

PEACHES, NECTARINES--What do you want to explore?

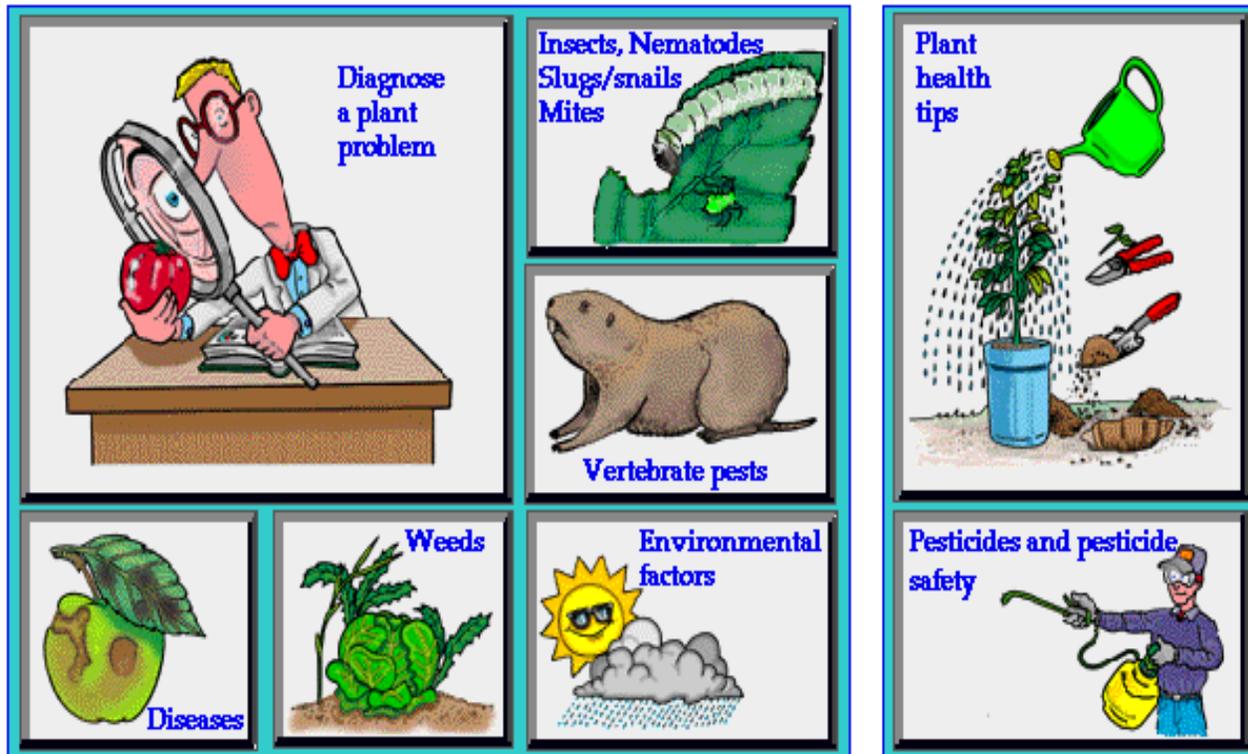


Table of contents allows user to explore peach and nectarine topics.

Development of a CD-ROM– Based Delivery System for Pest Management and Horticultural Information for Home Gardeners

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The project goal is to develop a CD-ROM-based system aimed at helping UC horticultural advisors, Master Gardeners, and retail nursery personnel respond to callers or visitors to garden shows and other public events. The system will assist in diagnosing plant problems and making recommendations that minimize the use of toxic chemicals in the home and landscape environment.

Accomplishments - July 1996-December 1997

Technical Advisory Committee. To assure that the final product meets the needs of the intended users, we have established a technical advisory team to assist in defining user requirements, reviewing designs, and testing. The technical advisory team is comprised of four environmental horticultural advisors, a master gardener, two retail nursery industry representatives, and a landscape pest management professional.

The Technical Advisory Committee has met three times. In November 1995, the committee met to define user requirements, screen designs and review processes. In March 1996, the committee previewed a prototype of the first module on tomatoes. The committee also determined which vegetable and fruit tree species to cover and which pests and disorders on each crop are common problems. At our third meeting, in November 1996, the



Mature *Rhododendron* sp.

Rhododendron - *Rhododendron* spp.

Plant ID

Rhododendron spp. are evergreen or deciduous shrubs or small trees. Most are known for colorful flowers.

Optimum conditions for growth

The growing zone for Rhododendrons varies by species; they do best along coastal areas or areas with marine effects. They generally prefer filtered shade and require consistent irrigation and excellent drainage. They are best grown in acid soils rich in organic matter.



Flowers of *Rhododendron*

Pests and disorders of *Rhododendron* spp.

