INFORMATION CIRCULAR

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Plant Protection

PLANT PROTECTION NEWS

Compiled by
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Bob Ikin

NEW PROBLEMS

1. Solomon Islands

Bob Macfarlane, Senior Research Officer (Entomology), Solomon Islands, reports the identification of the ant *Wasmannia auropunctata* (Roger) in the Islands. The ant is now widely distributed and is believed to have been there for at least ten years. Although there have been no reports of damage caused by this pest, Bob anticipates that there could be problems with the harvesting of cocoa. **He would appreciate receiving ideas on control measures for this pest.**

During the Pest and Disease Workshop held by SPC (December 1983) at the Dodo Creek Research Station (Honiara) specimens of maize infected with boil smut were found. Boil smut was first detected at Teneru Research Station (Honiara) in 1982 and the area quarantined. Outbreaks have now occurred in other areas, and a survey is now being conducted so that eradication can be attempted. In Solomon Islands stem cankers on cocoa trees dissimilar from those caused by *Phytopthora palmivora* have recently been found by Ruth Liloquala. Samples have been sent to Eric McKenzie at DSIR, New Zealand, who has isolated *Phytopthora parasitica* var *nicotiania.*

2. American Samoa

Aspidiotus destructor has apparently become a pest of considerable concern on coconuts in American Samoa. A special Peacesat session was arranged by the American Samoan Department of Agriculture to take advantage of the attendance of Peter Maddison, Bob Weller, Jean-François Julia and Dr R. Muniappan at the Regional Plant Protection Meeting in Noumea, New Caledonia, in February. The SPC is at present co-ordinating the collection of a range of potential biocontrol predators from the region for shipment to American Samoa.

SPC ACTIVITIES

Consultancies

1. Palau – J-F Julia (IRHO)

The consultancy report from M. Julia has now been forwarded to the Palau Government. As anticipated, the problems with the resurgence of Rhinoceros beetle as a pest were in part due to low levels of Baculovirus infection, and a re-introduction of virus from other sources and re-infection with the local isolate have been done.

The weevil that is causing problems on Peleliu, Palau has been identified as *Rhabdoscelus* spp. There is the possibility that the insects can be controlled by *Lixophaga sphenophori* which has been effective in the control of *Rhabdoscelus* spp. in sugar-cane in Hawaii.

2. Vanuatu – Dr Matthew Cock (Commonwealth Institute for Biological Control)

The South Pacific Commission provided funds to the Vanuatu Government who engaged Dr Cock to investigate the feasibility of controlling a number of weed pests using insects. Of initial importance were the following weeds:

Mikania micrantha	-	mile-a-minute
Cassia tora	-	
Solanum torvum	-	prickly solanum, wild aubergine
Merremia peltata	-	vine
Lantana camara	-	lantana.

In addition Dr Cock also investigated the possibility of control of the following insects:

Agithaphaga spp.	-	moth-consuming kauri seed
Unapsis citri	-	white scale on citrus
Coccus virides	-	green scale on coffee.

The report has recently been submitted to the Vanuatu Government and it is understood that as well as the weeds and pests listed some additional targets have been identified by Dr Cock.

In anticipation of acceptance of the report Dr Cock did introduce *Uroplata girardii* from Fiji for the control of *Lantana camara* and *Campsomeris marginella* from Hawaii for the control of *Adoretus versutus*, the rose beetle (see *Information Circular* 91).

Solomon Islands Workshop, 6-10 December 1983

In December 1983 the South Pacific Commission Plant Protection Programme conducted a Workshop on Import Scheduling and Recognition of Plant Diseases and Pests at the Dodo Creek Research Station, Honiara, Solomon Islands.

Participants and instructors at the Workshop on Pest and Disease Recognition with the Solomon Islands Minister for Home Affairs and National Development, The Honourable Kamilo Teke (back row, sixth from left).

The workshop, financed by the New Zealand Government, was planned for participants from the Western Pacific. In all, there were eleven participants from six countries. The purpose of the workshop was to give field officers, extension officers and quarantine officers practical experience in the recognition of the effects of pests and diseases on crops with which they were familiar.

In line with the general policy of training within the SPC programme, emphasis was on the practical aspects of the diagnosis procedures and most of the time was spent in the field collecting specimens and in the laboratory examining the 'catch'. Formal lectures were kept to a minimum, but background instruction and documentation on plant pathology, entomology and virology were given by Dr Grahame Jackson (UNDP/FAO-SPC Project, Suva), Dr Eric McKenzie (Plant Diseases Division, DSIR, Auckland), Dr Peter Maddison (Entomology Division, DSIR, Auckland), Mr Bob Macfarlane (Ministry of Home Affairs and National Development, Solomon Islands), and Dr Bob Ikin (SPC). Bob Ikin and Mark Gearney (New Zealand Agricultural Quarantine Service seconded to Solomon Islands) conducted a discussion session on import and export inspection. The course was formally opened by the Solomon Islands Minister for Home Affairs and National Development, The Honourable Kamilo Teke.

Following lectures on the basic biology of insects and plant pathogens, the participants collected specimens from the fields and garden plots adjacent to the Dodo Creek training centre. The practical aspects of the course were concentrated on training the participants to identify the organisms associated with the 'diseased' or 'infected' plant material they had collected. Examples of pests and pathogens had also been prepared by the instructors for display in a laboratory. These were selected to give the participants an idea of the diversity of symptoms that could be expected to be found as well as the range of the organisms that could cause the symptoms.

