



# INFORMATION CIRCULAR

SPC Library



41555

Bibliothèque CPS

Date

June 1975

Classification

Tropical Crops

Library reference copy Serial No.

Not for loan

67

## PRINCIPAL 1974 VEGETABLE GROWING RESULTS FOR THE PIRAE AGRICULTURAL RESEARCH STATION, TAHITI (FRENCH POLYNESIA)

### INTRODUCTION

Information Circular No.66, which was recently released, listed the results of Pacific Islands variety trials conducted in 1974. Separate publication of the results of previous years - supplied to us by the Tahitian SER (Rural Economy Department) seems appropriate, since the Agricultural Research Director has described plant protection and weed control trials which were applied to some species. This information promises to be of the greatest interest for Pacific territories, since, like French Polynesia, they are at the present time expanding their vegetable production.

Under the Sixth five-year plan, French Polynesia is to concentrate its efforts in the field of plant production on fruit, vegetables and coffee. In 1974, only 35% of vegetables consumed were locally produced. However, there has been a spectacular production step-up on the Leeward Islands, and in particular at Huahine, where bell peppers, cantaloupe and watermelons are now being grown on the islets. At the same time, because of the disastrously disruptive effect of vegetable growing on mountainous land, growers are being progressively encouraged to move down to flat land. Attempts are also being made to develop agricultural methods permitting all-year round vegetable production.

A further point of interest is that the Agricultural Research Department has been working in close collaboration with the Extension Service in order to keep farmers up to date on the latest technical developments occurring at each stage of vegetable production.

These projects are part of a continuing process, and the French Polynesian results - like those of all other Pacific territories - will of course be circulated, in the SPC area, at the end of the trialling period.

Michel Lambert  
Tropical Agriculturalist

14828

(320/75)

## RESULTS

### Order in which results are listed

2. Cabbages
3. Chinese cabbages
4. Cauliflowers
5. Carrots
6. Cucumbers
9. Lettuce
10. Onions
11. Bell peppers
14. Tomatoes

### 2. Cabbages

#### I Variety trials

A - Trial dates : 28/9/1973 to 18/1/1974  
 30/11/1973 to 1/3/1974  
 8/1/1973 to 17/4/1974  
 2/4/1973 to 4/7/1974  
 19/5/1973 to 3/9/1974  
 22/7/1973 to 25/11/1974  
 13/9/1973 to 30/12/1974

#### B - Results

Variety	Cool season (May to September)	Hot season (October to April)
(1) Summer Pride	50 - 70 T/ha	20 - 30 T/ha
(2) Express Cross 60	40 - 60 T/ha	20 - 30 T/ha
(3) Crown	55 - 75 T/ha	15 - 20 T/ha
(4) Top Ace	45 - 55 T/ha	-
(5) KK Cross	-	34 T/ha
(6) Harvest King	30 - 50 T/ha	-

#### II Plant protection trials

- Trials were conducted from December 1973 to July 1974 both at the station and on a number of farms.

- The following were shown to be effective:

- Methomyl (Lannate) at 2 kg/ha with one application weekly (Stop 15 days before harvesting)
- Bacillus thuringiensis (Bactosperine 6000 UAAK/mg at 1 kg/ha, applied every 10 days until harvesting)
- Azinphos ethyl (Gusathion M 40 at 800 g/ha, application on a weekly basis until head formation). These three products are effective against Plusia gamma and Plutella maculepennis.

3. Chinese cabbagesVariety trials

A - Trial dates : 10/5 to 2/6/1972  
                       9/6 to 4/8/1972  
                       27/7 to 30/8/1972

B - Results

Variety	Cool season	Hot season
(1) Michihili	33 T/ha	40 T/ha
(2) Nagoaka	31 T/ha	33 T/ha
(3) Putsai Green Stalked	28 T/ha	16 T/ha
(4) W.R. Apollo	25 T/ha	-
(5) Green Light	24 T/ha	-
(6) Edible Rape	-	20 T/ha

4. CauliflowersVariety trials

A - Trial dates : 24/4 to 19/8/1974

B - Results

Variety	Cool season
(1) Pua Kea	13 T/ha
(2) Snow Peak	11 T/ha
(3) Tropical Cauliflower 55 Days	9 T/ha
(4) Snow Queen	5 T/ha

