



Pacific Pest Info

Pest & Quarantine Information
SPC Plant Protection Service

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

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1. Quarantine in-flight video cautions Pacific travellers

Travellers need to know that food, fresh fruit and vegetables and plant and animal products are the main high-risk quarantine items associated with travel. Carrying food, plants, flowers, plant and animal products to other countries places the traveller, their families and entire communities at risk.

The holiday season is here and travellers are visiting travel agents, airlines and immigration services. They will be thinking of gifts to give to families and friends overseas and topping the list will be food - all kinds of food. Cooked food (such as *palusami*) and processed items (cocoa beverage, spices, kava etc.) are common and traditional gifts. Taking food as gifts is an important part of Pacific island culture helping to cement family ties, especially when living away from the islands. These are risks unless the public follow simple quarantine procedures.

The places where travellers go to get travel documents are targeted as strategic sites to create awareness about quarantine issues. Airline and travel offices are ideal locations to place public awareness material on quarantine. A quarantine brochure placed inside the ticket jacket along with other travel documents is an excellent way for travel agents to inform their clients about travellers quarantine responsibilities.

SPC Plant Protection Service launched this month in Suva an in-flight quarantine video to be shown on all Pacific flights. Also launched were the travellers quarantine brochure, a quarantine poster and a quarantine brochure aimed to diplomats relocating to the Pacific.

The in-flight quarantine video highlights the rich biodiversity of the Pacific and emphasises the relative pest free status of the Pacific islands. The video appeals to travellers to take precautions to prevent the spread of new pests and diseases. Food must be properly cooked before packing and all food items must be declared upon arrival. Food items including fresh fruit and vegetables are a quarantine risk because they may carry new pests and diseases that have a very long-term effect on countries. The video is a direct response to a request from the Pacific islands to produce a quarantine video to be shown on Pacific flights. PPS is now distributing the video to the Pacific islands.

The diplomat's brochure targets foreign diplomats relocating to the Pacific and the quarantine implications associated with the movement of personal belongings. There is often a mistaken assumption that the baggage of foreign diplomats is exempt from a quarantine inspection. The Vienna Convention on Diplomatic Relations and Optional Protocols empowers national quarantine to carry out an inspection if there are strong grounds to presume the luggage may quarantine items.

Pacific islands and neighbouring countries spend many millions of tax dollars annually to prevent the entry of new pests and managing existing pests and diseases. Travellers can play their part in managing pests and diseases in the region.

SPC Plant Protection Service is hopeful that with the launch of the quarantine video and brochures the travelling public will be give more attention to quarantine issues at this peak travel season

EU, AusAID and NZAid are major donors of Plant Protection Service.

2. Tonga MAFF-PPS Banana wilt survey

Richard Davis – PPS Plant Pathologist (Virologist)

Fusarium wilt (or Panama disease) is a lethal soil borne disease of bananas caused by the fungus, *Fusarium oxysporum* f.sp. *cubense* (*Foc*).

Foc has a history of long distance movement with human activity from its Asian origin to most banana production regions of the world. This is a new disease for the South Pacific and not yet widespread.

In September 2002, fusarium wilt was found in the Hahake district of the main island of the Vava'u group in Tonga. It was first detected by a joint SPC/Tonga MAFF plant disease survey team in a roadside planting of cv. Bluggoe (local name Pata Tonga) near the village of Tuanekivale.

In September 2003, a delimiting survey conducted by Richard Davis and Sela Tupouniua of MAFF on the islands of Vava'u, Tongatapu, and Lifuka and Foa in Ha'apai found no infected plants in any other regions. Samples from both surveys were sent to Australian collaborators, Dr Linda Smith and Dr Suzy Bentley, who identified the strain of *Foc* from two disease 'hot spots' (the original roadside planting plus backyards in Tuanekivale village) as one that attacks only cooking bananas. It belongs to vegetative compatibility group or VCG 0128, and would be called "race" 2 in the race classification system that has been used for many years.

This is a serious new threat to cooking banana production in Tonga and MAFF is putting in place a series of measures to confine the disease to this region of Vava'u.

This is the first time that fusarium wilt of banana has established in the central Pacific. Before this, the disease has been an ongoing problem only in certain Pacific Island nations located close to Southeast Asia.

