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PLANT PROTECTION NEWS

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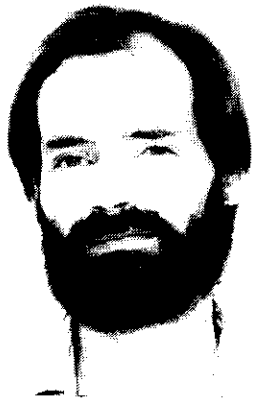
Editorial



This issue of *Plant Protection News* not only looks different, it really is different. It is the first newsletter to be published entirely at the office of the Plant Protection Service in Suva, on new computer equipment supplied by the British Development Division in the Pacific, and printed at the SPC Regional Media Centre. And it is my first attempt at preparing your newsletter!

So, given all these new directions, it is appropriate to ask you, the reader, to consider whether the end result is to your liking, and what improvements could be made. Please write to me with your thoughts at the address in the box below.

So many people have asked me how they might ensure that they receive *Plant Protection News* (PPN for short) on a regular basis that we must have been doing something right! Simply, if you are working in any area of plant protection within the SPC region, then this newsletter is for you.

If the copy in your possession reached you indirectly, or you have never seen a copy before, then we would like to know about it. We may be able to arrange more direct distribution.

There is a lot to be gained when organisations work together. This is particularly so in the Pacific, where resources are limited. So, if you have information you can share, then write to *Plant Protection News*.

Peter Walton
Editor

The Plant Protection Service of the South Pacific Commission is dedicated to enhancing national and regional crop protection capabilities. Located at premises three miles from Suva, the following are the staff members:

Bob Macfarlane - Plant Protection Officer
Grahame Jackson - Plant Health Officer
Brian Thistleton - Biocontrol Officer
Peter Walton - Information Officer
Samila Devi - Lab. Assistant (Tissue Culture)

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Project News

A well known figure in the Pacific, **Dr Bob Fullerton**, Plant Pathologist with DSIR in Auckland, is the FAO Consultant to the UNDP/SPC Project, *Crop Protection in the South Pacific*. Bob will evaluate the Project annually. His first visit was in July and August 1988.

Training

Aluis Ehpel, Agriculture Information Officer, Division of Agriculture, **Pohnpei** State Government, in the Federated States of Micronesia, recently attended an Agriculture Radio Producers Course at the SPC Regional Media Centre in Suva. After the Course, Aluis (pictured) was able to spend time with Grahame Jackson and Samila Devi learning how to isolate pathogens causing disease and handle plant tissue cultures. Aluis also had time to learn insect collection and pinning with Jone Uluinaceva, part-time biocontrol assistant to Brian Thistleton.

Training on a one-to-one basis of this kind can be given to other people nominated by their agriculture departments. For further information, contact the Plant Protection Officer.

Aluis Ehpel in the Tissue Culture Lab.

Pesticides

Pesticide registration requirements

A Regional Workshop on the Harmonisation of Pesticide Registration Requirements for the Distribution and Use of Pesticides will be held at SPC Headquarters in Noumea, **New Caledonia**, 6-10 March 1989. Partially funded by the FAO Project, *Implementation of the International Code of Conduct on the Distribution and Use of Pesticides*, the objective of the Workshop is to discuss the FAO Code which promotes the control, distribution and use of pesticides. The Workshop will pay particular attention to the requirements of the region, especially of the problems of establishing pesticide controls in countries where administrations are small.

SPC will be contacting those governments and administrations which earlier indicated a desire to participate in the Workshop previously scheduled for 30 May-3 June 1988.

The Workshop will be led by Bob Macfarlane and Cecilia Gaston (Chief Technical Advisor, FAO Implementation of the International Code of Conduct on the Distribution and Use of Pesticides, Bangkok). Brian Watts (former Superintendent of Pesticides, New Zealand), and David Mowbray (Lead Investigator, SPREP Pesticides Project, University of Papua New Guinea) will be the resource personnel, together with representatives from various pesticide companies, and the environmental organisation Greenpeace.

