



# Pacific Pest Info

Pest & Quarantine Information  
SPC Plant Protection Service

No. 50

ISSN: 1728-5291

July 2004

*Please print and distribute this Newsletter to staff who do not have email.*

*If you DO NOT wish to receive the Pacific Pest Info newsletter send an email to [EmiLA@spc.int](mailto:EmiLA@spc.int) with the words 'No Pest Info'.*

*Those with Internet access can find a wide range of Plant Protection Service outputs on the PPS Web site at [www.spc.int/pps](http://www.spc.int/pps). A CD version is available for those without Internet.*

## Contents

1. Papaya ringspot disease detected in Rarotonga.....	1
2. Tonga entomology activities.....	2
3. Quarantine activities for Kiribati.....	3
4. First Regional Conference of Ministers of Agriculture and Forestry.....	3
5. Samoa – first country to receive PLD Version 2.....	4
6. News from the Palau Pacific Festival of Arts, with a quarantine twist.....	4
7. Completed PPS activities in PICTs.....	5
8. PPS staff travel calendar.....	6

### 1. ***Papaya ringspot disease detected in Rarotonga***

*Dr Richard Davis – PPS Virologist*

A single tree showing typical ringspot disease symptoms was reported by a grower on Rarotonga to the Cook Islands Ministry of Agriculture (CIMoA) on 2 June 2004. Subsequently on 3 June the tree was destroyed by CIMoA after William Wigmore, Director of Research, took leaf samples from it. These samples were surface sterilised, dried and packaged securely and sent to Fiji under quarantine import permit. They were received at the SPC PPS plant virology laboratory in Fiji on 7 June, where they tested PRSV - positive in a serological test (ELISA) conducted by Richard Davis and Takaniko Ruabete. Independent verification of this finding was received on 5 July. Duplicate samples sent to the laboratory of M. Bateson, Queensland University of Technology, Australia, tested positive in molecular diagnostic tests for PRSV.

Richard Davis, PPS Virologist and Nga Maireroa, CIMoA Agricultural Officer, conducted a follow-up survey five to six weeks later. The survey covered all commercial crops, plus many domestic compounds on Rarotonga, to find out if the disease was an isolated occurrence or widespread. This timing was carefully chosen to ensure detection of any spread that may have occurred from the original infected tree to other trees before it was destroyed. Over the two weeks, Richard and Nga examined thousands of papaya trees (especially those on the part of the island where the disease was found) and saw no typical papaya ringspot disease symptoms. Leaf samples from a total of 281 trees were collected (71 from the affected planting, 83 from plantings or domestic compounds within a 2 km radius of that plot and the remainder from elsewhere on the island) and tested for PRSV by ELISA at Totokoitu Research Station. Nga, Patu Katu and Maja

Poeschko helped with the big job of processing this large number of leaf samples. No new positive results were obtained from this survey and CIMoA is confident of total eradication in the near future.

Papaya ringspot disease, caused by the papaya infecting strain of papaya ringspot virus (PRSV-P), is the main production problem in many countries in southeast Asia and South America. In our region, the virus is known to be present in southeast Queensland, Australia, Hawai‘i, Northern Mariana Islands, Guam and French Polynesia.

PRSV is spread from plant to plant by many aphid species. It was therefore very surprising that no tree-to-tree transmission of the disease was detected. CIMoA will continue to monitor the affected plot and immediately neighbouring plots every week for development of symptoms in more trees. If growers are also aware of what to look for, they can report swiftly any new infections. An SPC information leaflet on the disease will soon be distributed followed by the more detailed Pest Alert.

It is not known at this stage if the disease outbreak resulted from a quarantine incursion. The disease does not move readily from one island to another. It would most likely move in infected plants, and possibly (according to experimental results from the Philippines that have yet to be repeated elsewhere) in a very small proportion of seeds from infected papaya. PRSV exists in two closely related forms (biotypes). PRSV-W (previously known as watermelon mosaic virus-1) causes important disease in cucurbit crops through much of the world. PRSV-P can infect both papaya and cucurbits. There is strong evidence from elsewhere in the world that PRSV-P evolved from PRSV-W in cucurbit crops growing with or near papaya. If this was the case here, it may be sensible to discourage intercropping of papaya and cucurbits. This practice has become increasingly common on Rarotonga in recent years.