5. CarrotsI Variety trials

A - Trial dates : 26/10/1973 to 1/2/1974  
                       19/4/1974 to 1/8/1974

B - Results

Variety	Cool season (April to August)	Hot season (October to February)
(1) Touchon	29 T/ha	21 T/ha
(2) Davanture	-	21 T/ha
(3) Rouge $\frac{1}{2}$ longue de Chantenay	15.5	-
(4) Danvers spéciale	13.1	-
(5) Nantaise améliorée	9.1	1.1

## II Chemical weeding trials

The trials of 17/5/1973 to 14/8/1973 and 19/4 to 2/8/1974 demonstrated the effectiveness of Chlorprophame (Triherbide 40% A.M. at 10 kg/ha on two-leaf seedlings) for weed control in carrot crops.

The following herbicides were tested :

- Sulfallate
- Monalide
- Linuron
- Chlortal.

### 6. Cucumbers

#### I Variety trials

A - Trial dates : 5/10/1973 to 11/11/1974  
                           9/ 1/1974 to 8/ 4/1974  
                           15/ 1/1974 to 5/ 4/1974  
                           25/ 6/1974 to 16/ 9/1974

#### B - Results

Variety	Cool season	Hot season
(1) Southern Cross	13 kg/m <sup>2</sup>	15-16 kg/m <sup>2</sup>
(2) Hybrid Gemini	7 to 11 kg/m <sup>2</sup>	12-20 kg/m <sup>2</sup>
(3) Gemini Formula 7	8 kg/m <sup>2</sup>	15 kg/m <sup>2</sup>
(4) Hybrid Sprint	-	9 to 13 kg/m <sup>2</sup>
(5) Gemini 7	7 kg/m <sup>2</sup>	10 kg/m <sup>2</sup>
(6) Market More	6 kg/m <sup>2</sup>	7 to 13 kg/m <sup>2</sup>
(7) Sweet Slice	9 kg/m <sup>2</sup>	

## II Plant protection trials

Regular fungicidal treatment was shown to provide effective protection of cucumber seedlings against Anthracnosis (Colletotrichum lagenarium) during the rainy season.

- Trial of 26/9/1973 to 11/1/1974
- Products tested: Benomyl (benlate 600 g/ha)  
Methylthiophanate (Pelt 44) - 1 kg/ha

## III Chemical weeding trials

- Trial of 20/2 to 13/5/1975
- Naphtalame (Aksol at 12 kg/ha) proved effective against common weeds (Cynodon dactylon, Eleusine indica, Portulaca lutea).

### 9. Lettuce

#### I Variety trials

A - Trial dates: 30/11/1973 to 8/ 2/1974  
                           8/ 1/1973 to 6/ 3/1974  
                           4/ 2/1973 to 9/ 4/1974  
                           21/ 3/1973 to 22/ 5/1974  
                           15/ 5/1973 to 17/ 7/1974  
                           14/ 6/1973 to 26/ 8/1974  
                           19/ 7/1973 to 4/10/1974  
                           13/ 9/1973 to 22/11/1974

B - Results

	Variety	Cool season	Hot season
	Minetto	Not yet tested	5 to 8 kg/m <sup>2</sup>
(1)	Great Lakes		
	Premier Early	4 to 5 kg/m <sup>2</sup>	2.8 to 3.6 kg/m <sup>2</sup>
(2)	Green Mignonette	2.5 to 3 kg/m <sup>2</sup>	2 to 2.5 kg/m <sup>2</sup> (3 to 5 under shelter)
(3)	Selection "PIRAE"	3 to 5 kg/m <sup>2</sup>	2.5 to 3.5 kg/m <sup>2</sup>

II Chemical weeding

- Trials of 27/6 to 28/8/1972, 14/6 to 26/8/1974, 21/3 to 22/5/1974

- Chlortal (Dacthal 75% at 10 kg/ha) for transplanted seedlings.

Also Chlorprophame (Triherbide at 400 g/l and 6 kg/ha).