Pictograms for agrochemical labels

And talking of pesticides, a new brochure has been published by the international trade association for manufacturers of agrochemicals, GIFAP, on the use of pictograms for agrochemical labels. The pictograms have been devised by GIFAP and FAO, to tell people who cannot read how to use pesticides safely. They will not replace written instructions on labels.

GIFAP recommend that governments and industry act to incorporate the pictograms on agrochemical labels, and to educate users about them. In this context, *Plant Protection News* will show a sample of

WEAR GLOVES

pictograms in each issue so that crop protection staff in the region can learn to recognize them.

WEAR BOOTS

What is a PICTOGRAM? According to GIFAP, a pictogram 'is a symbol which conveys a message without the use of words'.

Copies of the publication: *Pictograms for agrochemical labels : an aid to the safe handling of pesticides*, can be obtained from: GIFAP, 79a Avenue Albert Lancaster, B-1180 Brussels, Belgium.

Dinoseb banned

The herbicide dinoseb has been banned in the UK. A similar ban is expected in the US, where there are already severe use restrictions, by 1990. Data has shown that the herbicide may cause male sterility and birth defects in laboratory animals.

Source: *Farm Chemicals International*, March 1988, p.5.

Quarantine

Quarantine regulations of the **Federated States of Micronesia** and **Palau** were reviewed by Jack Morschel, Australia's former Chief Quarantine Officer, during July and August 1988.

Palau and the Federated States of Micronesia were formerly part of the UN Trust Territory of the Pacific Islands, administered by the United States. As such, their plant and animal quarantine regulations were incorporated in the Trust Territory Code.

The need for a revision that takes heed of current political realities has long been realised.

Biocontrol News

Mango shoot caterpillars on Guam

Four species of parasites of *Peniallaria jocosatrix*, the mango shoot caterpillar, were introduced and released on **Guam** in 1986 and 1987. The parasite, *Trichogramma platneri*, obtained from California, attacks eggs of a variety of Lepidoptera, but specialises in eggs found in trees. The other three species, *Aleoides* sp.nr. *circumscriptus*, *Blepharella lateralis*, and *Euplectrus* sp.nr. *parvulus*, were obtained from India. All these parasites attack the larvae. Surveys of mango shoot caterpillar show that populations have declined since July 1987, and mango production is higher in many parts of Guam. However, there are still localised outbreaks.

This information was given by Don Nafus, University of Guam, from whom further information may be obtained.

Siam weed

The Siam weed, *Chromolaena odorata*, originated in the Americas, but has spread to parts of Asia, Africa, and Micronesia. In the **Mariana Islands**, it has been a problem since 1980, but has been brought under control by introduction of the arctiid moth, *Pareuchaetes pseudoinsulata*.

In 1987, it was recorded in **Yap**, and SPC arranged for Dr Muniappan, University of Guam, to visit in January 1988 to release *P. pseudoinsulata*. Dr Muniappan has recently reported that the caterpillar is now established.

Coconut flat moth

A further five shipments of adult *Bracon* and *Apanteles* were made to **Vanuatu** in **June** and July to control coconut flat moth (see PPN 15). Releases have been made on Efate and Espiritu Santo. Bob Weller (Chief Quarantine Officer) reports that in mid-September, two *Bracon* cocoons were recovered from the field.

In **Tonga**, Konrad Englberger (Tongan-German Plant Protection Project) reported in September that there was no evidence that *Bracon* has established on the island of 'Eua following its introduction in late 1987 (see PPN 15). A further shipment of adults was sent in October.

Green scale

Roy Masamdu (Department of Agriculture and Livestock) in **Papua New Guinea** reports that the parasite, *Metaphycus baruensis*, introduced from Kenya for the biological control of green scales (*Coccus viridis* and *C. celatus*) has now been released and field recoveries made; this indicates that there is good evidence that the parasites are establishing.

Taro leafhopper

The taro leafhopper, *Tarophagus proserpina*, is a serious pest of taro and a vector of taro viruses. In most Pacific islands where it occurs it is controlled by a predatory bug, *Cyrtorhinus fulvus*, which feeds on the eggs.

However, in **Tuvalu**, *C. fulvus* is absent, and an unsuccessful attempt was made to introduce it in 1983. A further shipment was sent by the SPC Plant Protection Service in October.

