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PLANT PROTECTION NEWS

Compiled by
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NEW PROBLEMS

Several new pest distribution reports have been made to SPC or noted in the literature since the last 'News'.

1. Sorghum midge in New Caledonia

Luc-Olivier Brun of ORSTOM reports the presence of *Contarinia sorghicola* in New Caledonia where it has been doing serious damage. Although this is a new record it seems likely that it has, in fact, been present there for several years; populations have probably increased as more land has come under cultivation with sorghum.

Sorghum midge larvae eat the young seeds developing in the heads and, in heavy infestations, affected heads may be completely without grain. The pest has a worldwide distribution and in the region is known already from Australia, Cook Islands, Fiji and Hawaii.

2. Spiralling whitefly in American Samoa and Guam

Aleurodiscus dispersus was discovered in the bay area and the western end of Tutuila, American Samoa in April 1981 according to information supplied by the Director of Agriculture, Ta'alo P. Lauofo. This insect has a very wide host range including ornamentals, citrus and other fruit trees, but guava is proving to be a favourite host. Lady-bird beetles sent from Hawaii are being tried as a control measure.

Spiralling whitefly was also found in Guam during 1981 according to a report from Ralph Iwamoto, District Quarantine Director.

3. Melon fly in the Commonwealth of the Northern Marianas

A report by Marshall Kirby, USDA, APHIS PPQ Regional Quarantine Entomologist, says melon flies (*Dacus cucurbitae*) were caught on Rota in April 1981 in 15 of 51 cue-lure baited traps. Infestation was widespread on the 83 square kilometre island and subsequent trappings continued to yield melon flies. Another fruit fly, *Dacus ochrosiae*, which is of no economic importance, was also attracted to cue-lure and was a useful indicator of trap effectiveness.

Melon fly was first eradicated from Rota in 1963 and up until 1971 was reintroduced and eliminated eight times. The present infestation is therefore the ninth re-establishment of melon fly on Rota.

Melon fly has been present on Guam since before 1940. Guam is the presumed source of repeated reinfestations on Rota which lies 60 kilometres to the north-east.

There was no evidence of melon fly from Tinian or Saipan during the recent survey and it has reportedly not been trapped on Saipan, Tinian or Agiguan (an uninhabited islet next to Tinian) since 1963 (Mitchell 1980 *Proc. Hawaiian Ent. Soc.* 23: 239-243).

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4. California red scale in Fiji

Although there have been several reports of the presence of California red scale, *Aonidiella aurantii*, in Fiji there have been some doubts about them. Recently, however, specimens collected by Peter Maddison in 1977 on *Broussonetia papyrifera* and *Citrus maxima* at Waiyevo, Taveuni, have been positively identified by the Commonwealth Institute of Entomology as *A. aurantii*. It remains to be determined how widespread this insect is in Fiji; it does not seem to be a serious problem in any of the Pacific Island countries where it occurs.

5. New mango pest in Hawaii

USDA Plant Pest News (1981, 1(3)) reports that a gall midge, *Dasineura mangiferae*, was found on mango blossoms at Hilo, Hawaii Island. Although this species was formerly only recorded from India it is thought probable that it occurs elsewhere. This cecidomyiid stops the flower bud from growing and opening, thus preventing fruit set. The bud becomes a large pointed gall.

With regard to the quarantine significance of this new record, the report notes that 'although it is remotely possible for this pest to move in nursery stock, there is no possibility of it moving with fruit. Also, this pest has never been known to be intercepted at a point of entry.'

STILL A PROBLEM

R. Muniappan and Ralph Iwamoto note that 'the mango weevil (*Cryptorhynchus mangiferae*) was reported from Guam by LaPlante (H.I. Rainwater, 1964. *Proc. Hawaiian Ent. Soc.* 18: 353). Also, there is a report of Mr Frank Madinger finding one seed weevil out of 9 lbs of intercepted mangoes mailed from Guam to Honolulu on January 20, 1971. Recently, a survey was conducted to confirm the status of establishment of mango seed weevil on Guam. It has been recorded that 10 out of 76 mango seeds collected from the village of Piti were infested with *C. mangiferae*. Samples from the villages of Maina, Asan, Yigo, Dededo, Barrigada, Agat, Merizo and Santa Rita did not have the seed weevils, possibly because sample size in these villages was small and most of the sampled mangoes were immature and damage hard to detect.'