10. OnionsI Variety trials

A - Trial dates : 12/ 4/1973 to 22/10/1973  
 14/ 6/1974 to 13/12/1974  
 10/ 7/1974 to 4/12/1974

B - Results

	Variety	Cool season (April to August)	Hot season (August to December)
(1)	Granex Yellow	68.4 T/ha	16 to 25 T/ha
(2)	Granex Yellow PRR	67.4 T/ha	25
(3)	Excel 986	55.7 T/ha	15
(4)	Tropic Ace	-	22.8
(5)	Early Grano Texas Strain	-	21.3

II Chemical weeding

- Trials of 16/1 to 7/5/1974 and 14/6 to 13/12/1974

- Chlortal (Dacthal 75 at 12 kg/ha) and Chlorprophame (Bulbaclor 7.5 kg/ha) proved effective for protection after transplanting. Products tested: Chlortal - Chlorprophame - Linuron.

11. Bell peppersI Variety trials

A - Trial dates: 19/7/1973 to 18/ 3/1974  
 2/4/1974 to 27/ 8/1974  
 15/5/1974 to 30/10/1974

B - Results

Variety	Cool season	Hot season
(1) Midway	21 to 42 T/ha	68.5 T/ha
(2) Ruby King	29 to 38 T/ha	61.4 T/ha
(3) Wonder Giant	28 to 50 T/ha	56 T/ha
(4) Yolo Wonder L	20 to 50 T/ha	-
(5) California Wonder	20 to 40 T/ha	-

II Plant protection

Tetrasul (Animert at 2 kg/ha) provided effective mite control.

14. TomatoesI Variety trials

A - Trial dates: 27/ 9/1973 to 4/ 3/1974  
 25/10/1973 to 12/ 4/1974  
 28/ 2/1974 to 29/ 7/1974  
 27/ 6/1974 to 4/11/1974

B - Results

Variety	Cool season	Hot season
(1) N 52	5 to 9 kg/plant	2 to 3 kg/plant
(2) N 63	3 to 6 kg/plant.	-
(3) N 69	-	1.6 -
(4) Master No.3	-	1.4

These results were obtained with tomato seedlings grafted onto eggplants (Tahitian "Chinese" varieties) with a spacing Of 25,000 seedlings/ha.

II Chemical weeding

- Trial of 13/9/1974 to 23/4/1975  
 - Trifluraline (Treflan at 2.5 kg/ha) and Metribuzin (Sencoral at 700 g/ha) gave efficient weed control during planting.

III Plant protection

- Trial of 13/9/1974 to 23/4/1975  
 - Benomyl (Benlate at 600 g/ha) proved effective against leaf mould (Cladosporium fulvum) during the rainy season, and Naled at 1 kg/ha against leaf miners (Lyriomyza minutiseta).

N.B. : Naled was tested as a possible substitute for Trichlorfon, generally very successful but out of stock at the present time.

ISSUED IN THIS SERIES

	<u>Classification</u>
1. Annual Conference of O.I.E. held in Paris 13th - 18th May, 1968. Report of S.P.C. Observer. September 1968.	Livestock Production and Health
2. South Pacific Commission Publications Series. October 1968.	Publications
3. Free Diving Without Breathing Apparatus - Its Accidents. March 1969.	Public Health
4. "A" Level : Australia's Notification on Bovine Pleuropneumonia Regulations. March 1969.	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 N°1. April 1969.	Agricultural Education and Extension
7. Introduction and Spread of Culicoides and Other Insect Species by Aircraft. May 1969.	Public Health
8. Diarrhoeal Diseases in Adults. May 1969.	Public Health
9. "A" Level : Agricultural Education - Bulletin N°2. May 1969.	Agricultural Education and Extension
10. "A" Level : Agricultural Education - Bulletin N°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
14. Manpower Planning in the South Pacific. March 1970.	All
15. Fibreglass Water Tanks. April 1970.	Public Health Engineering
16. U.N. World Youth Assembly. May 1970.	Social Welfare and Youth
17. News and Views from the Journals. June 1970.	Public Health

