (SSF) for water treatment in nurseries and greenhouses.
- **TNP 1999#01** Greenhouse insect screens—making the right selection.
- **TNP 1998#002** Getting control of weevil borers and leaf beetles in palms.
- **TNP 1998#006** Measure and improve your environmental performance.
- **TNP 1998#007** Biological control of insect pests: now and tomorrow.
- **TNP 1997#003** Chasing consistent disease suppression in potting media.
- **TNP 1997#005** A step-wise programme for practising IPM.
- **TNP 1997#006** Controlling *Botrytis* (grey mould) in nurseries.
- **TNP 1997#007** Keeping pests out with screening.
- **TNP 1997#008** Water disinfection? Chloro-bromination and ozone systems get the thumbs up.
- **TNP 1997#009** Silverleaf whitefly: management of a new nursery pest.
- **TNP 1997#010** New hygiene protocols will reduce disease and save on control costs!
- **TNP 1997#011** Grubs in your post? Are they weevils and what can you do about it?
- **TNP 1997#012** Managing western flower thrips.
- **TNP 1996#004** Monitoring and managing recycled water quality in nurseries.
Further reading

TNP 1996#005 Using ultraviolet radiation and chlorine dioxide to control fungal plant pathogens in water.
TNP 1996#008 Biological control of thrips, mites and other insects.
TNP 1996#012 Controlling downy mildew in nursery seedlings.
TNP 1996#013 Rid seeds of disease—give them a sauna.

Magazines

Australian

Australian Horticulture—IPM Notebook and other articles on pest and disease management, $75 a year. Ph: 1800 035 351
Australian Nursery Manager (6 issues a year). Inserted in Australian Horticulture and free to subscribers

Overseas

GMPro (formerly Greenhouse Manager) (monthly, USA). $US120 a year. Ph: (817) 882 4120
Greenhouse Grower (12 issues a year, supplements in autumn and spring, US). $US80 a year airmail. Ph: (800) 572 7740
Grower (weekly, UK) £ (Sterling)123 a year. Ph: 01 322 660 070
Grower Talks (monthly, USA). $US75 a year. Ph: (630) 208 9080
Practical Hydroponics and Greenhouses (every second month). $45 a year. Ph: (02) 9905 9933
Available from:
Bio-Integral Resource Centre (BIRC)
P O Box 7414
Berkley
CALIFORNIA CA 94707 USA
E-mail: birc@igc.apc.org

CD-ROM

Infopest—pest management information system, Department of Primary Industries, Brisbane. Cost: $95 for the Infopest CD and $180 for an annual subscription (three CDs, one every four months). Available from:
Infopest Marketing Manager
Animal & Plant Health Service
Department of Primary Industries
GPO Box 46
BRISBANE QLD 4001
Ph: (07) 3239 3967; Fax: (07) 3211 3293
E-mail: infopest@dpi.qld.gov.au

NOTE
Magazine prices may change. Always check with the publisher.