Coconut termites in Cook Islands

In June 1988, Michael Lenz (CSIRO, Division of Entomology, Termite Group) spent four days on the atolls of Suwarrow, Pukapuka and Nassau in the Northern Group of the **Cook Islands**, investigating infestations of coconut palms by the coconut termite, *Neotermes rainbowi*.

An experiment on biological control of the termites with an insect-parasitic nematode was also carried out. Results from the experiment were not available at time of going to press. However, Lenz made suggestions for cultural control.

Lenz's report (Termite Group *Report* No.88/8) is available from CSIRO, GPO Box 1700, Canberra ACT 2601, Australia.

New Pest Records

Nematodes on bananas

In July, Brian Thistleton visited Mitiaro in **Cook Islands**, which is the site of an SPC Integrated Rural Development Project, to investigate pest problems on bananas. Nematodes were extracted from root and corm tissue and sent to Dr Gordon Grandison at the DSIR, Auckland for identification. Dr Grandison had also collected samples of nematodes from Mitiaro in 1979, including a nematode which he thought was *Pratylenchus loosi*. With the material collected on the present trip he was able to confirm this identification. *P. loosi* was previously known as a serious pest of tea in Sri Lanka, and has also been recorded from tea and citrus in India, and from tea, apple, citrus, pear, *Convallaria* and natural grassland in Japan. There are two records from Australia, from crab apple and grape.

Two other nematodes were also recorded: *Pratylenchus coffeae* and *Helicotylenchus multicinctus*, both known pests of bananas. They occurred much less frequently than *P. loosi*.

It is of interest that the banana burrowing nematode, *Radopholus similis*, was not found in either the present survey or in Grandison's earlier survey.

Cassava green mottle virus

Mottled cassava leaves from Choiseul, **Solomon Islands**, contain a previously undescribed virus, which has been named cassava green mottle virus (CGMV). The disease was found in the Solomons by Grahame Jackson, and cuttings were sent to the Institute for Horticultural Research, UK, from which they were passed to the Scottish Crops Research Institute, where Dr Bryan Harrison was working on cassava viruses, with funding from the Overseas Development Administration funded project. The virus is sap-transmissible to a wide range of plants including tobacco, sweet potato, white potato, cowpea, cu-

cumber and tomato, but not maize, peanut, and taro. To date, CGMV is not known to occur outside Solomon Islands.

A full account can be read in: Lennon, A.M., Aiton, M.M., Harrison, B.D. (1987) - see **Literature Alert**.

Source: *Cassava Newsletter*, 11(2), October 1987, pp.6-7.

Weeds in the South Pacific

Dr John Swarbrick of the Queensland Agricultural College surveyed weeds of the main islands of **American Samoa**, **Cook Islands**, **Fiji**, **Kiribati**, **Nauru**, **New Caledonia**, **Solomon Islands**, **Tonga**, **Tuvalu**, **Vanuatu** and **Western Samoa** during April to July 1988.

Copies of John's list of weeds in the crops examined have been sent to the countries visited. The full report will be distributed in the near future. It is hoped that he will survey Micronesia in August 1989.

Fruit flies of the region

Dr Alan Bateman travelled to **Cook Islands**, **Fiji**, **New Caledonia**, **Solomon Islands**, **Tonga**, **Vanuatu** and **Western Samoa** in June and July 1988 to investigate the problem of tropical fruit flies, and in particular he looked at present and future quarantine requirements, training needs, and constraints to trade.

As a result of his work, the latest titles in the SPC *Quarantine Advisory Leaflet* series (see p.8) have been amended to take account of new data on fruit fly distribution.

A sub-regional workshop on fruit fly problems, based on his report, will be held in Western Samoa early in 1989.

To bring people up to date regarding *Dacus* sp. in those seven countries listed above, we present a distribution list by country.

Cook Islands
D. melanotus, D. xanthodes.

Fiji
D. distinctus, D. passiflorae, D. xanthodes.

New Caledonia
D. curvipennis, D. psidii, D. tryoni, D. umbrosus.

