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COMMENTS ON EXPERIMENTS RECENTLY UNDERTAKEN IN SOME
PACIFIC ISLANDS ON CERTAIN VARIETIES OF VEGETABLES

by

Michel Lambert
Tropical Agriculturalist
South Pacific Commission

INTRODUCTION

The varieties selected are generally high-yielding and show a degree of resistance to pests and diseases. Moreover, their organoleptic qualities are superior to those of other varieties. They stand up better to storage and marketing conditions.

More often than not, the first difficulty faced by Pacific farmers wishing to undertake market gardening is the supply of good quality seeds adapted to local conditions. The seeds made available to them are mostly imported from temperate or warm temperate countries, and are generally ill-suited to Pacific conditions.

Nevertheless, some of these varieties have proved to be of interest by virtue of their significant productivity, the good quality of their produce and their fair toleration of storage and marketing conditions. In various Pacific territories, Departments of Agriculture have prepared selective lists of species and varieties found suitable for cultivation under local ecological conditions.

However, it would appear that:

1. The varieties experimented have only one or two of the qualities mentioned above.
2. Farmers are still unaware of the names of varieties to be used.
3. The productive period is more or less simultaneous in all Pacific islands, corresponding with the cool season.

This period of productivity should therefore be extended to the utmost, even if it means finding varieties to be grown out of season.

The implications of the above are that the various Departments of Agriculture in Pacific territories should be supplied with a range of varieties apparently adapted, for the most part, to high temperatures, heavy rainfall, and certain diseases well-known to farmers. These varieties should be compared with those already adopted by Territorial Administrations. The "range" is extensive and there is absolutely no doubt that certain varieties on which tests have recently been initiated will meet local requirements.

The present Information Circular is complementary to Circular No. 55 of January 1974, which gave a listing by territory of the species and varieties used, with some comments on yield, adaptability to the environment, ease of storage, and marketability.

In circulating this type of information, the South Pacific Commission is seeking to strengthen the activities of Departments of Agriculture and to co-operate with them in endeavouring to improve vegetable production throughout the Pacific, within a comparatively short period of time.

Naturally, when after the initial year of testing the results are centralized, one would be in a position to be more selective and, consequently, to point out the varieties that could be successfully grown in the years to come.

VEGETABLE SPECIES AND VARIETIES

Note: The origin of seeds ordered by the Commission is indicated as follows: (J) Japan; (H) Hawaii; (P) Philippines; (T) Taiwan.

Cabbage : (Brassica oleracea var. capitata)

Express Cross 60 (J)

Heat resisting, early hybrid, making medium-sized, semi-globe head in about 60 days from setting plants.

Early Yoshin Summer (J)

Developed in a tropical country, it stands heat better than other popular varieties. Head semi-globe shaped, weight 6-7 lbs.

K.K. Cross (P)

Heat-resisting hybrid standing heat of over 38°C. Head is fine semi-globe. Ready for market in about 58-60 days from setting plants.

K.Y. Cross (P)

Hybrid for tropical countries. Wonderful resistance to heat, making strong vigorous growth where other cabbages cannot thrive well. Good for market shipping. Purple pigmentation at the stem, petiole, midvein, and margin.

Chinese cabbage : (Brassica pekinensis)

Wong Bok (J)

Old Chinese variety, very light green leaved, grown in warmer south Japan.

W.R. 60 days (J)

Large head of about 6 lbs in about 60 days from sowing. Good resistance to certain diseases.

Tropicana

Heat-resisting, very early hybrid, excellent for growing under tropical conditions. Can be grown successfully in hot lowlands. In the Philippines adapted to low elevation, all seasons.

Gauliflower : (Brassica oleracea var. botrytis)

Snow Peak (J)

Tropical cauliflower, making fair-sized head of pure white and good quality in about 50 days from setting plants.

Early Patna (P)

In the Philippines, maturity in 58-62 days, low elevation, all seasons.

Cucumber : (Cucumis sativa)

Lehua hybrid (H)

In Hawaii 45-55 days from seed.

Pixie (P)

Resistant to downy and powdery mildews and to some strains of anthracnose.