Each participant was provided with a dissection kit which included a hand lens and instruments used for the preparation of specimens. They were encouraged to use dissecting and high-power microscopes, and fungal isolation media were also provided.

In the field several types of insect-collecting equipment were available; their use was first demonstrated by Peter Maddison and Bob Macfarlane, and then the participants were given an area to survey. An evening session was held to demonstrate the use of light traps for night flying insects.

Peter Maddison demonstrating the use of a sweep net for insect collection on a plot of sweet potatoes at Dodo Creek.

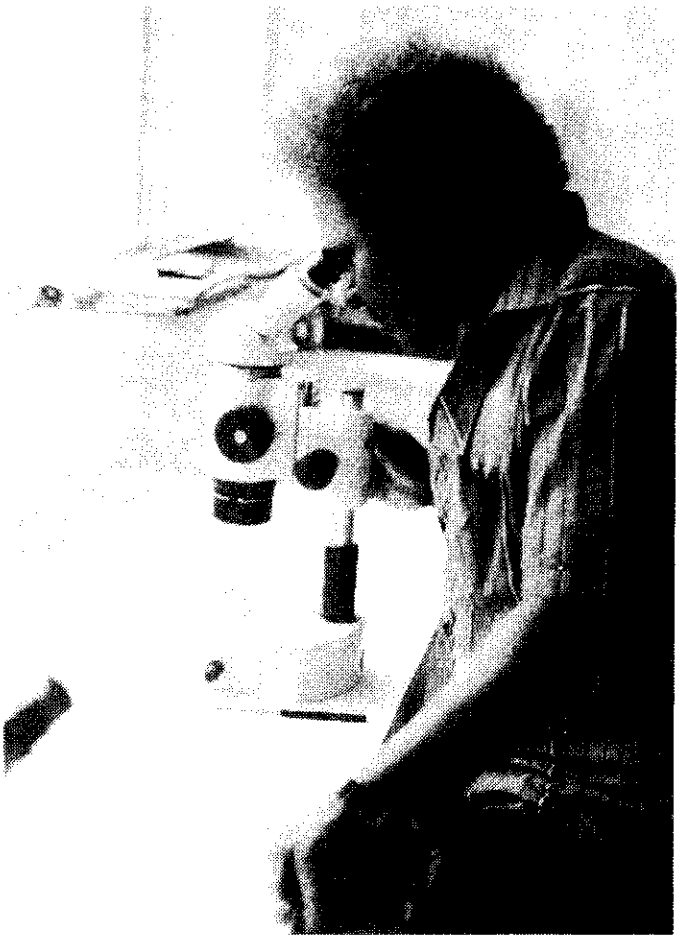
Clement Richardson (left) and Jim Sutamauri of Solomon Islands empty their net after 'sweeping' a plot of sweet potatoes.

One of the major problems within the Pacific Region is the lack of expertise available to give definite identifications. DSIR with its involvement in the Pest and Disease Survey has the expertise readily available and so to be able to utilise this service specimens must be forwarded to them to arrive undamaged.

(Left to right) Bob Macfarlane (Solomon Islands) demonstrates to Philippe Lombardet (New Caledonia) and Dumont Boe (Vanuatu) how to prepare the insects collected at Dodo Creek for despatch purposes.

Instructions on the methods used to despatch insect and fungus specimens were given by the DSIR officers. Each participant then used his collected specimens to prepare and pack a parcel which was then posted to New Zealand. The more detailed identification procedures used in New Zealand were explained to the participants.

Ta'alo Lauofo (American Samoa) examines a leaf specimen for disease symptoms.



James Seni (Solomon Islands) uses a low-power binocular microscope for a closer examination.

There was a lively discussion session on inspection procedures both for import and export, with most participants able to involve themselves by relating problems in their work areas. The session began with an audio-visual produced by Australian Plant Quarantine entitled 'Don't stop the crop' which emphasised the role played by inspection services within the Quarantine Service.

The workshop was formally closed by the New Zealand High Commissioner to Solomon Islands, Mr Rodney Denham, who presented certificates of attendance to the participants.

Fourth Regional Technical Meeting on Plant Protection, Noumea, New Caledonia, 13-17 February 1984

The Fourth Regional Technical Meeting on Plant Protection organised by the South Pacific Commission was held at SPC headquarters in Noumea, New Caledonia. The five-day meeting was chaired by Dr R. Muniappan from Guam and the Vice-Chairman was Mr R. Amice from New Caledonia. Dr Bob Ikin, SPC Plant Protection Officer, directed the meeting and acted as Rapporteur.

Participants at the Fourth Regional Technical Meeting on Plant Protection held at SPC headquarters, Noumea, New Caledonia, from 13 to 17 February 1984.

The meeting was attended by representatives of eight member countries of SPC, as well as participating observers from the Australian Centre for International Agricultural Research (ACIAR), the Food and Agriculture Organization of the United Nations (FAO), Guam's Department of Agriculture, New Zealand's Ministry of Agriculture and Fisheries (MAF), the Department of Scientific and Industrial Research (DSIR) of New Zealand, Office de la recherche scientifique et technique outre-mer (ORSTOM), the South Pacific Regional Environment Programme (SPREP), Tonga's Ministry of Agriculture, the German Agency for Technical Co-operation (GTZ) Plant Protection Project in Tonga, the University of Papua New Guinea (UPNG), Groupement d'études et de recherches pour le développement de l'agronomie tropicale (GERDAT), and Institut de recherches sur les huiles et oléagineux (IRHO).