3. NAQIA/PPS Citrus disease and vector delimiting survey in northwest PNG

Richard Davis – PPS Virologist

In late 2002, the Asian citrus psyllid (*Diaphorina citri*) and citrus huanglongbing (ex-greening) disease (HLB, a disease caused by the phloem limited bacterium, '*Candidatus Liberibacter asiaticus*') were found in the Vanimo district of northwest PNG. The incursion of the disease and its insect vector into PNG (presumably across the land border with Indonesia) was discovered by a joint PNG/Australia quarantine survey team. One year later, a follow up survey was made to estimate the rate of spread of both disease and vector. This survey team comprised NAQIA entomologists David Tenakanai and Marjorie Kame, NAQIA plant pathologist Tony Gunua, and SPC PPS Plant Pathologist (virologist) Richard Davis. The team focused

on coastal regions of East Sepik Province near Wewak and Aitape and Vanimo in the Sandaun Province. Citrus and other host trees were swept with nets to look for psyllids, and citrus leaf samples were collected, surface sterilised, desiccated and frozen. PPS staff will index these minimal risk samples for HLB at the new molecular biology laboratory at USP.

The team was able to conclude that the psyllids have apparently spread no further to the east over the 12 month period and their distribution was still patchy. Although disease testing results are not yet available, it would seem from symptoms seen, that spread of HLB from original known infected trees has been mostly to only one or two closely neighbouring trees. However, possible new infection foci (trees tested negative in 2002 now showing symptoms) were found at two locations in Vanimo town that were more than 500m from the original disease 'hotspot'.

The survey was also used to launch a new public awareness campaign. Posters (produced by PPS in collaboration with NAQIA) were distributed at every survey site as well as at key community locations (airports, supermarket notice boards, schools, hotels, etc). Radio broadcasts were recorded and awareness presentations made at produce markets (vendors from inland villages).

4. PRA for Samoan taro farmers

Forty taro farmers participated in a Participatory Rural Appraisal (PRA) exercise to brainstorm some of the problems facing the revived taro industry in Samoa. Facilitated by Mr. Tolo Iosefa of the USP-based Taro Improvement Project (TIP) the exercise also involved 10 Extension Officers and two Plant Pathologists from the Ministry of Agriculture, Forestry, Fisheries and Meteorology (MAFFM).

Mr So'oalo Albert Peters, Assistant Director, Research and Extension and Ms. Emele Meleisea-Ainu'u, Principal Advisory Officer, officiated the opening of the 1-day PRA exercise and met with the farmers.

Since taro leaf blight took out the Samoan taro industry in 1993 recovery efforts have been slow with the introduction and testing of tolerant cultivars taking place in the last 10 years. A vigorous breeding programme followed and has since produced several good lines of taro. Taro is once again back on the dinner menu for most Samoan households. However, some of the improved lines are now manifesting disease problems, in particular rot diseases – a corm rot and black petiole rot.

The PRA exercise was an attempt to bring together farmers, extension officers and researchers to identify problems and solutions related to pests and diseases of taro. The farmers themselves described the diseases, possible causes and solutions.

A preliminary report of the PRA prepared by the facilitator, Mr. Tolo Iosefa, showed that farmers identified 'pythium' rot as the main disease constraining taro production. Palau 10 was identified as the most susceptible cultivar in both dry and wet regions. Farmers suggested, as possible solutions, to destroy all diseased plants, revert land to bush fallow and plant leguminous trees.

Mr. Stephen Hazelman, Plant Protection Service Extensionist, organised and secured funding for the PRA.

5. PPPO ExCo reviews prospects for a regional PLD

Dick Vernon – PPS Information and Extension Service

The Pacific Plant Protection Organisation (PPPO) Executive Committee (ExCo) met on 1st October at Sigatoka, Fiji, under the chairmanship of Sione Foliaki, to review the use of the Pest List Database for the Pacific (PLD) by national plant protection and quarantine services. The meeting further explored the prospects of sharing PLD information amongst Pacific countries. There were 29 delegates at the meeting, with 16 from Pacific Island countries & territories.