New Market No 1 (T)

Recommended for planting in locations having high temperatures and excessive humidity. Resistant to mosaic, downy and powdery mildew and anthracnose; easy to grow.

New Market No 2 (T)

Multiple disease-resistant and recommended primarily for growing in hot and humid area.

Carrot : (Daucus carota)

New Kuroda (J)

Very deep orange red-coloured Chantenay. Very smooth and uniform.

Royal Cross (J)

F-1 hybrid carrot. Ready for harvest in 110-120 days from sowing. Vigorous and uniform.

Egg-Plant : (Solanum melongena var. esculentum)

Waimanalo Long (B-1) (H)

Bred for high quality; extra long straight egg-plant, with dark fruit colour.

Money Maker (J)

Easy to grow and very uniform. Fruit about $5\frac{1}{2}$ to 6 in. long, 2 - $2\frac{1}{2}$ in diameter.

Dumaguete Long Purple (P)

Recommended by the University of the Philippines. Maturity in 95-105 days low elevation, all season.

Lettuce : (Lactu sativa)Anuenue (H)

Semi-head. For lowlands below 2,000 feet elevation, all year, 60 days. Tolerant to tip-burning and heading under warm growing conditions.

Wayahedd (J)

Butter head variety, fair-sized firm head of excellent quality. Leaves light green.

Penn Lake (J)

Cabbage head variety. Fairly early, producing solid, large head. Leaves medium green and fairly smooth.

Great Lakes 54 (J)

Cabbage head variety. Head large, tightly folded, and of fine quality. Better for cold season.

Great Lakes 366 (J)

Cabbage head variety. Round head on a heavy frame of dark green outer leaves. Medium early maturing. Leaves lightly crumpled and fringed.

New York 515 (J)

Cabbage head variety. Conical shaped-head of fine quality. Tipburn resistant. Can be harvested in about 70 days.

Great Lakes 118 (P)

Cabbage head variety. Medium early, large heading variety of fine quality. Good resistance to tipburn. In the Philippines, maturity 85-90 days, high elevations.

Black Seeded Simpson (P)

Leaf lettuce. In the Philippines, maturity 33-40 days, all seasons, low and high elevations.

Watermelon (Citrullus vulgaris)Sugar Suika (J)

Early variety maturing in about 75 days from sowing. Fruit about 15 - 18 lbs each. Round-shaped with grayish-green rind slightly mottled and veined. Easy grower.

Empire No 2 (T)

Fusarium wilt resistant. Fruit weigh about 22 lbs each, tough rind and bright red flesh. Seeds are small and brown. Suitable for storage and distant shipping.

Onion (Allium cepa)Extra Early Kaizuka (J)

Bulbs flat shape, yellow skinned, white flesh, weighing about 10 oz each. Practically free from splitting and pink root.

Imai Yellow Early (J)

Bulbs about 10-12 oz each. Widely grown in Japan in the main onion-producing areas for market shipping.

Tropic Ace (J)

New short-day-type hybrid for tropical countries. Bulbs semi-globe shaped, about 10 oz each, fairly mild and of excellent quality. Very vigorous growth and very uniform. Good tolerance to common onion diseases.

Yellow Granex (P)

Raised by the U.S.D.A., this hybrid is becoming popular in tropical countries for its nice looks and heavy yield. Bulbs deep, flat in shape and of fine, mild flavour. Typical short day type.

Bell Pepper (Capsicum spp.)Ace F1 (J)

Early hybrid with medium-sized fruit of 2 oz each,

deep glossy green with medium thick flesh. Fruit 3-4 lobed, no pungency at any stage. Very prolific setter and very uniform. Easy to grow.

New Ace F1 (J)

Hybrid, extra early maturity, dark green, glistening pendant fruits of medium size. Fruits 3-4 lobed, fairly thick-walled, about $2\frac{1}{2}$ oz. each. Holds nice green colour well and is easily sunburned. Prolific setter.

Yolo Wonder (P)

Large dark green fruit of 3-4 in. Heavy crown setting and resistant to tobacco mosaic. Fruits are pendant. In the Philippines, maturity 90-110 days, all seasons at low and high elevations.

