



COLLEGE  
OF THE  
VIRGIN ISLANDS

Cooperative Extension Service

GARDENERS FACTSHEET NO. 10  
MAY, 1979

## GROWING SPINACH IN THE VIRGIN ISLANDS

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Most attempts to grow true spinach (*Spinacea oleracea*) in the Virgin Islands have failed due to high temperature and serious pest problems. Many excellent spinach substitutes are available that grow well and taste better than frozen spinach available from the U.S. mainland.

### **MALABAR SPINACH** (*Basella* sp.)

Malabar spinach is known as Indian spinach if it has green leaves and Ceylon spinach if it has red leaves. It is a succulent vine with tender leaves that can be grown year round if water is available.

Planting should be done at the beginning of the rainy season. Apply 2 lbs./100 ft. row (1 cup/25 ft.) of 10-10-10 fertilizer prior to planting. Applications of manure may also increase production. Insect problems are minimal, making this a highly desirable vegetable for backyard production.

When grown as a perennial, the vine should be trained on a fence or trellis with the plants 3 ft. apart. It can be maintained in this fashion for many years with proper watering, fertilizing and pruning. Water must be available throughout the year and the plants should be fertilized twice with 2 lbs./100 ft. row (1 cup/25 ft.) of 10-10-10 fertilizer. The first fertilization should be just prior to the rainy season to encourage maximum leaf growth. After the rainy season, cut the plants back severely and fertilize again. Apply water during the dry season for continuous production. If irrigation water is not available, Malabar spinach can be grown as an annual during the rainy season.

Weeds, the major problem, should not be allowed to compete with the plant. A leaf spot or blight may occur during the rainy season, but can be prevented with a broad spectrum fungicide such as Maneb or Captan.

### **AMARANTH** (*Amaranthus* sp.)

Chinese spinach, Tampala or edible amaranth consists of several species of annual plants that may be used as greens. The

plant grows upright and produces spinach-like leaves that may be green, red or variegated.

Amaranth can be planted directly from seeds or transplanted into the garden in rows 3 ft. apart with plants 4-6 inches apart in the row. Since germination is irregular, transplanting is recommended to insure a solid row of plants. About 6 weeks after planting you may begin harvesting the young tips to use as boiled greens. New growth will be stimulated by removing 6 inches of the young stem and leaves every two weeks.

Amaranth will require weekly spraying of Sevin to prevent insect damage. Wait at least 3 days after spraying to harvest leaves for your table. Fertilization is also necessary, since it has a high requirement for nitrogen. Apply 4 lbs. of 10-10-10 fertilizer per 100 ft. row (2 cups/25 ft.) and plenty of manure prior to planting.

### **NEW ZEALAND SPINACH** (*Tetragonia tetragonoides*)

New Zealand spinach is a good source of greens that is easily grown during the rainy season. Since the seeds are slow to germinate, they should be soaked in water for 24 hours just prior to planting. Plant the seeds 1 ft. apart in rows 3 ft. apart.

New Zealand spinach responds to good soil fertility. Apply 4 lbs. of 10-10-10 per 100 ft. (2 cups/25 ft.) row prior to planting. Pesticides should not be necessary since it has few pest problems other than weed competition. Harvesting 3-4 inches of young stem and leaves often will encourage new growth.

### **CHINESE AND JAPANESE GREENS**

Research at the C.V.I. Agriculture Experiment Station indicates that oriental greens may be the best spinach substitute for Virgin Islands. A number of tropical plants are available that may be used as spinach substitutes. Several of these are difficult to distinguish from true spinach after cooking.

These oriental greens may be grown during the rainy season with few pest problems. They should receive adequate

fertilizer (4 lbs. of 10-10-10 per 100 ft. row). Plant the seeds or transplants 12-18 inches apart in rows at least 2 ft. apart. The following oriental greens have grown well in the Virgin Islands.

Shoho Tsai  
Chinese Tsai Shim  
Hon Tsai Tai  
Tinhao Hybrid Kailaan

These and other oriental greens are available from the seed companies listed in this publication.

**CHAYA** (*Cnidoscolus chayamansa*)

While Chaya is not yet common in the Virgin Islands, it has been acclaimed in Puerto Rico as a potential spinach substitute as well as a perennial ornamental, requiring little care and having no known insect problems.

Chaya is started from woody cuttings, 4-6 inches long that are rooted directly in the garden. Since the plant tends to grow slowly at first, it is important not to let weeds choke the young Chaya plant. Once established however, it will grow rapidly, allowing a continuous harvest of tender, nutritious leaves and young shoots.

**CAUTION: The Chaya leaves are poisonous if eaten raw.** Boiling for 20 minutes until the leaves are soft will destroy all of the toxic hydrocyanic acid.

**TRUE SPINACH** (*Spinacea oleracea*)

For those gardeners who insist on growing true spinach, it must be grown during the coolest months of the year. A November planting will probably have the best chance of producing edible plants. If you only have a few plants, daily misting should help keep the plants cool. Try some of the new Japanese hybrid spinach varieties that are somewhat heat tolerant.

A major problem for true spinach grown in the Virgin Islands is the beet webworm which can defoliate young plants unless you provide constant vigilance and weekly sprays of Sevin. Inspect the underside of your spinach leaves often for a white web containing a young caterpillar. This caterpillar should be destroyed by hand since the insecticide will not penetrate the protective web.

A safe and effective substitute for Sevin is Thuricide or Dipel which contain bacterial spores known as *Bacillus thuringiensis* (B.t.) which, while attacking the beet web-worm will not harm plants, humans or other animals.

**SOURCES OF TROPICAL LEAFY-GREEN VEGETABLES**

Sakata & Co. C.P.O.Box Yokohama No. 11 Yokohama, Japan, 220-91	For a wide assortment of tropical greens including the oriental varieties.
Takii & Co. P. O. Box 7 Kyoto Central Kyoto, Japan	For a wide assortment of tropical greens including the oriental varieties.
Mayaguez Institute of Tropical Agriculture P. O. Box 70 Mayaguez, Puerto Rico	For Chaya, Ceylon spinach, amaranth and others.
Gurney Seed & Nursery Co. Yankton, S.D. 57079	For Malabar spinach or climbing spinach.
Rodale Press, Inc. 33 East Minor St. Emmanus, Pa. 18049	For amaranth.
V.I. Department of Agriculture Estate Lower Love St. Croix, U.S.V.I.	For assorted seed and plants.

Products and suppliers mentioned by name in this publication are used as examples and in no way imply endorsement or recommendation of these products or suppliers.

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