Solomon Islands
D. cucurbitae, D. frauenfeldi, D. froggatti, D. simulatus, D. umbrosus.

Tonga
D. distinctus, D. facialis, D. kirki, D. passiflorae, D. xanthodes.

Vanuatu
D. simulatus, D. triseriatus, D. umbrosus.

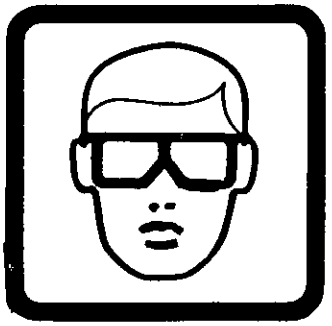
Western Samoa
D. distinctus, D. kirki, D. xanthodes.

(This list was extracted from Dr Bateman's report, which will be distributed shortly. The list is based solely on available data in those seven countries, and is not the result of a new survey. Other species of fruit fly are known in these countries, but the host plants are unknown or have not been recorded).

More pictograms

WEAR PROTECTION OVER NOSE AND MOUTH

WEAR EYE PROTECTION



Tissue Cultures

BANANAS

The previous issue of *Plant Protection News* listed taro varieties available from the Plant Protection Service upon receipt of a request and an import permit. In this issue cultures of banana are described.

All the varieties have been obtained from the Faculty of Agricultural Science at the Catholic University of Leuven, Belgium. The Laboratory of Crop Physiology and Tropical Crop Husbandry, under the direction of Ir. Jos Schoofs, acts as a transit centre for banana germplasm on behalf of INIBAP, the International Network for the Improvement of Banana and Plantain.

The origin of each of the varieties is stated below. Plants were sent to the University of Leuven, and meristems were taken from them and cultured. The plantlets that were produced in this way were transferred to a glasshouse at the University and kept there under observation for virus diseases, especially cucumber mosaic and bunchy top, for two periods of six months.

If they remained free from symptoms during these times, they were distributed. All (except **Williams**) have been sent to IITA in Nigeria where they were grown in the field without developing symptoms of virus. They are therefore offered to the region in knowledge that the varieties are virus-free.

Williams

Represents 95 per cent of the Australian industry. It is high yielding. Probably a somatic mutant of **Dwarf Cavendish**. Similar to **Grande Naine** but taller. The disadvantage of the variety is that it is thought to be more prone to strong wind damage than shorter varieties.

Originally from TFRS, Alstonville, Australia.

Poyo

Also known as **Robusta**. A vigorous variety which can withstand shortage as well as excess of water, but it is 20-40 cm taller than **Williams**, and as such may be more susceptible to the effects of wind. It is under test in Queensland.

Originally from IITA, Onne, Nigeria.

Valery

Possibly better than other **Cavendish** clones on poorer soils. Like **Poya** it is taller than **Williams** by about 20-40 cm, and may be more susceptible to the effect of wind.

Originally from IRFA, Azaguie, Ivory Coast.

Grande Naine

It is shorter than **Williams** by about 30 cm, and so may be less affected by wind, but it has similar 'finger' length and yield. Under good conditions of cultivation it is considered the most productive of the **Cavendish** group; however, on poorer soils it is not as productive as other tall varieties.

Originally from IRAZ, Gitenge, Burundi.

Petite Naine or Dwarf Cavendish

Once the most popular variety in Australia, but now replaced by **Williams**. Often chosen for marginal areas of cultivation with poor soil or difficult climatic conditions, but susceptible to seasonal drought.

Originally from CRIDA, Tenerife, Canary Islands.