A stimulating exchange of ideas and experience followed the review of plant protection in the region by each country. Country reports presented by the participants covered such items as staff and facilities, plant quarantine problems, new legislation affecting quarantine control, pesticide legislation, as well as disease, pesticide and weed problems. Another major point on the agenda was a review of the various activities carried out by international, regional or bilateral aid organisations, including a review of the plant protection activities of the South Pacific Commission, and the status of the UNDP/FAO-SPC Project for Strengthening Plant Protection and Root Crops Development in the South Pacific.

Discussions centred on all aspects of plant protection and plant quarantine in the region and resulted in a number of recommendations, namely on ethylene dibromide alternative treatments, pest and disease containment, promotion of country participation at future plant protection meetings, continuance of the UNDP/FAO-SPC Project for Strengthening Plant Protection and Root Crops Development in the South Pacific, computer retrieval of pest and disease data, biological control guidelines/protocols, publication of specific monographs on plant pests and control agents, quarantine problems associated with disaster relief programmes involving shipment of fresh foodstuffs, the establishment of a Regional Pesticide Advisory Committee, and the licensing/certification and training of pesticide users. The participants also recommended that special attention be paid to the issuing of phytosanitary certificate declarations in the Region.

Most participants were able to accept the invitation of the New Caledonia Quarantine Service to visit the Noumea wharf facilities and have discussions with Noumea staff. Some participants were also able to visit the laboratories and facilities of ORSTOM as well as the Research Station of the New Caledonian Department of Agriculture.

In an evening session the SPC Plant Protection Officer convened an *ad hoc* meeting of the Asia Pacific Plant Protection Committee. The meeting was attended by five member countries of the Committee from the Pacific and also by the Deputy Regional Representative of FAO based in Bangkok, Dr H. Tsutsui, and Mr I.D. Firman of the UNDP/FAO-SPC Project RAS/83/001.

There was considerable discussion of the role of FAO in the Pacific in plant protection. It was noted that FAO had not acted upon recommendations at previous regional meetings to increase its involvement in the Pacific. It was felt that the views of countries in the Pacific would be given a better impact if the SPC Plant Protection Officer could be invited to attend the APPPC Executive Committee Meeting in New Zealand. Offers had been made from the Region of subjects for publication by the FAO Regional Office in Bangkok and these had not been forthcoming. Dr Tsutsui agreed to convey the resolutions passed at the meeting to the Regional Office and to the Executive Meeting which was planned to be held in New Zealand in March 1984.

EXECUTIVE COMMITTEE MEETING OF THE ASIA PACIFIC PLANT PROTECTION COMMITTEE, PALMERSTON NORTH, NEW ZEALAND, 26 - 30 MARCH 1984

The Executive Committee Meeting takes place at a time between the full Regional Committees to consider action on the recommendations of the Regional Committee. Some of the members of the Committee felt that after twenty-eight years the organisation had lost some of its momentum and direction. In considering the agenda for the next meeting it was felt that a number of key issues should be identified and the meeting should concentrate on these. Particular topics were allocated to representatives for the production of working papers for the meeting.

The changes in the constitution of the Committee to permit a levy to be paid had been approved by the Director General of FAO and the changes have been circulated to the regional

members. Unfortunately the details of the proposed budget for this trust fund were not presented at the meeting, as had been expected, so this item will be delayed until the next Regional Meeting. The two regional metropolitan members from the Pacific felt that they would have considerable difficulty in convincing their governments of the benefits they would gain from contributing their levy.

The question of an increase in the involvement of the Committee in the Pacific was considered. It had been suggested by FAO Rome and Bangkok that in order to assist Pacific Island members of APPPC to attend meetings that a workshop of a relevant topic should be convened at the same time. FAO could not assist members of the Committee to attend the Regional Plant Protection Meeting, but it could assist in attendance at a workshop. The SPC Plant Protection Officer suggested the topic of 'Problems of Small Island Nations' as suitable for the workshop.

The next Regional Meeting had been planned to be held in December 1984, in Kuala Lumpur, Malaysia, but because of financial constraints the Malaysian Government had withdrawn its original offer. It is therefore likely that the next APPPC Regional Meeting will be held in Bangkok in mid 1985.

The March 1984 Executive Committee Meeting of APPPC was attended by its members from Australia, Malaysia, New Zealand, Philippines and Thailand, with the FAO Regional Plant Protection Officer as Secretary. The SPC Plant Protection Officer attended as an observer.

UNDP/FAO-SPC PROJECT FOR STRENGTHENING PLANT PROTECTION AND ROOT CROPS DEVELOPMENT IN THE SOUTH PACIFIC

1. Publications

The project has recently published and distributed the following field documents. A limited number have been sent to Directors of Agriculture in project countries. Single copies may be available on request from the Plant Protection Project, UNDP, Private Mail Bag, Suva, Fiji.

- Parkinson, S. *The preservation and preparation of rootcrops and some other traditional foods in the South Pacific.* Food and Agriculture Organization, RAS/83/001, Field Document 1. Suva, Fiji, 1984. 31 pp.

  Abstract

  A study was made of traditional and present methods of preserving and preparing the staple foods of South Pacific Island countries. Field work was carried out in Cook Islands, Fiji, Kiribati, Tonga, Vanuatu and Western Samoa to obtain examples of food use in Melanesia, Micronesia and Polynesia.