Some of the major quarantine pests introduced to Guam in recent years are: Giant African Snail (1965), Oriental Fruit Fly (1965), but note that Guam has been declared free of the Oriental Fruit Fly since 1979, Melon Fly (1965), Philippine Lady Beetle (1950), Banana Leaf Roller (1952), Citrus Spiny Whitefly (1953), Philippine Rat Snake (1956), Mango Seed Weevil (1964), Bunchy Top Disease (1973), Flame Tree Looper (1971), Bag Worms (1976), Tangentangen Mealybug (1977), Protasea Beetle (1973), and Spiralling Whitefly (1981).

NEARLY A PROBLEM

Bob Macfarlane reports from Solomon Islands that a second interception of Giant African Snails has been made. Thirteen large snails were found under ten empty containers which had been picked up in Truk and Ponape. The previous interception was also on a ship from these islands.

In Western Samoa, there have been no recent finds (as of end November 1981) of Giant African Snails following the original outbreaks in October and November 1980. It is hoped that the eradication campaign will be successful; meanwhile the risk remains of reinfestation from American Samoa.

NEW ADDRESS

Correspondence for the entomologist, plant pathologist or quarantine service in Solomon Islands should now be addressed through:

Permanent Secretary
Ministry of Home Affairs and National
Development
P.O. Box G13
Honiara.

PLANT DISEASES IN KIRIBATI

In 1978, N. Shanmuganathan of the Plant Research Institute, Victoria, Australia, undertook a survey of virus and virus-like diseases of plants in Kiribati as part of the UNDP/FAO-SPEC Agricultural Pests and Diseases project. The results of his survey have now been published in *FAO Plant Protection Bulletin* (1980, 28 (1): 29-38), and the following is the summary of his findings:

Virus or virus-like diseases were not recorded on coconut, breadfruit, sweet potato and pandanus in the Gilbert Islands¹. Bunchy top of banana was identified at Butaritari, but its occurrence in the other islands is equivocal. Symptoms of pawpaw ringspot were observed on pawpaw at Tarawa, but further work is necessary to confirm its presence. Cucumber mosaic virus was detected in cucumber and watermelon mosaic disease was recorded on pumpkin in the three islands surveyed. Dasheen mosaic virus was observed on babai but not on taro and was common throughout the islands. Neither alomae nor bobone was found in the Gilbert Islands. Concave gum and woody gall diseases were seen on rough lemon rootstocks. There was no evidence of the presence of citrus tristeza virus disease. No virus diseases were detected in the vegetable crops grown in the islands, except on cucumber, but further work is necessary to eliminate the possibility of infection by isometric viruses. Tobacco mosaic and potato Y-type viruses were not detected in tomatoes and capsicum showing mosaic and leaf curl symptoms.

SPC ACTIVITIES

Pesticide application training

An SPC training course in pesticide application was held in Western Samoa in September 1981. It was attended by 22 participants and, although the training was intended mainly for Western Samoa's agricultural extension staff, there was also one participant each from American Samoa, Niue and Tonga.