Another pictogram

Publications

Scale insects of the South Pacific

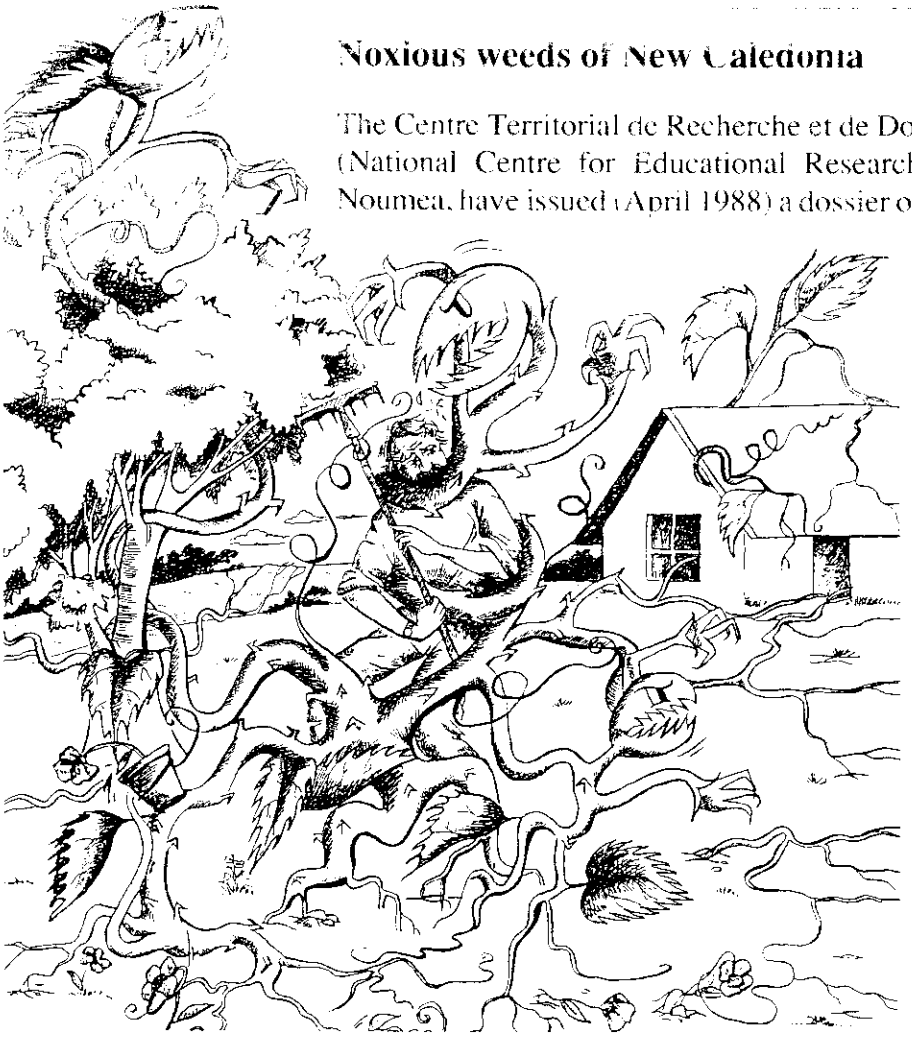
The first part of a major taxonomic work by Williams & Watson on the important scale insects (Coccoidea) of the tropical South Pacific has just been published by CAB International (see **Literature Alert**, p.9). Keys to 37 genera and 124 species, including one new genus and 38 new species, are provided.

According to the preface, the main purpose of the work is to provide agricultural staff concerned with pest control and quarantine in the South Pacific area, with a reliable means of species identification. The area covered is Melanesia and Polynesia (but including Kiribati), from Irian Jaya to Easter Island.

Biological control : Pacific prospects

Further to our announcement (PPN 15) about the publication of *Biological control : Pacific prospects*, edited by Waterhouse and Norris (1987), there is a new development that may be of interest to trainers in the region. Radio Australia journalist, Brett Wright, has prepared six broadcast tapes based on the book. Ionani Malaki, USP Alafua Broadcast Officer, familiar to you through the radio programme *Regional Call* is one of three readers.

Copies of the tapes can be made available to Pacific countries on application to: Prof. J. McWilliam, Director, ACIAR, Box 1571 City, Canberra ACT 2601, Australia. It is stressed that there is no copyright on the tapes, and they can therefore be used as part of a radio show, or as a component in a training course. Dr Doug Waterhouse can be contacted, for updated information, at: Division of Entomology, CSIRO, Box 1700 City, Canberra ACT 2601, Australia.