  Methods of preservation including fermentation, drying, baking and field and barn storage are described. Fermentation and drying are no longer common, although still important in Cook Islands and Kiribati. Food preparation varies from country to country, but similar types of recipes exist throughout the region. Ways in which the increased use of preserved foods could be encouraged are recommended.

- Larsen, A. *Description of sweet potato varieties in Vanuatu.* Food and Agriculture Organization, RAS/83/001, Field Document 2. Suva, Fiji, 1984. 20 pp., 1 plate.

Abstract

The Government of Vanuatu, assisted by the United Nations Development Programme and the Food and Agriculture Organization of the United Nations, began work on root crops in October 1981 at Chapuis Agricultural Station, Santo. This report is concerned with sweet potato, one of the major root crop staples of the country, and shows how the varieties can be documented, based on a revision of published descriptors and the practical experience of the project staff.

Three stages are now recognised, which, if done systematically, lead to a full documentation of the sweet potato varieties and the detection of duplicates. These are: description of seven morphological characters of each accession, construction of a descriptor map, and the production of a varietal key. Based on these procedures, the sixty-eight accessions of the Vanuatu collection have been shown to consist of thirty-eight different varieties.

The practical uses of describing the sweet potatoes, in conjunction with concurrent agromonic trial work, is explained.

Passera, C. *A root crop bibliography.* Food and Agriculture Organization, RAS/83/001, Field Document 4. Suva, Fiji, 1984. 32 pp., 4 tables, 1 map.

Abstract

This bibliography lists some of the holdings of FAO project RAS/83/001 that deal with root crops. It comprises a list of references, a subject index, an author index and a geographical index. The purpose of the bibliography is to make known to root crop workers in the South Pacific Region some of the information that can be made available by the project.

Larsen, A. *Notes of rootcrops in Vanuatu.* Food and Agriculture Organization, RAS/83/001. Field Document 5. Suva, Fiji, 1984. 32 pp., 4 tables, 1 map.

Abstract

The Government of Vanuatu, assisted by the United Nations Development Programme and the Food and Agriculture Organization of the United Nations, began work on taro, taro Fiji *(Xanthosoma),* sweet potato, cassava and yam in October 1981 at Chapuis Agricultural Station, Santo.

Lists of the cultivars of the crops collected, the methods used to describe them, and difficulties associated with these investigations are detailed in this report. The studies on taro, sweet potato and cassava are advanced, but little work has yet been done on yams, although a start has been made to collect cultivars of this crop.

Cultural practices and factors limiting production now, and those which might do so in the future, have been investigated for each of the crops. A constraint on the expansion of wetland taro production appears to be low sucker development, but few serious pest problems have been encountered on any of the crops, except for taro virus diseases and sweet potato mycoplasma little leaf disease and tuber attack by weevils. Yam dieback is known to occur and its importance will be assessed as studies on this crop proceed.

Traditional techniques of preparing the root crops are described and the report emphasises the need for careful identification of the correct cooking method, especially for taro, before superior local selections and/or introductions of elite material from overseas institutes are distributed to growers for evaluation.

The need for the extension of results to farmers, agricultural staff and educational establishments is stressed, and ways that the project can aid this work are outlined.

2. Sub-regional Workshop on Plant Quarantine Guidelines

This workshop was held in Suva from 9-13 April as part of the UNDP/FAO-SPC Project for Strengthening Plant Protection and Root Crops Development in the South Pacific, RAS/83/001. One of the objectives of the project is to assist countries to develop an effective quarantine capability.

A former FAO project, RAS/71/427, Survey of Agricultural Pests and Diseases in the South Pacific, which worked in seven countries of the region (Cook Islands, Fiji, Kiribati, Niue, Tonga, Tuvalu and Western Samoa) and was co-ordinated by the South Pacific Bureau for Economic Co-operation (SPEC), produced a plant quarantine procedural and treatment manual for Island countries of the South Pacific (3 volumes) and a volume of *Plant Quarantine Guidelines* which concerned intra-regional trade. Corrections to volume II of the manual are given on page 13.

The workshop was intended to review plant quarantine problems that had arisen since the conclusion of project RAS/71/427 and, specifically, had the following **objectives:**

(a) to assist countries in using the manuals and explain their uses and limitations;

(b) to produce clear, simplified and agreed guidelines concerning the most commonly traded agricultural commodities;

(c) to report and identify problems arising from exports to, and imports from, countries outside the region;

(d) to identify equipment and training needs for effective quarantine operations;

(e) to make recommendations for ensuring regular interchange of quarantine information between countries.

The workshop was mainly intended for **operational** heads of national quarantine services of the countries concerned with the original UNDP/FAO-SPC survey, because the publications referred to above dealt specifically with trade between them, but some other countries were also represented at the workshop.

