Dioscorea floribunda Mar. & Gal.

Family : Dioscoreaceae
Parts Used : Tuber
Vernacular Names
English : Medicinal Yam
Malayalam : Marunnukachil
Hindi : Chupri alu, Khamalu
Sanskrit : Alukam
Tamil : Perumvallikkizhangu, Kappan kachil

Distribution and Habitat: Native of Central America, India and China
Botany: It is a climbing, non-hairy vine with slender or stout stems. The tubers are brown on the surface and are cream coloured interior. The plant is dioecious.

• ***Leaves:*** Petiolate, spirally disposed on the stem. Petiole 5-7.5 cm long, furrowed, both ends swollen, green except the swollen ends, the latter are light browny in colour, the proximal swelling is about 1 cm long, while the distal is nearly 2.5 cm in length. Lamina sub-coriaceous, broadly ovate, deeply cordate, acuminate, margin entire and green.

• ***Inflorescence:*** Male inflorescence is solitary or rarely paired, rachis slender. Flowers solitary or in groups of 2-3, dark brown or green, sessile; Perianth membraneous, tubular, segments erect, imbricate, elliptical, obtuse, stamens 6, centrally placed in two alternate whorls of 3 each. Female spike short, solitary, Perianth distinct, stipitate, campanulate, staminoids 6, stylar column high, stigma divaricate, apex bifid.

• ***Seeds***: Winged and brown in colour.

Chemical constituents: Diosgenin. It is the most important sapogenin used as a starting material for synthesis of a number of steroidal drugs.
Uses: Used as contraceptives
Agrotechnology
Soil and climate**:** *Dioscorea* species prefer a tropical climate without extremity in temperature. It is adapted to moderate to heavy rainfall area. *Dioscorea* plants can be grown in a variety of soils, but light soil is good, as harvesting of tubers is easier in such soils. The ideal soil pH is 5.5-6.5 but tolerates fairly wide variation in soil pH.
Propagation: *Dioscorea* can be propagated through tubers, single node stem cuttings or seed. Tubers normally used for commercial planting. Three types of tuber pieces can be distinguished for propagation purpose, viz. (1) crown (2) median and (3) tip, of which crowns produce new shoots within 30 days and are therefore preferred. The best time of planting is the end of April so that new sprouts will grow vigorously during the rainy season commencing in June. Land is to be prepared thoroughly until a fine tilth is obtained. Deep furrows are made at 60cm distance with the help of a plough. The stored tuber pieces which are ready for planting is to be planted in furrows with 30 cm between the plants for one year crop and 45 cm between the plants for 2 year crop at about 0.5 cm below soil level. The new sprouts are to be staked immediately.
Manuring**:** *Dioscorea* requires high organic matter for good tuber formation. Besides a basal dose of 18-20 t of FYM/ha, a complete fertilizer dose of 300 kg N, 150 kg P2O5 and 150 kg K2O/ha are to be applied. P and K are to be applied in two equal doses one after the establishment of the crop during May-June and the other during vigorous growth period of the crop (August-September).
Irrigation:-Irrigation may be given at weekly intervals in the initial stage and afterwards at about 10 days interval during non-rainy periods.
After cultivation: After sprouting is complete, the plants are to be earthed up. Soil from the ridges may be used for earthing up so that the original furrows will become ridges and vice versa. *Dioscorea* vines need support for their optimum growth and hence the vines are to be trailed over *pandals* or trellis. Periodic hand weeding is essential for the first few months. Intercropping with legumes has been found to smother weeds and provide extra income.
Plant protection: The major pests of *Dioscorea* are the aphids and red spider mites. Aphids occur more commonly on young seedlings and vines. Young leaves and vine tips eventually die if aphids are not controlled. They can be controlled by spraying any contact insecticide. Red spider mites attack the underside of the leaves at the base near the petiole. Severe infestations result in necrotic areas, which are often attacked by fungi. In case of severe mite infestation, spray any acaricide – dicofol, tetradifon, chlorobenzilate or wettable sulphur at recommended doses. No serious disease is reported to infect this crop.
Harvesting: The tubers grow to about 25-30 cm depth and hence harvesting is to be done by manual labour. The best season for harvesting is Feb-March, coinciding with the dry period. On an average 50-60 t/ha of fresh tubers can be obtained in 2 years duration. Diosgenin content tends to increase with age, 2.5% in first year and 3-3.5% in the second year. Hence, two-year crop is economical.