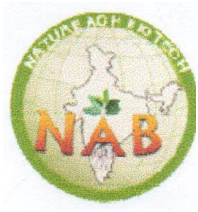


# National AGH Biotech

## Project Report on Taiwan Guava By C. Manjula Reddy



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**Taiwan guava** is becoming popular every year among the guava farmers. The reason is regular fruiting character with two harvest season every year one from March to April and another from July August. Another most important character of Taiwan guava is sweetness of fruit.

Taiwan Guava is round or oval in shape with light green or light yellow skin, and the colour of its flesh varies from pink to dark red and has edible seeds. Besides its unique flavour and fragrance, guava has been hailed as one of the super fruits due to the numerous health benefits it offers.

## About National AGH Biotech

- ✓ National AGH Biotech is one of the top most companies producing Hi Quality Tissue Culture Super Clones and agriculture products for over 30 years in compliance with National and Internationally recognized standards.
- ✓ We are the largest processors of Taiwan Guava clones in the India and premier supplier to the global farmers.
- ✓ We are entrusted with the triple functions of producing trained personnel, carrying out research and extension activities in agriculture and plantation sector.



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- ✓ We are having well-established plant tissue culture laboratory with hardening facilities and producing wide variety of Horticulture, Medicine plants.
- ✓ We regularly supply to various Government departments, Organizations and farmers in the areas of Arunachal Pradesh, Meghalaya, Maharashtra, Goa, West Bengal, Karnataka, Andhra Pradesh, Telangana and Kerala since 1993 besides exporting to Australia, Malaysia etc.
- ✓ We ensure desired quality in all the clones, uniquely qualified to meet these needs of our customers in the different ways that create ongoing good relationship. We can't accomplish them alone. Customer's relationship is an investment in the long-term success of our company.
- ✓ We are nature lovers and doing business to protect nature and making the environment green. Our wish is to make greenery as much as possible.

**Benefits:** Taiwan Guava indeed is a powerhouse of nutrients. It is extraordinarily rich in vitamin C, lycopene and antioxidants that are beneficial for skin. Taiwan Guava are also rich in manganese which helps the body to absorb other key nutrients from the food that we eat. Taiwan Guava contains folate, a mineral which helps promote fertility. The potassium in Taiwan guava



helps normalise blood pressure levels as well. Since it contains about 80% of water it helps keep your skin hydrated.

A 100 gm serving of the fruit contains just 68 calories and 8.92 gm sugar, according to the data of United States Department of Agriculture (USDA). Guavas are also rich in calcium as they contain 18 gm of the mineral per 100 gm of the fruit. It also contains 22 gm of magnesium per 100 gm of the fruit, as well as significant amounts of phosphorus and potassium- 40 and 417 gm per 100 gm

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## **1. Immunity Booster**

Taiwan Guava is rich in vitamin C, it contains 4 times the vitamin C content present in oranges. Vitamin C helps improve immunity and protects you against common infections and pathogens. Moreover, it keeps your eyes healthy.

## **2. Lowers Risk of Cancer**

Lycopene, quercetin, vitamin C and other polyphenols act as potent antioxidants which neutralize free radicals generated in the body, preventing the growth of cancer cells. Taiwan Guava fruit has shown to be widely successful in reducing prostate cancer risk and also inhibit the growth of breast cancer cells since it is rich in lycopene.

## **3. Diabetes-Friendly**

Due to the rich fibre content and low glycaemic index, Taiwan Guava prevent the development of diabetes. While the low glycemic index inhibits a sudden spike in sugar levels, the fibre content ensures the sugar levels are well regulated.

## **4. Heart Healthy**

Taiwan Guava fruit helps improve the sodium and potassium balance of the body, thereby regulating blood pressure in patients with hypertension. Taiwan Guava also help lower the levels of triglycerides and bad cholesterol (LDL), which contribute to the development of heart disease, and also improves levels of the good cholesterol (HDL).

## **5. Treats Constipation**

It is one of the richest sources of dietary fiber in comparison to other fruits and just 1/2 Taiwan Guava fulfills about 12% of your daily recommended intake of fibre, which makes it extremely beneficial for your digestive health.

## **6. Improves Eyesight**

As rich Vitamin A source, Taiwan Guava can not only prevent degradation of eyesight, but even improve eyesight. It can help slow down the appearance of cataracts and macular degeneration. Even though guavas are not as rich in Vitamin A as carrots, they are still a very good source of the nutrient.