Noxious weeds of New Caledonia

The Centre Territorial de Recherche et de Documentation Pédagogiques (National Centre for Educational Research and Documentation), in Noumea, have issued (April 1988) a dossier of the noxious weeds of New Caledonia. In French, and entitled *Ces plantes qui nous envahissent* (The plants which invade us), this publication was originally a guidebook for visitors to an exhibition at the Natural History Museum at the Wildlife Park just outside of Noumea. Author B. Suprin of the Department of Forests and Natural History is to be congratulated on this fine document. For copies, contact: Directeur de la Publication, CTRDP, BP 215, Noumea, New Caledonia.

Chromolaena odorata

Several new journals have appeared recently. The title that will be sure to take the prize for the most 'unpronounceable' of the year has got to be Chromolaena odorata Newsletter. *C.odorata*, or Siam weed, is a serious pest in the **Mariana Islands**, and in the states of **Pohnpei** and **Yap** in the Federated States of Micronesia. The University of Guam has been involved in biological control of the weed for a number of years, and was invited to prepare a newsletter by the First International Workshop for Biological Control of *Chromolaena odorata* (29 Feb - 4 March 1988, Bangkok, Thailand). The first issue of the *Newsletter* (May 1988) is a bibliography of *C. odorata.*

The *Proceedings* of the Workshop (published July 1988) have also been received, and provide an excellent overview of the situation and status of the weed. The island of New Guinea, together with the rest of Melanesia, offers ideal sites for the potential establishment of *C. odorata.*

For copies of the *Newsletter* and *Proceedings*, write to: Dr R. Muniappan, Agricultural Experiment Station, University of Guam, Mangilao, Guam 96923.

Quarantine Advisory Leaflets

New titles to the *Quarantine Advisory Leaflet* series have been prepared, and will shortly be available to quarantine staff and other plant protection personnel in the region. The titles are: Capsicum, Pawpaw, Pineapple, Avocado, Timber, Onion, Breadfruit, Mango, Coconut, Carrot, Kava, and Maize. These 12 titles supplement the existing nine published in 1984 (Banana, Beans, Cabbage, Citrus, Cucurbits, Orchids, Peanuts, Tomato, and Taro). Should you fail to receive a copy, and believe you may be entitled to one, please contact the SPC Plant Protection Information Officer (see box on front cover for address).

Plant Protection News

The Second Regional Meeting on Plant Protection, Noumea, 14-18 November 1977, recommended that the *SPC Plant and Animal Reporting Service*, which ceased publication in 1968, be 'resuscitated'. The intention of the recommendation, as the then Plant Protection Officer, Mr Ivor Firman, pointed out, was a regular newsletter on plant protection initiatives in the region. There have been 15 issues of *Plant Protection News* since it began in 1979. A complete list of all issues is given below.

1. *In* South Pacific Bulletin Vol.29(2) (1979)
2. *In* South Pacific Bulletin Vol.30(2) (1980)
3. Information Circular 86 (Aug. 1980)
4. Information Circular 88 (Feb. 1981)
5. Information Circular 89 (Jan. 1982)
6. Information Circular 90 (Apr. 1982)
7. Information Circular 91 (Jun. 1983)
8. Information Circular 92 (Dec. 1983)
9. Information Circular 93 (May. 1984)
10. Information Circular 94 (Feb. 1985)
11. Information Circular 95 (Oct. 1986)
12. Information Circular 99 (Feb. 1987)
13. Information Circular 104 (Jun. 1987)
14. Information Circular 108 (Dec. 1987)
15. Information Circular 113 (Jun. 1988)

We know PPN plays a vital role in keeping people informed about plant protection activities; in order to promote this interest, PPN will be published regularly four times a year (March, June, September, and December).

Regional Technical Meeting

The *Report of the Fifth Regional Technical Meeting on Plant Protection*, held at SPC Headquarters, Noumea, New Caledonia, 16-20 November 1987, is now available. Copies may be obtained from the Publications Officer, South Pacific Commission, BP D5, Noumea Cedex, New Caledonia.

Obituary

Dr J.J.H. Szent-Ivany

Dr J.J.H. Szent-Ivany, long-time associate of the Department of Entomology, Bishop Museum, Honolulu, passed away on 8 June, 1988. Dr Szent-Ivany undertook pioneer work in **Papua New Guinea** and was well-known in the region.

