

Yam bean

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Botanical name: *Pachyrhizus erosus* of the LEGUMINOSAE (pea & bean) family

Other names: Jicama, Mexican water chestnut, Saa got.



Tropical summary

Grows well in tropical areas and will grow in most soils that don't waterlog. The plants are rambling vines that can be let run along the ground or up a trellis. Originally from Mexico and nearby, the yam bean has been introduced to most tropical areas and is particularly important in the Philippines and elsewhere in south-east Asia.

There are three species of *Pachyrhizus* grown commercially and other wild types but *P. erosus* is the species most widely introduced to most tropical areas.

Yam bean, grown for its sweet, crisp tuber, is a vegetable that can be eaten raw or cooked. Depending on the selection, a plant can produce one or several tubers. Very young beans can be cooked and eaten but older beans and leaves contain a toxic component. Care and experience in using the beans are necessary to avoid any toxic effects.

Site selection

Choose free draining soil in a sunny location. Heavy clay soils are more prone to water logging, can distort the tuber shape and make harvesting more difficult.

Yam bean is a good crop to plant in rotation with crops like corn, sweetpotatoes and pumpkins. Under drier conditions and on sandy soils, irrigation will be beneficial.

Planting

Plants are mostly started from seed but can grow from the tops of tubers. There can be considerable variation in the seed grown plants, so vines for seed production are best grown from sprouted tubers.

Seed of better selections for tuber growth, yield and flavour are available from smaller novelty crop suppliers like Eden seeds, www.edenseeds.com.au, Seed savers' network, www.seedsavers.net, and Minara seeds, phone 07 3263 4090 (Minara also sell in 1kg bulk packs). Seed should be fresh, as viability reduces rapidly under hot, humid conditions.

Planting to harvest usually takes six to eight months but lengthening days in spring encourage leaf growth and shortening days in autumn encourage tuber development and flowering. Excessive flowering will reduce tuber size. Although the crop can be planted at any time of the year in tropical areas, planting around mid summer is likely to produce a quicker and better crop than a winter planting. In shallow soils and to improve drainage, seeds can be planted on low mounds or ridges. Plant one to two seeds, between 2 and 3 cm deep, at each site, spaced 15 to 20 cm along the row. Keep the soil moist, to encourage germination but not saturated which can rot the seed.

Growing

Yam bean is generally free of pests and disease. Young plants need to be kept weed free. This is best done by adequate pre plant cultivation followed by regular weeding and well placed irrigation water. It is only necessary to water the planting sites. Regular watering will reduce split tubers.

Yam bean plants like soil of moderate soil fertility. Too much nitrogen will promote excessive leaf growth while adequate potassium is necessary for tuber growth and quality. Depending on the soil fertility, the crop can benefit from a pre-plant application of N14:P15:K12 with trace elements at 100 grams per metre of row. Incorporate into the soil two or three weeks prior to planting. Applications of compost up to 1 kg per square metre can help on most soils and added calcium can also benefit soils that are not shell or coral based. Side dressings of a fertiliser high in potassium and trace elements but lower in nitrogen and phosphorus may be beneficial.

Unless soil analysis gives a more specific guide, try a rate of 1 kg/20 m of row, one or two times but applied six to eight weeks apart, after the vines are well established.

Noticeable hairs develop on most parts of the plant and these can be a source of irritation to people working in the crop.

Harvesting and uses

Monitor the development of the tubers. They are suitable for harvest when they reach 10 cm across but can be left till double that size in most varieties. If left too long or if the vines flower heavily the tuber quality will reduce.

Plants can produce tubers up to 5 kg but single tubers of this size are usually tasteless and fibrous.

To harvest the tubers, lift by digging then trim off vine and excess root before washing then drying in a shaded area.

Tubers can be stored in a cool, dark and dry location for more than a month.

Yam bean tubers are a useful addition to stir fries, salads, soups and stews. They contain some sugar and starch and are a moderate source of vitamin C and useful amounts of fibre, calcium, iron, niacin, riboflavin and thiamine.

Further information on horticulture

Contact DPI&F Business Information Centre on 13 25 23 – local call 8 am to 6 pm Monday to Friday (excluding public holidays). Interstate callers phone 07 3404 6999. E-mail callweb@dpi.qld.gov.au

Gardening in the tropics

This information series is aimed at promoting gardening activities in Cape York Peninsula. The crop plants and gardening techniques outlined have been chosen with the specific requirements and constraints of the Cape York Peninsula Area in mind.

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