## **2. *Tonga entomology activities***

PPS Entomologist Sada N Lal travelled to Tonga in June to follow up on entomology activities.

Rhinoceros beetle activities.

‘Eua Island – much beetle damage observed on the eastern part of the island. There was abundance of breeding places such as decaying coconut tree trunks and stumps. Set up 25 pheromone traps and 25 to be set up and monitored by the agriculture extension officer. This will cover the entire island. Pheromone sachets to be replaced every three months.

Tongatapu – after one year of trapping, there are signs of improvement with new leaves on trees remaining undamaged, an indicator of reduction in beetle population.

Rhinoceros beetle awareness campaign is planned for Tongatapu and Vava’u and may be held together with Agricultural Show in September. Target group: all stakeholders in the coconut industry.

Silver leaf whitefly (SLW) – an outbreak during last year’s squash season was a concern. Plans in place are to obtain a list of approved insecticides and to use new and effective ones. For long-term arrangements, plans are for local entomologist Ms Siutoni Tupou to undertake a 2-week attachment training on SLW biocontrol at CSIRO Brisbane with funding from ACIAR. Following the training of the local entomologist, selected natural enemies will be imported. The biocontrol laboratory needs proper maintenance with rearing facilities for SLW colonies before importation of bioagents.

Monitoring studies of cabbage pests and their natural enemies – study to be based at Vaini Research Station. KK Cross variety selected for field trial where DBM and other pests will be collected from the field and reared in lab. Any natural enemies emerging in the lab will be preserved in alcohol and forwarded to PPS for identification. The studies will continue for one year.

Study of aroid caterpillars and their natural enemies – caterpillars found on taro in a field in Vaini are collected and reared in the lab. Natural enemies emerging out of the caterpillars are preserved in alcohol and forwarded to PPS.

Fruit fly activities – a field experiment on evaluation of bait spraying of capsicum is underway at Vaini. Data is recorded for analysis. Inclusion of ‘organic certified pesticides’ is recommended for such trials to benefit organic farmers.

### **3. Quarantine activities for Kiribati**

PPS Bioscurity Officer Mr Sidney Suma carried out the following biosecurity activities.

i. Assist Kiribati Ministry of Environment, Land and Agriculture Development with the Kiribati Biosecurity Bill in preparation for the tabling of at June sitting of parliament.

ii. Install the natural draught incinerator purchased by SPC-PPS in 2002 at Bariki international airport. The incinerator was installed near the Agriculture office at Tenaea on Saturday 22 May 2004 with the assistance of the quarantine officers. Environment inspectors were on site to oversee the installation and commissioning of the incinerator. Incinerator was tested using garbage collected during the previous Air Nauru flight and other (fresh) plant materials collected at the site. The environment inspectors were satisfied with the amount of smoke emitted from the incinerator but were concerned about the disposal of ash from the incinerator. Biosecurity Officer explained only organic matter would be incinerated and thus the ash produced would not be hazardous to the environment.

A permit will be issued by the Environment department to operate the incinerator and random audits would be done ensure the Kiribati quarantine service complies with the conditions of the permit.

iii. Discuss with Environment Division biosafety and cross-cutting environment issues.

v. Assist with other biosecurity related activities:

- Visited airport and wharf workstations to observe and interact with officers operating at the ports.
- Presented a short PowerPoint presentation on biosecurity and trade facilitation to quarantine and animal health officers and held discussions following the presentation.
- Demonstrated and disinfected soil contaminated potatoes from Australia. Commercial bleach, hand gloves, and plastic sheeting were purchased from the local store. The half-200L drums were cut and handles welded on by the Kiribati shipyards at the cost AUD 37.00.
- Held discussions with the Minister and Permanent Head of MELAD encouraging them (Kiribati) to ratify the IPPC 1997 text. Passed on information and model instruments to Mrs Tearoo Otieua, Agricultural Officer (Quarantine), to follow up with her superiors.
- Held discussions with Tearoo and Nakabuta on various quarantine related issues.
- Noted problems associated with imports from Australia – Australia not meeting Kiribati import (quarantine) requirements.
- Uploaded information on the incinerator installation instructions, IPPC documents and other related documents on the quarantine computer.

