PARTNER COUNTRIES: Vietnam, Indonesia
PROJECTS: Huanglongbing management for Indonesia, Vietnam and Australia (CP/2000/043); Plant disease diagnostic manual (CP/2005/053)
DESCRIPTION: Farmers are benefiting from a mix of disease controls being researched: ants, oil and guava
COLLABORATING INSTITUTIONS: University of Western Sydney, CSIRO Entomology, Australia, Southern Fruit Research Institute, Vietnam, National Institute of Plant Protection, Vietnam, Gadjah Mada University, Yogyakarta, Indonesia, Research Institute for Citrus and Subtropical Horticulture, Indonesia
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RESEARCH SOOTHES CITRUS HEADACHE

An Asian citrus disease is spreading and threatens the region's production, a setback for the move to diversify from subsistence rice cropping

BRAD COLLIS

Mr Do Hong Tuan, research assistant in the plant protection department of SOFRI, with Mekong Delta citrus grower Mr Le Van Bay, who has been working with ACIAR on disease-control strategies.

Plant diagnostics

A manual on field and laboratory procedures for fungal diseases of crop plants is being developed by Australian researchers through an ACIAR-funded project.

The manual has been designed to assist plant pathologists and extension staff in Vietnam, especially in provincial plant-protection centres. Plant pathology teachers and students should benefit from the manual's clear style and simple diagrams. Notes on symptoms of disease and laboratory procedures will be illustrated with colour photos. The manual will also include details establishing a basic diagnostic laboratory.

Professor Lester Burgess and Timothy Knight say that accurate diagnosis of a disease is a crucial first step in developing and extending information on control measures.

The manual will collate disease information, illustrations and training notes used in disease diagnostics from both concluded and active ACIAR projects.

BY BRAD COLLIS

Mr Le Van Bay learned the hard way about the pitfalls of trying to establish a new farming venture—in his case oranges. "I lost half my orchard to Huanglongbing disease (HLB) and had to cut down all the trees and start again," he explains.

It was a significant setback for a farmer trying to diversify away from subsistence rice growing, but Mr Van Bay says the disappointment was eased considerably by the support he received from researchers.

Almost a decade later, Mr Van Bay remains part of a University of Western Sydney-led, ACIAR-supported project, working with Vietnam's Southern Fruit Research Institute (SOFRI) to develop controls for the citrus disease.

HLB is the Asian form of 'citrus greening' and is the main constraint to citrus production in Asia. Citrus growing has ceased completely in some areas where the disease has killed all the trees. The disease has spread widely, from Vietnam to Indonesia, and there are concerns that it could reach Australia if it spreads to West Papua and Papua New Guinea.

HLP is spread by an insect vector, the Asiatic citrus psyllid, and this is the target of various controls being developed and tested in a collaboration involving Indonesian, Vietnamese and Australian researchers.

In the project involving Mr Van Bay's orchard, researchers achieved a 70 to 80% control through combined biocontrol and chemicals—weaver ants and white mineral oil. However, the weaver ants are difficult to establish in orange orchards because the leaves of orange trees are too small for the ants to 'weave' into nests.

A 100% control was achieved with white oil and the insecticide Confidor®. However, while effective, it proved too expensive for the average farmer.

Researchers are now looking for other insect predators, and are also trialling inter-cropping orange trees with guava trees. Early trials suggest that the presence of guava suppresses the citrus psylla. However, this leads to a new problem: fruit flies.

"So there is still a lot of work to do," says Mr Do Hong Tuan, a research assistant at SOFRI's plant protection department working directly with farmers like Mr Van Bay who, as research partners, are among the first to benefit from each new piece of knowledge.

So while there is no definitive answer to the disease, Mr Van Bay says his new orchard is benefiting from a mix of controls being researched—ants, oil and guava—which makes him very optimistic about his and his orchard's future.