



Greenhouse Cucumber Extension Project

The development of the Australian greenhouse cucumber industry relies heavily on good communication of relevant, practical scientific outcomes and general industry information to growers.

A Greenhouse Cucumber Extension Project was established to assist industry development by creating better industry networks; providing education and training opportunities; helping growers access information on improved horticultural practices; and facilitating the dissemination of project outcomes.

Due to the complexity of establishing good linkages and networks in a demographically diverse industry, a three point strategy was adopted. This strategy aims to:

- Support effective relationships between research and development (R&D) providers and the State Vegetable Industry Development Officer's (VIDO's). These relationships assist growers by improving their awareness of and access to information about improved greenhouse cucumber horticultural practices.



- Undertake a range of extension activities to increase industry awareness of: R&D, sources of information and training opportunities and also extend existing information regarding good agricultural practices (GAP).
- Develop, and make available, distinct sources of information that offer growers opportunities for long-term further education.

Underpinning and complementing this project was a research component conducted at the National Centre for Greenhouse Horticulture (NCGH), Gosford.



The bottom line

- The National greenhouse cucumber and vegetable industries are now better linked and enjoy improved communication
- Growers have access to a range of greenhouse cucumber and vegetable resources and training
- Improved horticultural practices are being adopted by Australian greenhouse cucumber growers



A series of demonstrations featured crop and system management of GAP greenhouse cucumber crop production (conducted by Dr Sophie Parks, NCGH). Full demonstration details will be in this project's final report, available in early 2005.

Complementary Projects

A unique aspect of the Greenhouse Cucumber Extension Project was its integration with two other greenhouse cucumber research projects being conducted by NSW Agriculture, at the NCGH in Gosford. The two projects are:

- *Improvements to biological control systems and development of biorational chemicals for IPM in the greenhouse vegetable industry* (conducted by Dr Stephen Goodwin and Marilyn Steiner - National Centre for Greenhouse Horticulture).
- *Integrated management of greenhouse cucumber and capsicum diseases* (conducted by Len Tesoriero - Elizabeth Macarthur Agriculture Institute).

Pest and disease management practices and outcomes from these two research projects formed an important part of a series of workshops held for growers across Australia.

Extension Activities

A range of extension activities were undertaken throughout the project to increase industry awareness, including:

- A survey of greenhouse vegetable growers established industry needs and goals. It also provided a forum for growers to voice their opinions on the industry.
- Feature articles outlining R&D activities appeared in national industry magazines.
- Growers in Queensland, New South Wales, Victoria, South Australia, Western Australia and the Northern Territory participated in workshops which outlined the latest R&D outcomes for: improved pest and disease management; implementing Integrated Pest Management (IPM) programs; crop nutrient disorders; and greenhouse hydroponic cucumber production.
- An award winning display booth by the NCGH team (encompassing all three projects) was set-up at the Australian Hydroponic and Greenhouse Conference in Melbourne in 2003.
- 'Grower Days' have been held at the NCGH, as well as on-farm, to provide growers with GAP information on IPM, disease and nutrient disorders, irrigation and media, hydroponics and crop management.



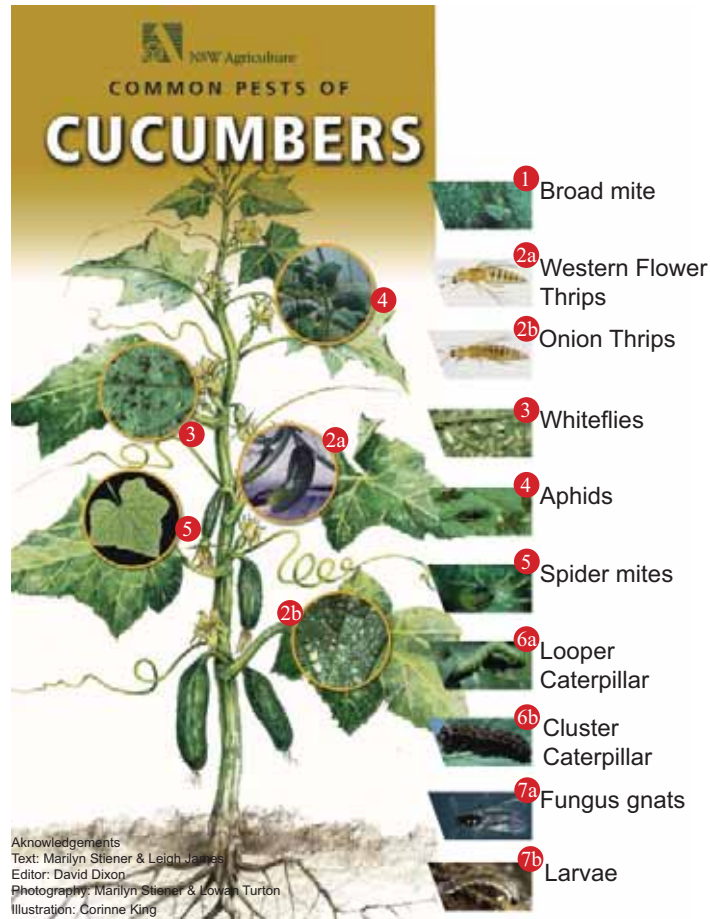
New Information Resources

In addition to those already available, several new resources relevant and useful to growers have been developed. This includes a comprehensive and easy to read Commercial Greenhouse Cucumber Production Manual, available in early 2005.