### **4. First Regional Conference of Ministers of Agriculture and Forestry**

The first Regional Conference of Ministers of Agriculture and Forestry will be held in Suva, 9–10 September 2004. This conference will be followed by the first combined regional meeting of Heads of Agriculture and Forestry Services (HOAFS), 13–17 September 2004. Both these conferences, being held for the first time in this manner, resulted from the recent review of the SPC Land Resources Division, which now combines the agriculture and forestry regional programmes.

The ministerial meeting will provide a forum to exchange views at the policy and political level on agriculture and forestry development issues in the region. The ministers will be briefed on important

developments in the two sectors, at national, regional and international level. Conference outcome will be a communiqué, which is expected to set the broad strategic direction for the two sectors. Subsequent priority setting and further deliberations of the communiqué will be discussed at the HOAFS meeting.

The HOAFS meeting combines previously separate meetings of the Permanent Heads of Agriculture and Livestock Production Services (PHALPS) and Heads of Forestry (HOF).

Information and Communication is the theme selected for the conference and a special session for both meetings will focus on the theme. During both the ministers and officials meetings, SPC will provide an opportunity for partner agencies to inform participants and to display and promote information and communication systems and products. There will also be an interactive display area for agencies and commercial service providers for the duration of the meetings.

The conference will be convened and hosted by the Secretariat of the Pacific Community.

### ***5. Samoa – first country to receive PLD Version 2***

Samoa is now the first country to receive Version 2 of the Pest List Database (PLD) after completion of a refresher workshop facilitated by Makelesi Kora-Gonelevu and Sarah Pene of PPS Information and Extension. The workshop was officially opened by the Assistant CEO, Asuao Kirifi Pouono, with participants attending from Nu'u Research Station, Samoa Quarantine, Fisheries and Forestry.

The two-day session involved introduction to the PLD's new and improved features that were developed based on suggestions from users around the region. The new formatted quarantine reports were of particular interest to the Samoa Quarantine staff, who have entered over 1400 new interceptions records into the PLD since October 2003.

The workshop was officially closed by the Chief Executive Officer, Seumanutafa Malaki Iakopo. The PPS Information team acknowledges the Samoa Quarantine and Regulatory Division staff for their assistance in the running of the workshop. For more information please contact Makelesi Gonelevu at [MakelesiK@spc.int](mailto:MakelesiK@spc.int) or Sarah Pene at [SarahP@spc.int](mailto:SarahP@spc.int).

### ***6. News from the Palau Pacific Festival of Arts, with a quarantine twist***

The ship from Papua New Guinea has docked at Palau's Malakal Commercial Port, but the 100 delegates who have arrived for the 9th Festival of Pacific Arts are still on board.

Standing before a long white table, Konrad Englberger, SPC's Plant Protection Coordinator for Micronesia, inspects a 60 cm-tall hand drum made of hardwood and topped with a taut piece of snakeskin.

He peers into the drum and gives it a vigorous shake over the table, sending a small shower of debris onto its surface. Englberger does this with every item that passes over the table: wooden musical instruments, shell jewellery, and woven artifacts.

Fortunately, the only insects he finds among the specks are dead. According to a thick wad of documents before him, the 4,030 cultural items that the PNG people brought for the festival have all been fumigated.

Items made of bone, shell, leather, nuts, seeds, fibres, skins and feathers, food, and even rubbish accumulated in bins during an international journey can contain hidden dangers. If hitchhiking insects and other pests were to establish themselves in Palau, they could harm the country's agriculture and environment, and potentially its trade and tourism.

With around 2000 delegates coming to the 10-day festival - each of them heavily laden with natural products from their home islands - Palau has recruited 16 volunteers to help Englberger oversee luggage searches at the dock and the airport.