California Wonder (P)

Symmetrical fruit, usually 4 lobed, smooth with thick walls, sweet glossy green flesh which turns bright scarlet at maturity. Plant 16-24 inches tall. Good producer.

In the Philippines, maturity 90-100 days, all seasons at high elevation.

Fengshan Ruby King (T)

Plants a little under 2 feet tall (about 60 cm), semi-spreading, with heavy broad-leafed coverage of fruits. Fruits are long bell shaped, pendant, slightly tapered, 3 - 4 lobed, deep green, ripening to an even dark fruit.

Tomato (*Lycopersicum esculentum*)

Hybrids N 5 - N 52 - N 63 - N 69 and Puunui (H)

In Hawaii 80-90 days from transplants. These F1 hybrids and variety Puunui were developed by the College of Tropical Agriculture, University of Hawaii, for resistance to the common root knot nematode and resistance and tolerance to several other common tomato diseases. All hybrids and varieties are adapted to growing conditions throughout the State, but the F1 hybrids are better suited for prune-and-stake culture.

Mighty Boy (J)

New pink-fruited hybrid with medium, very smooth, excellent coloured fruit;: good resistance to fusarium. . Plant makes vigorous growth and stands heat and drought very well. For best results, give a little more formula fertilizer than for other hybride tomatoes. Recommended for market shipping.

Improved Harbot (P)

In the Philippines, maturity 85-95 days from field setting to harvesting, all seasons, at low and high elevations.

V.C. 11-1 V.G. (P)

Rain-tolerant tomato. This V.C. line tomato was developed by the University of the Philippines, College of Tropical Agriculture. In the Philippines, maturity 60-70 days from field setting to harvesting, all seasons at low elevations. Small fruits.

Tropi Red (P)

In the Philippines, maturity 95-105 days, from October to January at low elevation.

Fengshan Manale (T)

This variety was introduced from the U.S.A. and improved by the Fengshan Tropical Horticultural Experiment Station, Taiwan. Plants have large, vigorous, intermediate vine, and are resistant to several foliage diseases. Fruit is large, deep globular, scarlet in colour with green shoulder, firm flesh and few seeds. Well adapted to green-wrap and pink harvesting in humid hot climates.

Farmers New Wonder No 4 (T)

Vigorous and highly resistant to diseases. It has wide range of adaptation and resistance to fusarium wilt, gray leaf spot, leaf mold, blight, blossom-end rot, gray wall, cracking, cat facing and virus diseases. Vine is tall-intermediate with moderate foliage. Fruits are deep globular, weighing about 5-6 oz (150-200 g). Good yielder and easy to grow.

Floradel - Florida varieties (H)

Well-adapted in Hawaii, but are not resistant to the common strain of root knot nematode prevalent in Hawaiian soils.

Cantaloupe (Cucumis melo)

Summer Dream (J)

Being bred with the American muskmelon and English greenhouse type. Fruit about 2½ lbs. Perfect round shape and very smooth. Flesh fairly thick and very sweet with good aroma. Vigorous grower and fruits freely, showing some tolerance to various common diseases.

Takii's Honey (J)

Fruit oblong with silvery green skin and dark green stripes. Very sweet with nice aroma. Use during the cool season.

Gulfstream (P)

Resistant to downy and powdery mildews. In the Philippines, maturity 77 - 82 days, from October to January, low elevation.

Honey Dew (P)

Mature fruit remains attached to stem. Rind is greenish-white and creamy yellow when ripe. Flesh is light green, thick, fine-grained, juicy with distinctive sweetness. In the Philippines, maturity 80 - 94 days, from October to January, low elevation.

Farmers Yellow No 1 (T)

Chinese sort of melon. Plants vigorous, early and easy to grow. Each plant will produce more than ten fruits. It is mosaic and downy mildew resistant and grows well in hot humid areas. Fruits are golden-yellow, egg-shaped, weighing about 350 grams (about 9 oz).

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Figure 1. The effect of the concentration of the *Agaricus bisporus* spores on the growth of *Agaricus bisporus* and *Agaricus bisporus* spores on the growth of *Agaricus bisporus*.

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1. *Journal of the American Medical Association*, 1997; 278: 1039-1044.

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