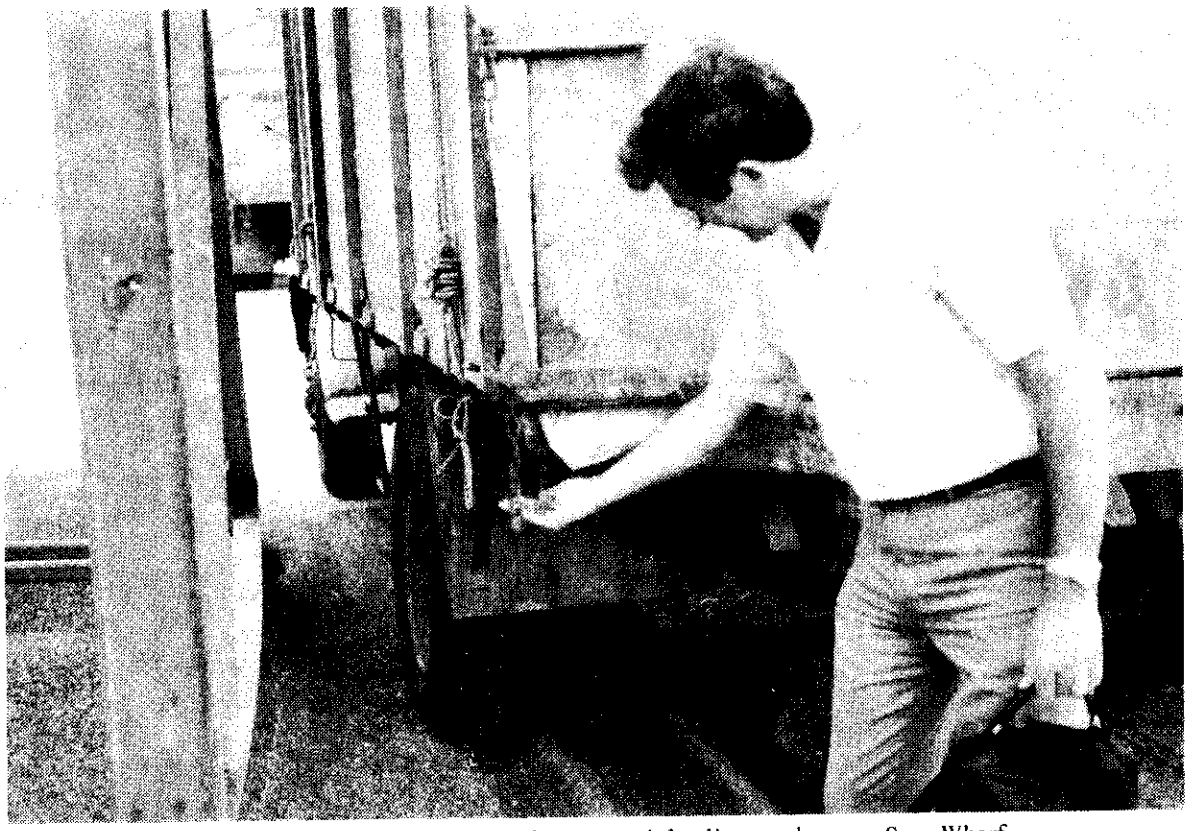
Participants at the Sub-regional Workshop on Plant Quarantine Guidelines held in Suva, Fiji, 9-13 April 1984.

Workshop activities were led by the SPC and FAO Plant Protection Officers. Also present as reserve people were the Assistant Director General (Plant Quarantine) from the Australian Department of Health, the Deputy Director Advisory Services from the New Zealand Ministry of Agriculture and Fisheries, and the Area Director (APHIS, PPQ) Oceania from the United States Department of Agriculture. The workshop coincided in time with a series of seminars being held on trade under the SPARTECA agreement convened by the Fiji Economic Development Board and the Australian Trade Commission. The Trade Commissioners of Australia, New Zealand and USA accordingly agreed to address the workshop briefly on the opening day. Representatives from the South Pacific Bureau for Economic Co-operation, the Fiji National Marketing Authority and the Fiji Sugar Corporation were present as observers. Professor Wan-li Zhu, FAO Regional Plant Protection Officer, and Technical Assistant P.K. Saha from the FAO Regional Office, Bangkok also attended the workshop.

In all, some thirty-five people from thirteen different countries attended the workshop and a report on the proceedings is being prepared.

Bal-Ram Singh demonstrating a methyl bromide vapourizer unit to participants in the Plant Quarantine Guidelines workshop held in Suva in April.

Mick Catley (Plant Quarantine, Australia), Sudaresan (Chief Agricultural Quarantine Officer), Prof.Wan-li Zhu (Plant Protection Officer, FAO, Bangkok) and Mr P.K. Saha (Technical Assistant, FAO, Bangkok) observing grain onloading operations at Suva Wharf. Note the amount of spillage from this type of operation.



Mick Catley shows the loss of grain from a truck loading sorghum on Suva Wharf.

Plant quarantine treatment manual for Island countries of the South Pacific, Vol. II

Holders of the manual (prepared by Oliver O. Stout, Plant Quarantine Consultant to Project RAS/71/427) should check that they have amendments 1, 2 and 3 for the manual which we issued separately.

Project RAS/83/001 has agreed to distribute these amendments on behalf of the South Pacific Bureau for Economic Co-operation (SPEC) and will send them on request.

In addition to these amendments, manual holders may like to have the following code to the treatments referred to in the manual:

A – Australian Plant Quarantine Treatment Schedule 1974

D – APHIS USDA Manual 1977 (Plant Disease Treatment Section)

DeG – De Gesch publications

FAO – FAO treatments published prior to 1977

J – California Treatment Manual (mainly APHIS, but some separately researched)

PPQ – Approved but unpublished, APHIS, USDA treatments

SA – South African Phytosanitary Requirements

T – APHIS, USDA Plant Quarantine Treatment Manual (1977 edition).

Some additional corrections to the treatments in the manual have also been noted, i.e.:

SP 10 – APHIS T.103 (b) 1981

SP 16 – APHIS T.104 (f) 1981
3 lb for 2½ hrs @ 60-69
3 lb for 3 hrs @ 50-59
3 lb for 3½ hrs @ 40-49

SP 29 60-69°F 2½ lb for 2 hrs

SP 56 T203 (c) 4(a) does not include the statement, increase exposure period by 1 hour.