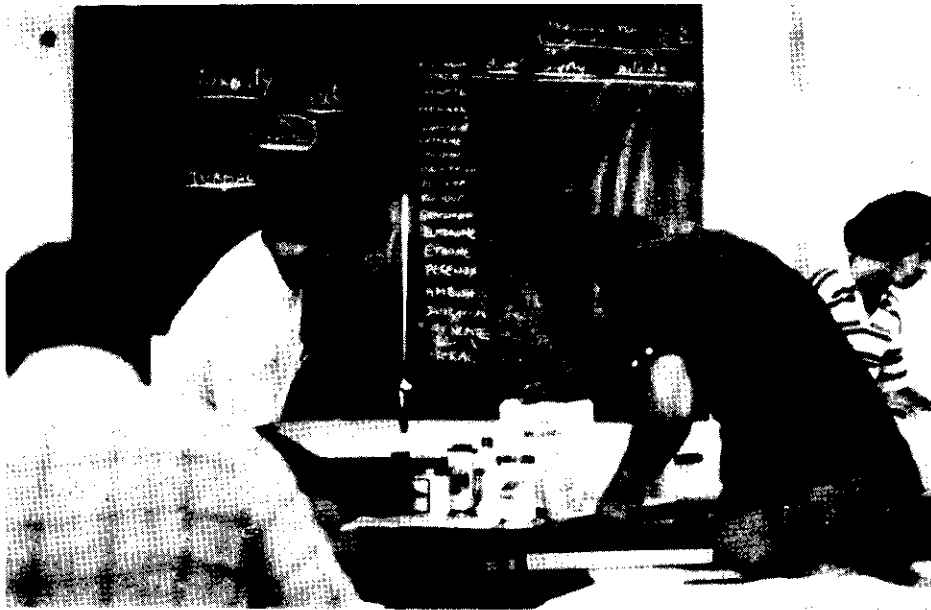
The course was held at the Nu'u agricultural station and the facilities in the new building of the Samoan-German Crop Protection Project were used. Indeed the course was very much a collaborative effort of many national, regional and international organisations. The instructors included DSIR plant pathologist Bob Fullerton, New Zealand MAF horticultural adviser Gary Wood, FAO Plant Protection Officer Terry Bourke, plant pathologist Wolfgang Gerlach of the Samoan-German project, entomologist Sofara Aveau of Western Samoa as well as the SPC Plant Protection Officer. The General Manager of the Agricultural Store Corporation, Sa'aga Fau, provided background information on pesticides used in Samoa and provided all the necessary sample materials, while the Manager of the Tanumala banana project, Tasi Neru, hosted a field day and explained the practical aspects of banana disease, pest and weed control. The vegetable growing project of the People's Republic of China allowed us to use their plots for spraying demonstrations. Discussion groups in Samoan were ably led by Senior Agricultural Officer Seve Imo and by Agricultural Store Manager Pat Rasmussen.

SPC's first such training course was held in the Cook Islands in 1979 and was described in some detail in the *South Pacific Bulletin* (4th Quarter 1979). The present course covered roughly similar ground but with special relevance to conditions in Western Samoa.

Practical work was interspersed with 'classroom' sessions and special attention given to plant protection problems of banana, taro and vegetable growing.

After an introduction to the types and formulations of pesticides the importance of reading the pesticide label and following the instructions on it was stressed. Participants carried out exercises on the interpretation of label information and became familiar with some of the many common names, chemical names and trade names for pesticides.

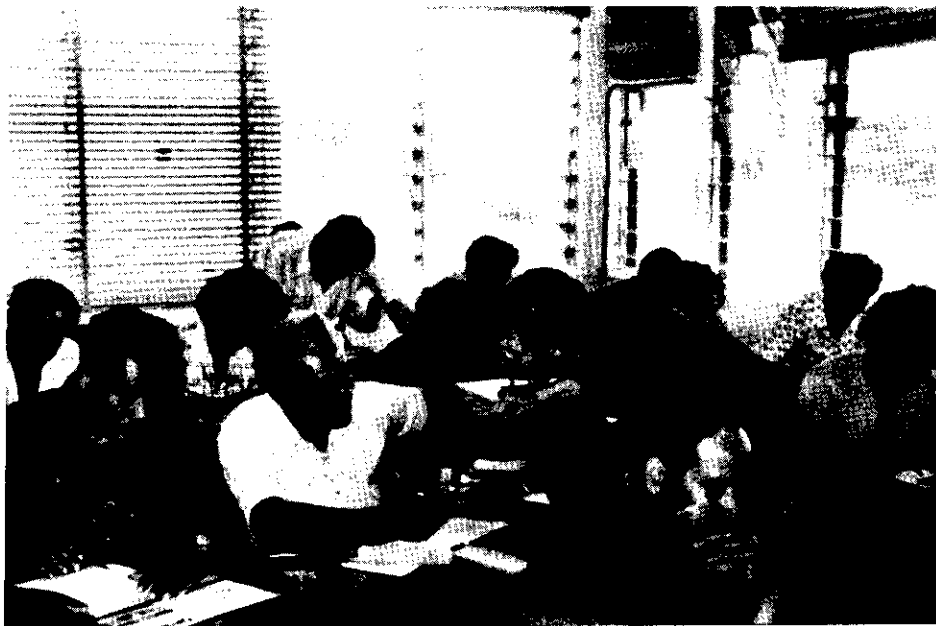
1. The Gilbert Islands became independent on 12 July 1979 and assumed the new name Kiribati.