Dr Mick Lloyd introduced the Pest List Database, informing the meeting that after some failed attempts at such a system in earlier years this new case was proving very successful. Dick Vernon provided an overview and a demonstration of the system, which was now in use in seven countries: Samoa, Tonga, Cook Islands, French Polynesia, Fiji Islands, Vanuatu and New Caledonia. Implementation in the other major trading countries would be supported on request. The results of a pre-meeting questionnaire, which had been received back from all seven countries, were presented, and these gave valuable insight into the use of the PLD in each country.

Four options for a regional model were presented as follows:

1. Countries send their PLD to SPC, say quarterly. Receive back a Regional PLD soon after

2. As for (1) but Regional PLD made available on SPC Web site – read only.
3. Dial-Up: Countries maintain their own system. Regional model dials up and takes a copy of all new / changed record
4. Interactive Internet PLD model: countries store their data directly on the Web model

There followed a discussion on the topic and the options. The PPPPO Chairperson then called for country representative to present their views on the options. These are recorded in the minutes of the meeting, which will shortly be published on the PPS Web site and are available on request. The delegates from Cook Islands, Vanuatu, Solomon Islands, French Polynesia, Fiji Islands, FSM, New Caledonia, Wallis & Futuna, PNG and Samoa all agreed that a shared model should be developed. Several added cautions and conditions. Only three recommended particular model options with two voting for Option 2 and one for Option 3. SPC PPS will proceed with the development of a shared model in close consultation with member countries.

6. Pacific Ant Prevention Plan

The Pacific Ant Prevention Plan was recently drafted in Auckland as part of the Invasive Species Specialist Group's (ISSG) efforts to help stop the spread and establishment of invasive alien species into and throughout the Pacific region. The region potentially includes: American Samoa, Australia, Cook Islands, Federated States of Micronesia (FSM), Fiji, French Polynesia, Guam, Hawaii, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Northern Mariana Islands (CNMI), New Zealand, Palau, Papua New Guinea (PNG), Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu and Wallis and Futuna. Given numerous recent border interceptions and incursions of invasive alien ant species in New Zealand, Australia, Vanuatu and other smaller islands this is a highly topical issue. Acceptance and implementation of the plan would help protect the region from these economic, social and environmental pests.

During 1st-4th September 2003, the Auckland based ISSG convened a meeting of international invasive ant specialists, conservationists and policy analysts to formulate a Pacific ant prevention plan. Thirty four people from NZ, Australia, USA (federal and state), and the Pacific with knowledge of invasive ants, strategic planning, and Pacific island issues spent four days in Auckland formulating the plan. Representatives from the NZ Ministry of Agriculture and Forestry, Manaaki Whenua Landcare Research, (NZ), the Department of Conservation (NZ), AgriQuality (NZ), Queensland Department of Primary Industries Fire Ant Control Centre (Australia), US Department of Agriculture, US Geological Survey, Institut de Recherche pour le Development (New Caledonia), ISSG, Auckland Regional Council (NZ), Hawaii Department of Agriculture, Victoria University (NZ), the Secretariat of the Pacific Community, and the Armed Forces Pest Management board (USA) attended the four day workshop.

Goal of the Pacific Ant Protection Plan: *To prevent Red Imported Fire Ants and other invasive ant species with economic, environmental and/or social impacts, entering and establishing in or spreading between (or within) countries of the Pacific Region.*

The group focussed on the prevention of entry, establishment and spread of invasive ants in the region with a particular emphasis on red imported fire ants. Topics covered include pre-border and border protection, surveillance, response (including management implications) public awareness, future research, and management toolkit development.

The vast array of international expertise present at the workshop resulted in the compilation of a very comprehensive draft plan. The next step is to have the issue of RIFA and invasive alien ant species raised as an agenda item at the next Pacific Plant Protection Organisation (PPPO) meeting with a view to obtaining enthusiastic buy-in from Pacific island countries and territories and commitment and funding to implement the plan.

It is anticipated that the South Pacific Regional Environment Programme (SPREP) and The Secretariat of the Pacific Community (SPC) will play a major role in progressing the plan and its implementation.