SP 169 (a) 18 - 20°C = 36 g for 2 hrs

SP 171 Noted as SP 141

4.5 to 9.5°C = 54 g for 2 hrs

SP 180 missing: reference to it pp. 196 and 433 of *Guidelines*

SP 215 1 - 1000 w/v $HgCl_2$ solution

3. Duty tours by project staff

Grahame Jackson, Crop Improvement Officer, travelled on to Papua New Guinea following the SPC Fourth Regional Plant Protection Meeting in Noumea, New Caledonia, in February 1984.

Major changes to the organisation of agricultural research in Papua New Guinea are planned as the result of recent reviews by the International Service for National Agricultural Research (ISNAR) and the World Bank. Because of this, and the fact that the UNDP/FAO-SPC

Project for Strengthening Plant Protection and Root Crops Development in the South Pacific has a United Nations Volunteer (UNV) staff member in the country, it was considered necessary to visit Papua New Guinea so that the project became familiar with the changes taking place and with the present status of root crop work at the several research stations in the country.

Dr Jackson made visits and/or had discussions with staff of the Department of Primary Industry, Konedobu, the Laloki Plant Research and Quarantine Station, Port Moresby, the Bubia Plant Industry Station, Lae, the Highlands Agricultural Experiment Station, Aiyura, the Kuk Experiment Station, Mount Hagen, the Lowlands Agriculture Experiment Station, Keravat, the Southern Highlands Rural Development Project, the Saramandi Research Station, East Sepik, and the University of Papua New Guinea in both Port Moresby and Lae. He paid particular attention to root crops (germplasm collections, breeding plans and pests and diseases).

He travelled back to Suva via Solomon Islands where he had discussions with the Chief Research Officer, the plant pathologist and the plant breeder. Research problems in plant pathology presently being investigated are *Marasmiellus* fungi in coconuts, death of betel nuts in the Reef Islands, the nematode *Hirschmaniella* on taro and *Phytophthora* dieback of cocoa. The breeding programmes on sweet potato and taro carried out by the project are proceeding well.

Extension Agronomist Jim Breen visited Western Samoa where the project was establishing cultivar collections of root crops at Togitogiga Research Station.

4. Biocontrol consultancy

During April 1984 Dr George Stride carried out a consultancy for the project with a view to identifying some specific plant pests for which the project could feasibly initiate biological control methods, advising on methods of introducing biological agents into the countries in the Region, and advising on the time scale and cost of the work proposed.

In the course of the consultancy Dr Stride visited New Zealand, Fiji, Solomon Islands and Vanuatu. His report will be distributed in the near future.

PUBLICATIONS

1. Sub-regional training course, Tonga

Niels von Keyserlingk has distributed to the Region copies of the *Course proceedings of the sub-regional training course on methods of controlling diseases, insects and other pests of plants in the South Pacific.* The course was held at the Tongan Government Experimental Farm, Viani, from 4 to 20 October 1982 and was sponsored by GTZ (German Agency for Technical Co-operation), United States Agency for International Development, and the consortium for International Crop Protection in co-operation with MAFF Tonga, and SPC. The document of almost 500 pages should be available in most Plant Protection Services. If you do not have a copy I am sure one can be obtained from GTZ, P.O. Box 881, Nuku'alofa, Tonga.

2. Coconuts – foliar decay by *Myndus taffini* (FDMT)

In *Information Circular* 91 (pages 6-7) a review of the transmissable disorders in coconut outlined similarities between FDMT and Lethal yellowing. However, although the insect vectors are similar and the symptomatology has some parallels, attempts to prove similar causal organisms have indicated different etiology. FDMT also differs from Cadang cadang.

(1) Lethal yellows Susceptible to tetracycline treatment	FDMT No effect of tetracycline treatment
MLO* particles readily detected by electron microscopy	Two virus-like particles suspected as being associated with disease
(2) Cadang cadang RNAs** detectable by probes in infected trees	RNAs not detectable by probes for viroids

* MLO: Mycoplasma-like organism.
** RNA: Ribonucleic acid.

Malaysia imports Philippine nuts for planting

At the Executive Meeting of the Asia Pacific Plant Protection Committee Mrs Siew Ming Kang, Head of the Plant Quarantine Service, Department of Agriculture, Kuala Lumpur, reported that coconuts from the Philippines had been imported into Malaysia. As a precaution against the import of Cadang cadang disease the germinating nut tissue had been sampled in the Philippines and tested for the viroid. A modified gel electrophoresis test, which was first developed by Dr John Randles of the Waite Agricultural Research Institute, South Australia, had been used to screen this material. Mrs Kang did not indicate what percentage of nuts were found infected, if any, or the number of nuts that were imported, but it is believed that commercial quantities were involved.

Tissue culture of coconuts

Guyana Sugar News in November 1983 reported that researchers at Wye College, University of London had successfully cloned coconuts using tissue culture techniques. Various parts of the palm can be used for the production of explants and in the Wye work they used secondary roots and immature flowers. It takes eight months to produce a plant that can be established in soil.

The implications of this work could be dramatic. Recent work on tissue cultures of oil palm has lead to extensive plantings of 'elite' varieties with superior yield and disease resistance qualities. The tissue culture technique permits the production in a short space of time of thousands of plants identical in all characteristics. The variations of high-yielding hybrids found in even the best seed nut gardens could be eliminated and clones known to be disease free could be rapidly multiplied.