Although the festival will have important social, cultural and economic spin-offs for Palau, says Fred Sengebau, a Palau Bureau of Agriculture plant protection officer, “we don’t want to have the introduction of a new pest because of it”. Already, says Englberger, festival delegates have unwittingly brought with them three unwanted hitchhikers.

As Palau International Airport customs officers opened a delegate’s hand luggage, a 2-cm-long wasp flew out. They managed to catch it, but inside the bag (which didn’t contain any food or fibre), they found two more wasps. Quarantine staff were immediately summoned. The wasps have since been killed, stored and photographed to later assist in their identification.

However, not all of the countries taking part in the festival have good fumigation facilities. Any sign of insects, dead or alive, in cultural items arriving in Palau means they will have to be sent away for fumigation using the chemical methyl bromide.

The process can take from 2 to 48 hours depending on what the item is made of and its size. Rubbish generated during any air or sea trips to Palau also has to be securely locked away on board until it can be incinerated.

You cannot be too careful, says Englberger. For example, Palau’s soft fruit supply is already suffering from an infestation of fruit fly, identified as having originated in the Philippines. A papaya mealy bug from Guam also made it to Palau, but biological controls have helped to curb its spread.

Even the most everyday things can harbour danger, says Englberger, such as betel nut, which is chewed by people throughout the Pacific. Because betel nut chewing is such an everyday activity, with people carrying their supplies with them, they often forget the risks of importation. Education as well as prevention is a key task for Pacific quarantine authorities.

Englberger says most people understand why it is important for Pacific Island countries to prevent the spread of pests and for people to cooperate with quarantine officers. He would like to see spot fines introduced for those who don’t.

To spread the word on quarantine issues, SPC made a five-minute educational film, *Preserving Our Biodiversity*, to coincide with festival preparations. Earlier this year, the film was distributed to all SPC member countries to ensure its messages were passed on to festival participants.

### **7. Completed PPS activities in PICTs**

<b>PPS Staff</b>	<b>Dates</b>	<b>PICT Activity</b>
Sarah Pene Makelesi Kora- Gonelevu	12 - 17 July	Samoa: PLD Update
Richard Davis	4 – 14 July	Cook Islands: Papaya ringspot disease work
Stephen Hazelman Jacqui Wright	12 – 16 July	Solomon Islands: ACIAR Project proposal meeting
Konrad Englberger	17-26 July	Palau Festival of Pacific Arts
Sada N Lal	21-22 July 21-26 July 27 – 30 July	Tonga: cabbage-pests biocontrol Samoa: rhinoceros beetle control Niue: cabbage pests, IPM
Salend Kumar	29 – 30 July	Taveuni, Fiji: Taro beetle awareness

### 8.PPS staff travel calendar

Dates	Country	Staff	Activity
23 July - 6 August	Samoa	Warea Orapa Richard Davis Takaniko Ruabete	Plant disease surveys Weed survey
9 - 13 August	Nadi	Sidney Suma	Regional workshop: draft ISPM
3 - 7 August	Tonga	Emil Adams	Extension communications training with DSAP
15 - 21 August	Australia	Sada N Lal	Attend Entomology Congress
31 July - 10 August	Samoa	Steve Hazelman	Accompany Niue Minister of Agriculture and young farmers tour of Samoa agriculture Follow-up PRA outcomes
5 - 7 August	American Samoa	Steve Hazelman	PRA work plan
9 - 23 August	Tuvalu	Salend Kumar	Coconut scale insect PLA
21 - 28 August	Cook Islands	Sarah Pene	PLD refresher training
30 August - 4 Sept	Vanuatu	Sarah Pene	PLD refresher training

Emil Adams  
PPS Publications Officer  
Email: [EmilA@spc.int](mailto:EmilA@spc.int)

© Copyright Secretariat of the Pacific Community (SPC), 2004

Published by the Secretariat of the Pacific Community: Plant Protection Service, Private Mail Bag, Suva, Fiji Islands. Tel: (679) 3370-733; Fax: (679) 3370-021.