Invertebrates	Flower blight
Aphids	Gray blight
Azalea bark scale	Leaf gall
Cutworm	Necrotic ring spot virus
Foliage feeding caterpillars	Oak root fungus
Leafrollers	Phyllosticta leaf spot
Loopers	Powdery mildew
Greenhouse thrips	Rust
Lace bug	Environmental disorders
Leafminers	Frost
Root weevils	Iron deficiency
Spider mites	Marginal leaf necrosis
Whiteflies	Physiological leaf spot
Diseases	Salt burn
Botrytis shoot blight	Sunscaud
Branch and twig dieback	Tissue proliferation
Collar, crown and root rot	

Choose new plant

Ornamental main

Exit ornamentals

Users can gain access to pests and disorders of several woody ornamentals through a diagnosis key or by viewing individual plant species. Over 600 photos are included in the woody ornamental component.

committee approved the format and content of the pilot modules for tomatoes and apples and our production schedule for 1997. Throughout 1997, the committee provided feedback on the content of the remaining fruit trees and vegetable crops and well as on the landscape tree and shrub component.

The Technical Committee members received CD-ROMs containing the 40 vegetable and fruit tree crops to review and test in the field during December 1997. Their feedback is being incorporated into the final version of the program.

Development of the CD-ROM. The first step in the development of the CD-ROM was to examine the structural and graphic needs of the project and choose an authoring system. We used Authorware by Macromedia to produce the CD-ROM as it is most compatible with the requirements of the delivery system and the needs of the subject matter translation.

Using feedback from our Advisory Committee we have developed a production plan, identified the audience (first horticultural advisors, Master Gardeners, and retail nursery clerks; home gardeners are secondary),

defined the structure and basic flow of modules (one crop—one pest or one crop—one cultural practice with extensive use of hypertext to get into more details of “how-to” or biology), created a storyboard outline of content and flow, and finalized design style layout, format, look, and conventions. The basic structure is plant based, with a user traveling through a diagnosis key by answering multiple choice questions or pressing on a visual hot spot. However, many interrelationships between pests, plants, environmental factors, and other organisms are also programmed so that the user is not limited to a single path through the system. For instance, users can find out information about a pest by going through a diagnostic key to identify an unknown pest or if they already know what their pest problem is they can go directly to it using menus.

Drawing from the UC DANR publications *Pests of the Garden and Small Farm* and *Pests of Landscape Trees and Shrubs*, the Fresno County Master Gardener Flip File, and other sources, we produced modules for pest and problem diagnosis for 40 crops. Each module covers between 15 and 35 invertebrate and pathogen pests and

disorders plus 47 weeds and 10 vertebrates that cause problems generally on the west coast. We were able to complete the CD-ROM resource for vegetable and fruit tree crops and present it at the International Master Gardener Conference in Sacramento in July 1997.

A woody ornamental component was completed in December 1997. This component contains pests and disorders of over 50 landscape tree and shrub species. Users can gain access to pests and disorders of several woody ornamentals through a diagnosis key or by viewing individual plant species. The format of each pest module follows that of the modules in the vegetable and fruit tree component. A stand-alone screen for each pest can be printed out and given to clientele. Each pest module has been researched and compiled, hyperlinks were determined, and photos were identified, located and digitized. Over 600 photos are included in the woody ornamental component. A general plant health section is also included. The information we are presenting is available nowhere else and will have great value for California gardeners. A by-product of this effort will be upgraded pest management recommendations for hundreds of pests in the garden and landscape. All material is currently being reviewed by experts. We will make final revisions based on these reviews before releasing the CD-ROM in its final format.

Future Plans

We will be working with our Technical Advisory Committee of horticultural advisors, Master Gardeners, and retail nursery professionals to develop an interactive training system that will be specifically programmed to individually train retail nursery personnel and master gardeners to answer questions related to common garden and landscape problems. The training program will

be designed by reconfiguring some of the information in the CD-ROM into a system that includes learning exercises and self-testing capabilities. It will focus on groups of pests and disorders that are commonly seen on landscape and garden plants as it guides users through the basic science of problem diagnosis in a step-by-step procedure, tagging common problems and pitfalls.

The program will be divided into several modules, each one covering a group of pests or disorders. We have already completed one module on slugs and snails. We also plan to develop specialized modules on weed management, biological control, pesticides, and an overview of integrated pest management. Interactive tutorials will allow a user to walk through parts of the presentation and answer questions.

We expect the interactive training system to be an efficient way to train new retail nursery employees and Master Gardeners. The program will vastly improve the ability of retail nursery employees and Master Gardeners to answer horticultural questions from its rapidly increasing urban/suburban gardening clientele. The program will provide the user with a solid foundation of the principles of pest management, equipping them with the knowledge to diagnose basic plant problems and to supply adequate management solutions to home gardening problems.

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