In the Pacific, interest in the development of new coconut plantings and the replanting of old or cyclone-damaged groves is considerable. However, there has been considerable caution in the import of nuts from outside and within the region because of the serious diseases such as Lethal yellowing, Cadang cadang and Vanuatu disease (FDMT).

This new technique may mean a re-assessment of the quarantine requirement for coconuts and permit the import of elite hybrid nuts into the Pacific Region with minimal disease risk.

Publication

A comprehensive book on Lethal yellowing of palms has been edited by R.E. McCoy of the Agricultural Experimental Station, University of Florida, and is available from the Station.

PERSONNEL

Solomon Islands

Ruth Liloqula has returned from the United Kingdom and taken over the position of Senior Research Officer (Plant Protection), a post until recently held by Grahame Jackson.

Mike Bigger, who recently completed a posting as Forest Entomologist on secondment from Overseas Development Administration (ODA), has now moved to Dodo Creek Research Station where he is carrying out a six-month survey on the current knowledge on *Amblypelta* control and will be making recommendations for a future programme.

Dr Made Brana has recently joined the staff at Dodo Creek as Genetic Resources Officer as part of an International Bureau for Plant Genetic Resources (IBPGR)-supported programme. He will be working on collection, classification and description of our root crop accessions, an important part of our programme to find resistant varieties.

Fiji

Ilaitia Senitautau, Officer in Charge of Quarantine Operations at Suva Wharf, has retired after thirty years' service in the Department of Agriculture (now Primary Industries). His farewell celebration held at the Quarantine facilities on the wharf was attended by the new Minister of Primary Industries, Mr Charles Walker, and many of Ilaitia's friends and fellow Quarantine staff.

Oceania – USA

Marsh Kirby, who in the late 1970s worked as a Peace Corps volunteer in Fiji doing work in nematology, has been relocated from Guam to Canberra, Australia. He has been appointed Area Director, Oceania, USDA, APHIS Plant Protection and Quarantine. Marsh will be responsible for the liaison between quarantine officials in New Zealand and Australia as well as the countries of the SPC Region and USA. He is to be located at the American Embassy in Canberra within the next few months.

DISEASE SURVEYS

Drs Peter Maddison and Eric McKenzie visited Vanuatu in November 1983 to conduct a pest and disease survey financed by the South Pacific Bureau for Economic Co-operation and the New Zealand Government. Dr Grahame Jackson is also surveying the country for virus diseases of root crops.

In brief, it is likely that the following surveys financed bilaterally, by FAO or SPC, will be done in the near future to complement the disease and pest information gathered under previous FAO projects:

(a) Nematode survey of Tuvalu
(b) Insect survey of Solomon Islands
(c) Insect survey of American Samoa
(d) Virus survey of Solomon Islands.

INSECT COLLECTORS PLEASE NOTE
LADYBIRDS – LADYBIRDS – LADYBIRDS

Because of the usefulness of ladybirds in the biological control of other insect pests, Peter Maddison of DSIR would like to receive any specimens that can be collected in the Pacific.

Could collectors please forward samples, with details of their collection site, in alcohol to Dr P. Maddison, Entomologist, DSIR, Private Mail Bag, Auckland, New Zealand.

You may be helping a future biological control programme for the Region and elsewhere.

NEW FRENCH PHYTOSANITARY CERTIFICATE

A new phytosanitary certificate has been issued by the French Government to conform more closely with the requirements of the International Plant Protection Convention. Copies may be obtained from the SPC Plant Protection Officer.

SATELLITE SESSIONS

It is apparent that plant protection and quarantine personnel in the South Pacific Region still are reluctant to participate in the regular bi-weekly satellite sessions. The subject matter to be discussed at these sessions, which are held on alternate Thursdays at 2.15 GMT (or UTC), includes plant protection as well as root crops. If you are not sure when the session is to be held, then I am sure the USP satellite operator in your country will be able to help.

At the Fourth Regional Plant Protection Meeting a most useful session on coconut insect pests was held following a request by American Samoa, and useful sessions on the APRIN STRINGS network (Australasia Pacific Regional Information Network) co-ordinated from Wellington on disease and pests of subsistence crops were held in March and April.

DON'T FORGET ALTERNATE THURSDAYS AT 2.15 PM GMT UNTIL 3.00 PM GMT.

ERRATUM

Queensland fruit fly (SPC Advisory leaftet 18, 1983)

On page 4, in column two in the paragraph on ERADICATION, the last sentence should read: The procedures that might be used are given in *Economic fruit flies of the South Pacific Region.*

A REMINDER

News of regional plant protection interest is needed for our next edition. We want to hear about:

Changes or additions to plant protection staff.

Changes or additions to legislation (e.g. plant quarantine or pesticide legislation).

News of new research programmes, recent important research findings, etc.

News of aid programmes in plant protection.

Recent publications on any aspect of plant pathology, entomology, nematology, weed control, vertebrate pests, etc.

New records of, or important outbreaks of, pests, diseases and weeds.

New biological control agents introduced for testing.

New local recommendations for pest, disease and weed control.

News of training courses held or to be held.

News of meetings, seminars, etc.

News of local staff in training overseas and of visiting scientists.

Such information should be sent to the SPC Plant Protection Officer, Box 2119, Suva, Fiji.