- |   |   |
|---|---|
| 18. Acute Rheumatism and Chronic Rheumatic Carditis in Fiji. June 1970.   | Public Health   |
| 19. Public Health Problems of Gonorrhoea and Syphilis. June 1970.   | Public Health   |
| 20. Clinical Aspects and Diagnosis of Leprosy. June 1970.   | Public Health   |
| 21. News and Views from the Journals 2 : On Insects and Their Control. June 1970.   | Public Health<br>Environmental Health<br>and Vector Control |
| 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<br>Livestock Production<br>and Health        |
| 25. Crown-of-Thorns Starfish. July 1970.  | Fisheries   |
| 26. Counter-Attack - Crown-of-Thorns Starfish. September 1970.  | Fisheries   |
| 27. A Simple Field Test for Determination of Salinity of Water Supplies. December 1970.                                     | Public Health   |
| 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<br>and Health                          |
| 30. Plant Pest Control. January 1971.   | Tropical Crops<br>Plant and Animal<br>Quarantine            |
| 31. The Effect of Cultural Method and Size of Planting Material on the Field of <u>Colocasia esculenta</u> . February 1971. | Tropical Crops  |
| 32. Shell-fish and Public Health. April 1971.   | Public Health<br>Engineering                                |
| 33. Weed Control. August 1971.  | Tropical Crops  |
| 34. Taro. August 1971.  | Agricultural Research                                       |
| 35. Transmission of Virus Samples. August 1971.   | Plant and Animal<br>Quarantine                              |
| 36. Amyotrophic Lateral Sclerosis and Parkinsonism-Dementia in Guam. September 1971.  | Mental Health   |



- |   |                                      |
|---|--------------------------------------|
| 37. Training Programmes for Out-of-School Rural Youth. March 1972.  | Agricultural Education and Extension |
| 38. Control of <u>Aedes aegypti</u> , the Vector of Dengue. September 1972.   | Vector Control                       |
| 39. Coconut Water as an Emergency Parenteral Fluid. September 1972.   | Public Health                        |
| 40. Viral Hepatitis. October 1972.  | Hepatology                           |
| 41. Biological disc treatment of waste waters. December 1972.   | Public Health Engineering            |
| 42. The Monitoring of Sewage Treatment Plants. December 1972.   | Public Health Engineering            |
| 43. The Fifth FAO Regional Conference on Animal Production and Health in the Far East. Decem. 1972.                                     | Livestock Production and Health      |
| 44. The Septic Tank. January 1973.  | Public Health Engineering            |
| 45. How to deal with the sludge produced by sewage farms in the South Pacific. January 1973.  | Public Health Engineering            |
| 46. The convenience of the metric system. February 1973.  | Public Health Engineering            |
| 47. Useful References for Animal Production and Agricultural Extension Workers of the South Pacific Commission territories. March 1973. | Animal Production                    |
| 48. Twelfth World Congress of Rehabilitation (Sydney, Aug. 27 - Sept. 1, 1972). March 1973.   | Mental Health                        |
| 49. Primary Amoebic Meningo-Encephalitis. April 1973.   | Epidemiology                         |
| 50. South Pacific Agricultural Extension Survey - 1967. April 1973.   | Agricultural Education and Extension |
| 51. Collection and Shipping of Serum Specimens for Antibody Studies. May 1973.  | Public Health                        |
| 52. Fruit Cultivation. June 1973.   | Tropical Crops                       |
| 53. Recent Developments in Education in the South Pacific. August 1973.   | Education                            |
| 54. Shellfish Poisoning in the South Pacific. February 1974.  | Public Health 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                  |
| 57. Regional Planning. March 1974.   | Economic Development            |
| 58. Some Aspects of Pasture Research and Development. April 1974.  | Livestock Production            |
| 59. Something News in Sewerage : The Bio-drum September 1974.  | Public Health                   |
| 60. Solar Energy. Economic appraisal of a solar water heater. November 1974.   | Public Health                   |
| 61. Sewage Treatment in the Pacific - Mini Glossary of Terms Used. November 1974   | Public Health                   |
| 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.  | Nutrition<br>Tropical Crops     |
| 64. Some Effects of Temperature on Pasture Germination and Growth. April 1975.   | Livestock Production<br>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 Growing Results for the Pirae Agricultural Research Station, Tahiti (French Polynesia). June 1975 | Tropical Crops                  |