

GUYABANO PRODUCTION GUIDE

GENERAL DESCRIPTION

Soursop (*Anona muricata* Linn.) Also known as guyabano is belonging to the **Family Anonaceae**, other familiar fruits beside guyabano are atis (***Anona squamosa*** or sugar apple), anonas (***Anona reticulata*** or custard apple), and atemoya (*Anona*). Leaves are smooth, shiny, oblong-obovate to oblong. It is a small tree about 5 to 7 meters in height. The flowers are large, yellowish or greenish yellow and solitary. There are six large, fleshy or leathery petals in two series. They are heart-shaped, with pointed tip, and up to 5 centimeters in length and 3 centimeters in breadth. In the center of the flower is a cone-shaped mass of many carpels which will form the fruit, and below this are very numerous stamens. Fruit is ovoid, up to 18 centimeters long, covered with small scattered, soft spine like processes. Skin is thin, and the pulp is soft, white, and fleshy, with an agreeable, but rather sour flavor.

Based on BAS crop statistics of 2003; a total land area of 3,016 has. Were planted to guyabano with the following as the five leading producing regions: Western Visayas (705 has.); Region! V-A (643 has.); Cagayan Valley (400 has.); Central Visayas (169 has.); and Central Luzon (165 has.).

Medicinal Value

The guyabano fruit is used as a cure for cough, scurvy and fever. It contains Vitamin A, calcium, phosphorous and rich with vitamin B and C. It also contains 11.62 percent sugar, mostly glucose and fructose.

The green fruits and seeds can induce vomiting, remedy dysentery and arrest secretion or bleeding. The sap of the young leaves may be applied directly on pimples to induce suppuration. The sap is also considered parasitocidal. An alcoholic extract of the leaves, when distilled with steam, yields a small amount of essential oil. The portion of alcoholic extract which is soluble in water contains a large amount of potassium chloride together with dextrose tannis, amorphous products, and a small amount of an alkaloid substance which could not be crystallized. The leaves and roots also cure colic and convulsions.

CROP VARIETIES

There are two strains presently grown.

Aguinaldo – Fruit, 1kg; peel, yellow green; flesh, juicy, sub-acid, 78% of fruit weight; seeds, 70 per fruit

Davao – Fruit, 1.7 kg; peel, light green; flesh, moderately juicy, pleasantly sub-acid, 82% of fruit weight; seeds, 82 per fruit.

CULTURE AND MANAGEMENT

The soursop is adapted to areas of high humidity and relatively warm temperature; temperatures below 5 °C (41 °F) will cause damage to leaves and small branches, and temperatures below 3 °C (37 °F) can be fatal. The fruit becomes dry and is no longer good for concentrate.

Soil and Climatic requirements

The plant grows in any kind of soil, but a fairly deep, friable soil of volcanic origin is conducive to growth and fruiting. It grows better on soil with pH ranges 6.1 to 6.5. It thrives very well from sea level up to 500 meters above sea level. It is best to plant them at the start of the rainy season.

Propagation

Guyabano is usually propagated by seeds. However, selected trees of inherent characters may also be propagated asexually by marcotting, inarching, grafting and budding.

Method of Propagation	Planting Distance	Maturity (Years)1	Yield (Ton/hectare)2
Grafting,	3-4 meters apart	2-3	3.7
Inarching,			
marcotting,			
Budding			

Note:

1. Refers to time from field setting to first harvest. Asexually propagated plants generally mature about twice earlier than plants grown from seeds.
2. Computed on the bases of distances of planting given for each crop.

Nursery Practices

1. Seed Preparation and Germination

The seeds to be used as source of planting materials should be obtained from outstanding mother trees with a characteristic of hardy, prolific and regular bearer and its fruits be medium-sized to large, well formed, few seeded and excellent quality. Seed from the fruit should be cleaned in tap water and

allowed to air dry. They may be stored for quite some time but it is best to plant them directly. They are sown in seed boxes or flats containing fine and/or sandy soil of about 2.5 cm distance and 1 cm deep. The seedbed is provided with shade and watered regularly to keep the medium moist at all times. Fresh seeds germinate from 20 to 30 days with 85 to 90 percent germination.