For further details on the Pacific Ant Prevention Plan, please contact: Souad Boudjelas at:

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Article submitted by Simon O'Connor, New Zealand Ministry of Agriculture and Forestry (Biosecurity Authority), Indigenous Flora and Fauna unit [On behalf of the IUCN/SSC Invasive Species Specialist Group (ISSG)]

7. Butaritari Te Bwata-ni-mai Association held first meeting

The first meeting of the Te Bwata-ni-mai Association, based in Butaritari, Kiribati, was held at the Taakeniuea Mwaneaba, the meeting place of the Kuumaa people, on 5th December 2003. The association boasts 45 breadfruit tree owners in eight villages. Kuumaa village had offered to host the first meeting of the association.

Staff from the Ministry of Environment, Lands and Agricultural Development Mr. Tianeti Ioane Beenma, Head of the Research Section, and Mr. Nakabuta Teuriaria, Head of Plant Protection and Quarantine, traveled from Tarawa to help facilitate the meeting.

The Bwata-ni-mai Association is a very unique set-up where villagers are able to participate in a scientific inquiry to identify solutions to a disease problem affecting breadfruit, a staple food crop in Kiribati. The disease causes a rot and the fruit is mummified. A fungus is the suspected culprit.

The meeting introduced the data sheets to the tree owners who will now start to collect data for the project. In the project design each tree owner is assigned one treatment to carry out through the duration of the project. There are four treatments.

Mr. Beenna explained that recording data on the data sheets would start in the breadfruit season, which is about now. He mentioned the important contribution from each of the 45 tree owners. One tree owner at the meeting expressed great joy that her breadfruit tree is now bearing more fruit than the previous season. The treatment assigned to her: prune tree to 5m and mulch. She even had to snatch off branches, as the fruits were getting so heavy.

Mr. Teuriaria discussed expected outcomes of the project. He emphasised that the success as well as failure of the project is very much dependent on the people of Butaritari and what they want to get out of the project.

PPS Pathologist, Dr. Jacqui Wright and Extensionist Mr. Steve Hazelman are the SPC collaborators and have secured funding for the project.

Butaritari Bwata-ni-mai Association will next meet in Keuea.

8. Completed PPS activities in PICTs

| <i>PPS Staff</i> | <i>Dates</i> | <i>Activity</i> |
|-------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Richard Davis | 1-18 Nov 24 Nov-5 Dec | PNG: HLB delimiting survey Cook Is: Disease survey |
| Jacqui Wright | 14-28 Nov 15-18 Dec | Cook Is: Disease survey Mexico: IPPC Technical Working Group |
| Fereti Atu | 2-9 Nov | Vanuatu : TBM taro trial harvest |
| Ema T Vueti | 1-12 | CNMI, Guam and Palau: melon fly area wide programme |
| Dick Vernon | 10-14 Nov 24-28 Nov 5-11 Dec | Tonga: PLD follow-up Australia: UN information meeting Malaysia: Pest list meeting |
| Salend Kumar | 10-14 Nov 8-12 Dec | Samoa: IRETA Organic Workshop Vanuatu: awareness workshop |
| Sidney Suma | 18-21 Nov 1-5 Dec | Samoa: Biosafety National Collaborators Meeting PNG: present findings of Horticultural Production and Marketing Potential study by Dr. Andrew McGregor |
| Sada N Lal | 19 Nov | Fiji: Organic Association Meeting |
| Warea Orapa | 22-29 Nov | New Caledonia: Invasive pasture weeds meeting |
| PPS Staff | 23-24 Nov | Fiji (Suva): Taro Beetle Meeting |
| Konrad Englberger | 12-17 Dec | Marshall Islands: quarantine training and Chromolaena work |

| | | |
|----------------|-----------|-----------------------------------------------------------------------|
| Nacanieli Waqa | 16-22 Nov | Vanuatu : VanLure field attractancy trial (2 nd replicate) |
| | | |

9. PPS Staff travel calendar

| Dates | Country | Staff | Activity |
|--------------|---------|----------------|-----------------------|
| 19-30 Jan 04 | Tuvalu | Warea Orapa | Weed Survey |
| 19-30 Jan 04 | Tuvalu | Nacanieli Waqa | Fruit fly host survey |
| | | | |

Wishing all our readers a
Merry Christmas and a
Prosperous New Year

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