LITERATURE ALERT

Here we list new publications on plant protection in our region, held at the Plant Protection Library in Suva. Some of them are available as photocopies, and can be obtained from the Information Officer.

Bridge, J. (1988). Plant-parasitic **nematode** problems in the Pacific islands. *Journal of Nematology* 20(2): 173-183.

Chazeau, J. (1987). Le psylle du faux-mimosa en Asie du Sud-Est et dans le Pacifique : état du probleme et perspectives de lutte [=The **leucaena psyllid** in SE Asia and the Pacific : the problem and prospects for control]. *Revue d'Élevage et de Médecine Vétérinaire de Nouvelle Calédonie* (9): 23-27.

Floyd, C.N. (1988). Control and effect of **leaf scab** (*Elsinoe batatas*) in sweet potato [in PNG]. *Tropical Agriculture (Trinidad)* 65(1): 6-8.

Kanua, M.B., Floyd, C.N. (1988). **Sweet potato** genotype *x* environment interactions in the highlands of Papua New Guinea. *Tropical Agriculture (Trinidad)* 65(1): 9-15.

Lennon, A.M., Aiton, M.M., Harrison, B.D. (1987). Purification and properties of **cassava green mottle**, a previously undescribed virus from the Solomon Islands. *Annals of Applied Biology* 110(3): 545-555.

Lenz, M. (August 1988). Observations on the **coconut termite** *Neotermes rainbowi* (Hill) on atolls of the Cook Islands - first report. Canberra, Australia : CSIRO, 1988. 31p. (*Report* / CSIRO, Division of Entomology, Termite Group ; no. 88/8)

Muthappa, B.N. (1987). Records of **microorganisms** in Papua New Guinea, 1977-1986. Konedobu, Papua New Guinea : Department of Agriculture and Livestock. 72p. (*Research Bulletin* ; No.43)

Nafus, D.M., Schreiner, I.H. (1986). Parasitoids of the **corn borer** *Ostrinia furnicalis* (Lep: Pyralidae) in the Mariana Islands. *Entomophaga* 31(3): 219-224.

Pearson, M.N., Pone, S.P. (1988). **Viruses of vanilla** in the Kingdom of Tonga. *Australasian Plant Pathology* 17(3): 59-60.

Pone, S.P., Pearson, M.N. (1988?). Ko e mahaki vailasi 'o e vanila' = **Virus diseases of vanilla** in Tonga. Nuku'alofa : Tongan-German Plant Protection Project. [8p]. In Tongan and English.

Schneider-Christians, J., Fliege, F., Schlösser, E. (1986). On the release, survival and importance of basidiospores of ***Corticum salmonicolor***, the pathogen causing pink disease. *Zeitschrift für Pflanzenkrankheiten und Pflanzenschutz* 93(4): 397-403.

Schreiner, I.H., Nafus, D.M. (1987). Detasselling and insecticides for control of [**corn borer**] *Ostrinia furnacalis* (Lepidoptera : Pyralidae) on sweet corn [in Guam]. *Journal of Economic Entomology* 80(1): 263-267.

Schreiner, I.H., Nafus, D.M. (1988). No-tillage and detasselling : effect on the **Asian corn borer**, *Ostrinia furnacalis*, and ants. *Philippine Entomologist* 7(4): pp.435-442.

Suprin, B. (April 1988). Ces plantes qui nous envahissent [= Plants which **invade** us]. Noumea, New Caledonia : Centre Territorial de Recherche et de Documentation Pédagogiques. 217p. In French.

Williams, D.J., Watson, G.W. (1988). The **scale insects** of the tropical South Pacific region. Part 1 : the armoured scales (Diaspididae). Wallingford, UK : CAB International. 290 p.

Young, G.R. (1987). Some parasites of *Segestes decoratus* Redtenbacher and their possible use in the biological control of **tettigoniid pests** of coconuts in Papua New Guinea. *Bulletin of Entomological Research* 77(3): 515-524.

Original text: English

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