2. Care and Transplanting of Seedlings

Seedlings are watered regularly and if insect pests and diseases become a problem sprayed with insecticide and fungicide. They may be transferred in individual container when the seedlings are 3-4 inches high or the first set of leaves has matured. The soil medium to be used should be clay loam preferably mixed with sand or compost. The newly transplanted seedlings are placed under partial shade area and, when well established, they may be exposed to the sun for hardening. They should be regularly watered to ensure continuous growth. Seedlings are ready for field transplanting when they are 6 to 8 months old or about 15 cm tall.

Nutritive mineral content of Guyabano

Guayabano fruit is an excellent source of vitamins B and C. However, it is deficient in Vitamin A, calcium and phosphorous.

Below is the mineral content analysis of the fruit:

Constituents	Fresh sample	Oven-dried sample	Ash
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Moisture	77.40-86.26	-	-
Ash	0.61-0.85	4.46	-
Phosphorous (P ₂ O)	0.05	0.38	8.63
Calcium (CaO)	0.01	0.04	0.25
Iron (Fe ₂ O ₂)	0.001	0.01	0.25
Proteins	0.38	0.01	0.25

Fertilizer Application

Age of Plant	Recommended Rate of N-P-K (kg/hectare)	Method of Application
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Planting Time	250-300 gms. Complete fert. (14-14-14) or (12-24-12)	Apply 3 inches below the roots and 5 inches to side of seeding at planting. 8 cm below roots and 10 cm to the side.
Young trees (1-3 years)	300-500 gms. of complete fert. (14-14-14) or (12-24-12) plus 200-300 gms Urea (45-0-0)	Mix and apply in two equal doses by digging along periphery of the tree. 1st application-start of rainy season 2nd application – end rainy season.
Bearing Trees	1.5-3.0 kg complete fertilizer plus 200-300 gms. Muriate of potash (0-0-60)	- same as above -

* – can be omitted if soil conditioning thru compost or organic fertilizer is applied

Pest and Diseases

Insects	Insecticide Common/Brand Name	Application Rate (tbsp/ 5 gals. H2O)	Method of Application
Aphids	Carbaryl/Servin 85 S	6 ml/gal water	Spray leaves, branches & trunks when insects
Leafminers	Marsbyl 85 WP	4 ml/gal water	appear. Repeat at 7-14 days interval if necessary.

Leaf caterpillars			
Beetles			
Mealy bugs			
Tip borers			
Twig borers, bark borers, ants, fruit worms, fruit flies	Fenitrothion/Sumithion L	4 ml/gal water	Spray on foliage and repeat every 7-14 days if necessary
mites	75 WP	2-4 ml/gal water	
flies, mites	Ethion/Ethion 4 EL	4-6 ml/gal water	

Source: *Farming Handbook*

Anthracnose is the most common disease of guayabano, cause by a fungus and transmitted by means of windsplashed rain and contact with infected fruits. Spray flowers and developing fruits with any of the following:

- Benlate at 2-4 grams per gallon of water
- Manzate at 6-8 grams per gallon of water

Pink disease is caused by a fungus infective material is the common mode of transmission. Symptoms: apperance of cracks on trunks or branches and secreations of gums; affected area covered with a thick mass of pink mycelia during the rainy season; drying of mycelia during dry weather with color changing to dirty white or gray eventually leading to die-back condition.

Control:

1. Prune and burn infected branches and twigs.
2. Disinfect by spraying with copper fungicide or lime sulfur mixture.
3. Keep orchard clean of any source of infections.

HARVESTING

Maturity

Fruits are mature when they become dark and shiny green with recurved spines set far apart and the skin appearing to burst with pressure from within. Ripe fruits are light yellow and soft.

POST HARVEST

Storage

Fruits for the factory are placed in a bodega under ordinary room temperature and allowed to ripen with firmness until they are ready for processing/preservation.

On the other hand, ripe fruits may be held 2 or 3 days longer in refrigerator, but the skin blacken and become unsightly. However, the flesh and flavor are not affected.

References:

1. DEPARTMENT OF AGRICULTURE, Agriculture and Fisheries Information Service, Bureau of Plant Industry, Production guide pamphlet.
2. www.pinoybisnes.com/agri-business/guyabano-soursop...