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## 7. Guava During Pregnancy

Taiwan Guava benefits pregnant women too as it contains folic acid, or vitamin B-9, which is recommended for pregnant women since it can help in developing the baby's nervous system and protect the newborn from neurological disorders.

## 8. Stress-Buster

The rich magnesium present in Taiwan Guava, helps to relax the muscles and nerves of the body. Taiwan Guava is certainly what one needs to relax your muscles, combat stress and give your system a good energy boost.

## 9. Brain Improvement:

Taiwan Guava is rich in vitamin B3 and vitamin B6, also known as niacin and pyridoxine respectively, which help in improving blood circulation to the brain, stimulating cognitive function and relaxing the nerves.

## 10. Anti-Aging:

Taiwan Guava is rich in vitamin A, vitamin C and antioxidants like carotene and lycopene which help protect the skin from wrinkles so acts as anti-aging agent.

**Soil Requirements:** Taiwan guava plants can be grown in a wide range of soils from heavy clay to very light sandy in nature. However, well-drained, deep loamy, friable soils for good crop yield. Avoid water logging conditions as it can cause the root rot disease. Soil pH of 4.5 to 7.0 is ideal for Taiwan guava plantation.



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**Plantation:** Land must be deeply ploughed, harrowed and levelled before planting. Weeds from previous crops if any are removed and land must be prepared with proper drain outs. If the soil is not fertile, supplementing the land with well-decomposed farmyard manure (FMY) is suggested for required nutrients. This organic manure must be added in the last plough during land preparation.



**Planting Season:** one month before onset of monsoon in India, i.e. June – July

**Planting Pits:** The pits are dug 10 days before planting and allowed the pits to cure until planting is done. Before the planting, the top soil dug out of each pit is mixed with 10 kgs of farm yard manure, 100 grams potassium, 2.0 kgs of super phosphate and 50gm of BHC and pit is filled up to 45 cm depth and Taiwan guava clones are planted just in the center of pit with graft union exposed from soil level inside the pit. The clones must be planted 15-20 cm down the general field surface inside the pit.

The depth of pit shall be 4ft depth and 2ft round. 3 and half feet of pit is filled with FYM and the Taiwan Guava clone is planted at the center of the pit, with a stick for support. Exposed from the soil the plant shall be planted 15 – 20 cm below the surface of the pit.

**Training:** When the plant reaches 75-80 cm high, top 20 cm plant is cut to increase the branching. when the side branch reaches 30-40 cm long growth, strong branches are retained and top 10 cm is cut to encourage further

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branching. And further branching is encouraged in each primary branches. The same procedure is applied here in pruning for 2 - 3 times.



## **Tending developed trees:**

**First pruning:** cutting off the top of the tree when it gets 60 to 80cm in height for easy harvest and stimulating branch development.

**Second pruning:** after branches reached 30 to 40cm in height, cutting off their tops to stimulate second branching.

**Manure:** Balanced manures and fertilizer application is necessary for high yielding of Taiwan guava produce. Farmyard manure of 25 Kg and N: P: K of 1 Kg per tree in 2 split doses during March and October must be applied. To increase the fruit yield, spray Urea 1 % + Zinc sulfate 0.5% twice a year during March and October month. In the case of boron deficiency soils, spray 0.3% borax during flowering and fruit set period.

3 months after plantation, One and half KG Bio-mixture and VAM fungal culture 250gm are mixed together and applied to each plant.

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**Harvest & Yield:** Taiwan guavas are harvested throughout the year (except during May and June) in one or the other region of the country. There is totally two harvest season every year one from March to April month and another from July August.

Yield per acre, at 35 to 40 kgs per plant and around 14 to 16 Tons.



**Marketing:** Taiwan Guava is very demanding fruit for juice and food products. It is also Raw material for jam, squash, chocolates etc. Market is high from food industries and production purchase at farms in lot will happen.



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## Cost Benefit Analysis:

1 acre	43560
Spacing (10ft x 10ft)	100
Number of plants	436
Price per plant	200
Total Plants Cost	87200
land establishment cost	175000
labour cost	50000
total first year	312200
40% of 1 year maintenance	124880
for 2 years expenditure	249760
total investment (for 2 years)	561960

The yield per plant is 40kgs per plant rounding to 16 tons per acre. There will be 2 harvests so 32 tons per year. At the cost of ₹ 40/-, an income of ₹ **1280000/-** per year. As the production will last for 35 to 40 Years, the income will be thousands of times.

*Thanking you*

**NATIONAL AGRICULTURE AND HORTICULTURE BIOTECH**

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