

Bitter Melon

Greg Owens, Senior Extension Officer, DPIFM Darwin



Name: Bitter melon, bitter gourd, bitter cucumber, Balsam pear, Foo Kwa, *Momordica charantia* (Curbitaceae)

Origin: Bitter melon is thought to originate in the old world tropics, possibly in Africa and/or India.

Distribution: It is now widely grown throughout all the tropical regions of the world.

Australian Distribution: Northern New South Wales, Coastal Queensland and the Top End of the Northern Territory.

Preferred Climate and Soil Types: Bitter melon is normally grown in a hot, humid area. In the NT it is mainly grown in the Darwin rural area. Like most cucurbits it prefers a well-drained soil with a pH of 6.0-6.5. Bitter melon is tolerant of high rainfalls and is sometimes grown through the wet season on mounded well-drained beds.

Description: Bitter melon is an annual climber with deeply lobed leaves. It has a profusion of yellow flowers with a high proportion of male flowers. The fruit is cucumber shaped with a number of irregular longitudinal ridges and a varied warty skin depending on the variety. The fruit colour ranges from white through light green to dark green.

Varieties: In the NT the open pollinated Vietnamese type of bitter melon with the rough skin is most common with good acceptance by southern markets. The smoother skin Taiwanese hybrids, like Moonlight, are becoming more popular. The hybrids produce more fruit and more uniform fruit but lack wide market acceptance. Different ethnic groups exhibit different varietal preferences.

Culture: Bitter melon is grown on vertical or horizontal trellises. Trellises are 1.8-2 m tall and a tractor width apart for spraying access. The seeds can be sown directly or grown as seedlings at 2 m spacing. Green manure crops are used to add organic matter to highly leached tropical soils.

The Top End soils require a basal application of NPK and calcium fertilisers and constant application of NPK and calcium throughout the production period of bitter melon. Irrigation is provided throughout the dry season with drip systems and plastic mulch is recommended for optimum production.

Pest and Diseases: The main insect pest of bitter melon is cucumber moth and needs to be controlled as it damages the fruit. Ginger ants can be a problem with seeds and seedlings.

Bitter melon is susceptible to powdery mildew although the symptoms often appear as downy mildew. Other diseases of concern are root knot nematodes, fusarium and mosaic viruses.

Fruiting Season: Bitter melon will produce its first main crop 50-70 days after planting and then follow a cycle of new growth, fruiting, new growth, until such time as the vines are stopped. The first main pick gives the highest yield and best quality thus making good early growth essential. NT production is concentrated in the dry season from May to September.

**DEPARTMENT OF PRIMARY
INDUSTRY, FISHERIES AND MINES**

Crops, Forestry and
Horticulture Division

GPO Box 3000

Darwin NT 0801

Tel: 08 8999 2357

Fax: 08 8999 2049

Email: horticulture@nt.gov.au

Web: www.horticulture.nt.gov.au

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Harvesting: Identifying maturity is a big problem for bitter melon. Consumers prefer a full-sized immature fruit. When mature the fruit ripens quickly and is inedible. The only reliable indicator is the seed colour that goes from white to pink and then red when mature. There are no reliable external indicators so the fruit is often harvested on size. Fruit is harvested by hand in the morning or evening, not in the heat of the day.

Storage: The bitter melon fruit responds quickly to the presence of ethylene and should not be stored with ethylene producers like tomatoes and bananas. Bitter melon is prone to chilling injury and should be kept between 10⁰C and 15⁰C.

Culinary Use: The immature fruit is boiled in soups or fried, often after steeping in salt water to remove some of the bitter flavour. Fruit can be hollowed and stuffed with various fillings and baked. Bitter melon is a very important part of the Asian diet with many reported health benefits associated with Asian traditional medicine.