

# *Glycyrrhiza glabra* Linn.

Syn. *Loquiritae officinalis* Moench

Fam. Fabaceae

<b>Ayurvedic name</b>	Yashtimadhu,
<b>Unani name</b>	Mulethi, Asl-us-soos
<b>Hindi name</b>	Mulathi
<b>English name</b>	Liquorice
<b>Trade name</b>	Mulhatti, Liquorice
<b>Parts used</b>	Roots and Stolon



*Glycyrrhiza glabra*

## Morphological Characteristics

It is a perennial under shrub, reaching up to 120 cm height under cultivation. The stolon crown gives rise to a number of long semi-woody stems which bear compound pinnate leaves. Stolon is nearly cylindrical, upto 2 cm in diameter. Outer surface is yellowish-brown or longitudinally wrinkled with patches of cork. Its odour is characteristics and taste is sweet.

## Floral Characteristics

Flowers are pale blue in colour and flowering occurs from 2-3 years of planting onwards. Pod is 2.0 - 2.5 cm long with 2 to 5 seeds.

## Distribution

The plant thrives in a dry and sunny climate and is cultivated in the sub-tropical and warm temperate regions, chiefly in the Mediterranean region.

## Climate and Soil

It grows well in sub-tropical climate in North-West India. Mulethi is a hardy plant and grows over rich forest soils, ranging from pH 5.5 to 8.2. In nature, it has wide distribution from dry cold temperate parts of Asia to Mediterranean climates, where annual temperature varies from 25°C in summer and 5°C in winter season.



Sandy-loam fertile soils with pH 6.0 to 7.5 have been found to promote good root development in India. The plant thrives in cultivation, where the locality receives 50- 100 cm rainfall annually and cultivation is supported with irrigation.

## Propagation Material

Propagation is usually carried through stolons cuttings of about 10-15 cm. Seed can be used, but seed-set is poor in India and seed germination is low. Vegetative method of propagation is, thus recommended. A variety “Haryana Mulhatti-1” released from Ch. Charan Singh Haryana Agricultural University, Hissar is recommended.

## Agro-technique<sup>16</sup>

### Nursery Technique

- **Raising Propagules:** The old crown of roots dry out in autumn may be divided into 10-15 cm long pieces having 2-3 buds. These are used as planting material. It could be placed in furrows made in rows at planting. The crop remains in the field for 3-4 years duration for proper growth of stolon for high yield. It requires 300 kg of planting material for one hectare land.
- **Propagule Rate and Pre-treatment:** It was found that the capacity of seeds to germinate differ with the stages of their maturation. During milky waxy ripe stages, the seeds have poor germination capacity and the shoots have low survival capacity, but if seeds are collected in July, they show highest germinating capacity. This is a long duration crop and the preparation of field should be of good tilth and the fields be leveled well to avoid stagnation of water. It was observed in a particular case that scarified seeds germinated slowly and their germination reached upto 29.4% with the 75% survival.

### Planting in the Field

- **Land Preparation and Fertilizer Application:** The field should be ploughed thoroughly followed by harrowing to bring the soil to a fine tilth and free from weeds. Farm Yard Manure (FYM) has been found useful for good development and growth of underground roots and should be applied at the rate of 10 t/ha at the time of field preparation.
- **Transplanting the Seedlings to Main Field and Optimum Spacing:** As stated, the cuttings of the underground stem/ stolon of 10-15 cm length, possessing 2- 3 eye buds are planted 6- 8 cm deep in the soil at a distance 60X45 cm or 90X45 cm during spring seasons. The stolon begins sprouting in 15- 20 days after planting. Light and frequent irrigation is necessary during spring planting until the cuttings sprout and establish themselves in the field. Once the plants grow upto 20 to 30 cm tall, the rows are raised

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<sup>16</sup> Agro-technique study carried out by (a) Indian Institute of Horticultural Research (IIHR), Bangalore and updated from published work of (b) Gujarat Agricultural University, Anand, Gujarat and (c) College of Agriculture, CCS Haryana Agricultural University, Hissar.





- **Yield and Cost of Cultivation:** The yield of dry root at Hissar (Haryana) is recorded around 7 t/ha. While at Anand (Gujarat) 10 to 20 months crop has given an average yielded of 2.5-5.0 t/ha. Rs. 100000/- is the cost of cultivation for one hectare.

### Therapeutic Uses

The plant root is a demulcent, mild expectorant and anti-inflammatory agent. An extract of the root provide relief in treating peptic ulcers. It has glycyrrhizic acid as main constituent and this has showed anti-viral and anti-inflammatory actions. The plant extract is used as a sweetener in tonic, laxative and given in sore throat and in cough remedies.



*Glycyrrhiza glabra* in field