Examining the locally available pesticides

Safety measures during transport, storage, preparation and application were explained as were the difficulties of using highly toxic chemicals under tropical conditions where full protective clothing is not very practical.

After the basic facts about rates, concentrations, nozzles and spray machine calibration had been explained, participants carried out exercises involving field measurements, calculation of amounts of pesticide, choice of nozzles and actual spray application in banana and vegetable plantations.



Studying labels during a 'classroom' session

Some films about pesticides were shown and those attending the course received various booklets and other documents about pesticides including the revised (1981) *SPC Pesticide Handbook*.



Preparing to inject banana inflorescence for control of scab moth

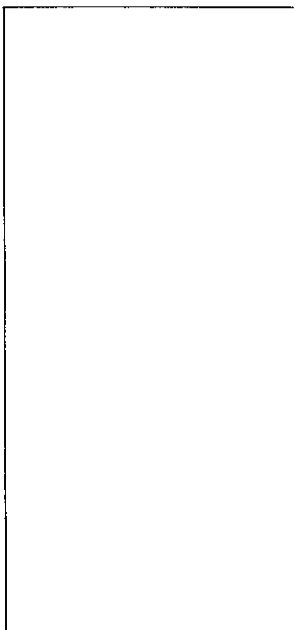
Consultancy on produce inspection

SPC arranged for New Zealand Regional Agriculture Quarantine Officer, Travis Flint, to visit Fiji in July 1981 to advise and train agriculture staff in aspects of produce inspection. Particular attention was paid to producing acceptable outturns for export of a very wide range of horticultural crops including, for example, betel-leaf, carella, chillies, cucumbers, curry-leaf, eggplants, ginger, gourds, jujube, okra, pigeon pea, turmeric, zucchini and various types of beans.

There were field visits in which disease and pest control, rotation, seed selection, husbandry and harvesting methods were discussed in relation to finishing with a consistently good quality export product. Meetings were held with both farmers and agricultural extension staff.



Consultant Travis Flint, Senior Field Assistant Ram Murti and Chief Quarantine Officer Balram Singh inspect a new planting of zucchini and ...



... hold discussions with farmers

Grading sheds, packing and storage areas were also visited so that potential quarantine problems could be examined with exporters and with the quarantine staff who inspect the produce.



Trimming and grading cluster beans



Inspecting cucumbers

The need for better harvesting procedures, hygiene in cool stores, more appropriate types of packaging and prevention of reinfestation were among the ideas for improvement which received attention.

Most of the visit took place on the western side of Fiji because there is an increasing development of export markets for the products mentioned and these leave Nadi airport for such widespread destinations as Canada and New Zealand. However, Suva was also visited and there special attention was given to fumigation stations, exporters' and importers' stores and container areas. The opportunity was also taken to inspect all stages of ginger production, export and processing.

SAFETY WITH METHYL BROMIDE

In the report of SPC's Third Regional Technical Meeting on Plant Protection it was noted that:

'74. The New Zealand delegate drew attention to the fact that methyl bromide is odourless at toxic levels and that the traditional cannister type respirator does not give sufficient protection. Historically, reliance has been placed on chloropicrin, but separation of the two gases may lead to absence of any warning odour.