AGRICULTURE

ISSUED IN THIS SERIES

1.	Annual Conference of O.I.E. held in Paris, 13th-18th May 1968. Report of South Pacific Commission Observer. September 1968.	*Livestock Production and Health*
4.	'A' Level: Australia's Notification on Bovine Pleuropneumonia Regulations. March 1968.	*Plant and Animal Quarantine*
5.	Study Tour to Noumea, Brisbane, Territory of Papua and New Guinea and British Solomon Islands Protectorate. March 1969.	*Tropical Crops*
6.	'A' Level: Agricultural Education - Bulletin No. 1. April 1969.	*Agricultural Education and Extension*
9.	'A' Level: Agricultural Education - Bulletin No. 2. May 1969.	*Agricultural Education and Extension*
10.	'A' Level: Agricultural Education - Bulletin No. 3. November 1969.	*Agricultural Education and Extension*
11.	Agricultural Extension Workshop - Western Samoa. November 1969.	*Agricultural Education and Extension*
12.	Asian-Pacific Weed Science Society. December 1969.	*Tropical Crops*
13.	The Status and Potential of the Chilli Industry in the Solomon Islands. December 1969.	*Tropical Crops*
22.	Breadfruit Diseases in the South Pacific. June 1970.	*Tropical Crops*
23.	Second World Consultation on Forest Tree Breeding. June 1970.	*Forestry*
24.	Agricultural Research in the South Pacific. July 1970.	*Tropical Crops* *Livestock Production and Health*
25.	Crown-of-Thorns Starfish. July 1970.	*Fisheries*
26.	Counter-Attack - Crown-of-Thorns Starfish. September 1970.	*Fisheries*
28.	Asian Coconut Community. January 1971.	*Tropical Crops*
29.	O.I.E./F.A.O. Regional Conference on Epizootics in Asia, the Far East and Oceania. January 1971.	*Livestock Production and Health*
30.	Plant Pest Control. January 1971.	*Tropical Crops* *Plant and Animal Quarantine*
31.	The Effect of Cultural Method and Size of Planting Material on the Yield of *Colocasia esculenta*. February 1971.	*Tropical Crops*
33.	Weed control. August 1971.	*Tropical Crops*
34.	Taro. August 1971	*Agricultural Research*
35.	Transmission of Virus Samples. August 1971.	*Plant and Animal Quarantine*
37.	Training Programmes for Out-of-School Rural Youth. March 1972.	*Agricultural Education and Extension*
43.	The Fifth FAO Regional Conference on Animal Production and Health in the Far East. December 1972.	*Livestock Production and Health*

47.	Useful References for Animal Production and Agricultural Extension Workers of the South Pacific Commission territories. March 1973.	*Animal Production*
50.	South Pacific Agricultural Extension Survey - 1967. April 1973.	*Agricultural Education and Extension*
52.	Fruit Cultivation. June 1973.	*Tropical Crops*
54.	Shellfish Poisoning in the South Pacific. February 1974.	*Fisheries*
55.	Special Project - Vegetable Production in the South Pacific. January 1974.	*Tropical Crops*
56.	Comments on Experiments Recently Undertaken in some Pacific Islands on certain varieties of Vegetables. March 1974.	*Tropical Crops*
58.	Some Aspects of Pasture Research and Development. April 1974.	*Livestock Production*
62.	Potential of Animal Feed Production in Western Samoa. November 1974.	*Livestock Production and Health*
63.	Names of Food Plants in Niue Island (South Pacific). November 1974.	*Tropical Crops*
64.	Some Effects of Temperature on Pasture Germination and Growth. April 1975.	*Livestock Production and Health*
65.	The Marketing of Fresh Vegetables. May 1975.	*Vegetable Production*
66.	Special Project on Vegetable Production - Results of 1974 Variety Trials. June 1975.	*Tropical Crops*
67.	Principal 1974 Vegetable Crowing Results for the Pirae Agricultural Research Station, Tahiti (French Polynesia). June 1975.	*Tropical Crops*
68.	Evaluation of Broiler (Meat Chicken) Performance. September 1975.	*Livestock Production and Health*
71.	Preliminary Information on the Intestinal Parasites of Livestock in Tongatapu, Tonga. March 1976.	*Livestock Production and Health*
72.	Expérimentation fourragère en Polynésie française. Mars 1976. *(Will not be issued in English)*	*Livestock Production*
73.	Vegetable trials in 'Motu'environment, Huahine (French Polynesia). March 1976.	*Tropical Crops*
76.	Results of 1975-76 soya bean trials in certain South Pacific Territories. October 1976.	*Tropical Crops*
80.	Special project for the development of vegetable production in the South Pacific. April 1978.	*Vegetable Production*
82.	Red ring disease and palm weevil - threats to the coconut palm. July 1979.	*Plant Protection*
83.	Coconut disease caused by *Marasmiellus cocophilus* in Solomon Islands. October 1979.	*Plant Protection*
84.	Plant Protection News. January 1980.	*Plant Protection*
85.	Using the predatory ant, *Oecophylla smaragdina,* to control insect pests of coconuts and cocoa. June 1980.	*Plant Protection*
86.	Plant Protection News. August 1980.	*Plant Protection*
87.	Trials for village Solar Driers in the South Pacific. August 1980.	*Agriculture*

88. Plant Protection News. February 1981. *Plant Protection*
89. Plant Protection News. January 1982. *Plant Protection*
90. Plant Protection News. April 1982. *Plant Protection*
91. Plant Protection News. June 1983. *Plant Protection*
92. Plant Protection News. December 1983. *Plant Protection*