In addition to the manual, two up-to-date informative wall posters, entitled *Common Diseases of Cucumbers* and *Common Pests of Cucumbers*, have been produced and distributed. The posters are designed to provide growers with a pest and disease reference and include information on a new disease called Beet Pseudo-Yellows Virus, as well as Western Flower Thrips.

In NSW, the project interacts with an industry providers group comprised of resellers, company representatives, researchers and extension people. The group aims to improve industry cohesion and communication in the Sydney basin (home of the largest Lebanese cucumber production area in Australia).

It also provides on-going support to the State greenhouse growers' association, Greenhouse Vegetables NSW. These two groups address issues affecting intensive horticulture in the region, including greenhouse vegetables.



The meetings and workshops have provided a greater number of greenhouse cucumber growers with access to training and accredited courses. In NSW these courses include *SMARTtrain*, *WaterWise* and *IPM Basics* and a new package for greenhouse growers called *The Business of Greenhouse Hydroponic Vegetables*.

These gatherings have also given growers the latest information on IPM and disease management practices.

The project also involved promoting the availability and use of a range of existing resource materials to help growers get the best information possible.

These resources include:

- Pests, Diseases, Disorders and Beneficials in Greenhouse Vegetables: Field Identification Guide
- Integrated Pest Management in Greenhouse Vegetables: Information Guide
- Disease Management for Greenhouse Cucumbers (NSW Agriculture Agfact publication)
- Nutrient Disorders of Greenhouse Lebanese Cucumbers (NSW Agriculture Agfact publication)



Finally, a national greenhouse vegetables email chat line, *ListServe*, has been established. While the use of the internet and email is still relatively new to many growers, the technology has been utilised to provide an on-going opportunity for growers to network and source information. This resource, like the manual and posters, will continue to provide opportunities for growers to learn well beyond the conclusion of this project.

This project has not only established better access to commercial greenhouse cucumber production information, it has also helped industry members gain a better understanding of Industry roles, needs and opportunities. For example:

- better knowledge of the AusVeg levy
- understanding the pesticide permits process
- the need to promote R&D priorities.



The development of good relationships and industry linkages has enabled growers around Australia to meet researchers, learn about what they do and gain an understanding of R&D and how it improves greenhouse cucumber practices and profitability.

Futher Information

For further information, contact The NCGH
Ph 02 4348 1900 www.agric.nsw.gov.au
OR contact you State Vegetable IDO

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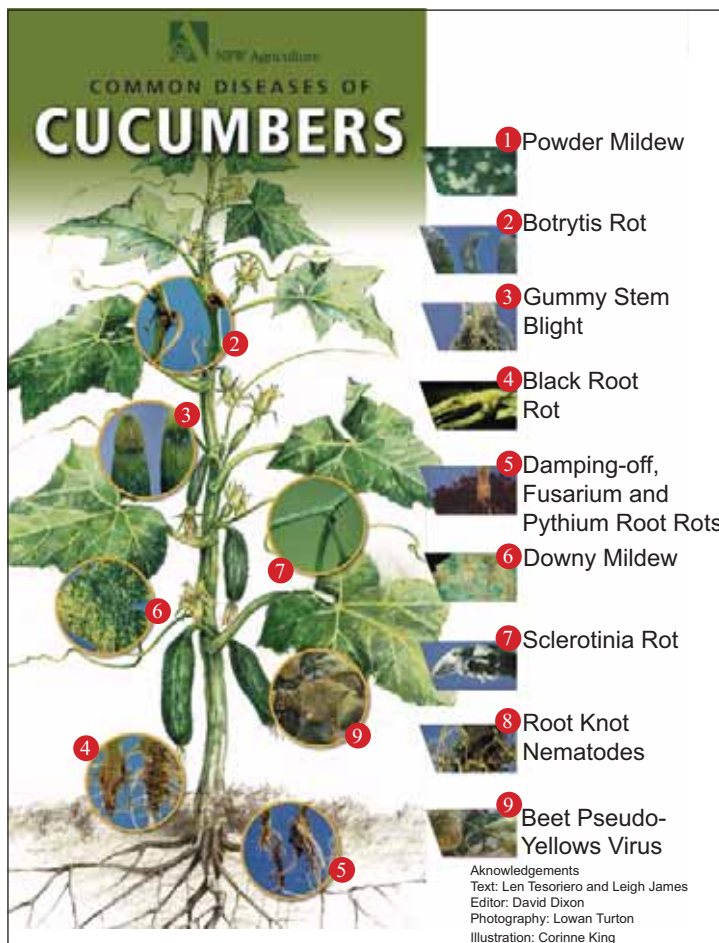
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