75. The advice of health authorities is that operators using methyl bromide or ethylene dibromide should have and use self-contained breathing apparatus only. Australia and New Zealand are making this change to positive pressure self-contained breathing apparatus with two-stage regulators or pressure demand valves with a supply of at least thirty minutes duration.'

However, some quarantine authorities in the region are apparently not aware of this important recommended change, so the paragraphs are reproduced here. Further information can be obtained from the SPC Plant Protection Officer.

CASAS SEMINAR

The Commonwealth Association of Scientific Agricultural Societies (CASAS) seminar on 'Self-sufficiency in food production in the Pacific - opportunities and constraints' was held in Fiji during August 1981. The meeting was organised jointly by the Fiji, New Zealand and Australian Institutes of Agricultural Science and attended by some fifty participants including representatives from Cook Islands, Fiji, Kiribati, Papua New Guinea, Solomon Islands, Tonga, Vanuatu and Western Samoa.

There was a keynote address by Professor Gerard Ward of the Australian National University and plenary sessions on field crops, tree crops, horticultural crops and livestock production. Between plenary sessions, participants broke up into seven workshops dealing with breeding, plant protection, land resources and agronomy, energy, education and extension, social implications or economics and management. The SPC Plant Protection Officer was leader of the plant protection workshop aided by recorder, Morgan Williams. Other well-known plant protection personalities present at the seminar were Ruth Liloqula from Solomon Islands, Ofa Fakalata from Tonga and Gapi Kula from Papua New Guinea.

A full report of the meeting including all presented papers and workshop summaries will be published; enquiries to L.V. Sugrim, CASAS Seminar Secretary, P.O. Box 891, Lautoka, Fiji.

TOTOKOITU RESEARCH STATION, RAROTONGA

The management of this station, in the Cook Islands, is the responsibility of the Plant Diseases Division of DSIR, New Zealand; the research section of the Cook Islands Ministry of Agriculture has recently been located there.

The 1981 report prepared by Bob Fullerton contains a wealth of information, much of which concerns plant protection. There are sections, for example, on:

- *Panonychus citri*, the citrus red mite (a recent arrival in the Cook Islands),
- Attempts to establish parasites of the citrus whitefly, *Orchamoplatus mammaeferus*,
- Control of black leaf streak, nematode and weevil borer on banana,
- Symphilitid control in pineapple plantations,

- Control of Capsicum bacterial scab,
- Root knot nematodes on courgettes,
- Watermelon mosaic virus,
- Post-harvest diseases of taro,
- Mealybug on Pandanus,
- and much else besides.

ERRATA

Some errors have been noted in two recent SPC handbooks, and readers should make the following corrections to their copies:

1. In *Diseases and Pests of Taro*, 1980. Papuana beetle is **not** known to occur in Tuvalu and that country should be deleted from the distribution list on page 35.
2. In *Pesticide Handbook* (Revised Edition, 1981). Velpar was spelled incorrectly as Velspar and Polyram M was stated to be mancozeb whereas it is actually maneb. Corrections therefore need to be made to pages 40, 47, 81 and 82. On page 50, line 19, the words 'and *Polyram M*' should be deleted. On page 51, line 5 should read 'Such products as *Dithane M-22*, *Manesan*, *Manzate*, *Remasan* and *Polyram M* are'.

CARIBBEAN PLANT PROTECTION NEWSLETTER

Congratulations to the Society for Plant Protection in the Caribbean and the Regional Plant Protection Programme of the Inter-American Institute for Cooperation on Agriculture (IICA) on the publication of their first newsletter. It will be produced bi-annually and will provide the same sort of information to the Caribbean as *Plant Protection News* provides for the South Pacific.

The editor is Dr Chelston W.D. Brathwaite
IICA Office in Trinidad and Tobago
P.O. Box 1318
PORT-OF-SPAIN
Trinidad and Tobago.

MORE NEWS

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*

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

88. Plant Protection News. February 1981.
89. Plant Protection News. January 1982.

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