

Liquorice (Mulethi)

**GLYCYRRHIZA GLABRA L. FAMILY - FABACEAE**

Mulethi a perennial under shrub, which reaches upto 1.2 m height under favourable growing conditions in nature. The root crown gives out a number of long woody stems which bear compound pinnate leaves. Flowers pale-blue in colour and are borne at the age of 2/3 years and onwards. Fruit 2 to 2.5 cm long pods containing 2 to 5 seeds.

**COMMON NAMES:** Liquorice, Madhukah, Yestimadhu

**DISTRIBUTION:**

This species is widely distributed in the world from 5°W to 100°E longitude and 20° to 50° N latitude. It is reported abundant in Western China, parts of Asia Minor, Persia, Asian Republics of erstwhile U. S. S. R. and Afghanistan. It is also cultivated in Punjab & Sub Himalayan tracts in India.

**PART USED:** Root.

**CULTIVATION:**

**SOIL AND CLIMATE**

Liquorice is a hardy plant and occurs in nature on rich forest soils, acidic to slightly alkaline soils (pH 5.5 to 8.2). It inhabits dry cold temperature to Mediterranean climates where annual temperature varies from 25°C (summer) and 5°C in winter season.

Sandy loam fertile soils having pH of 6 to 8.2 have been found to promote better root development in India. The plant thrives in locations receiving 50-100 cm of rainfall annually and cultivation supported with irrigation; irrigation beneficial for higher root yield.

**NURSERY RAISING AND PLANTING**

This is a long duration crop and the preparation of field should be of good tilth and the fields be levelled well to avoid stagnation of water. The cuttings of the underground stem/root of 15-25 cm possessing 2-3 eye buds are planted directly in the field 6-8 cm deep in the soil at a distance of 90x45 cm. Besides this the rows may be raised 45-60 cm to facilitate irrigation. It should be planted at 60x45 cm spacing. In this manner 250-300 kg of wet weight of stem cutting is required for plantation of one hectare land. The cutting begin sprouting in 15-20 days after planting. Light and frequent irrigation is necessary during spring planting until the cutting sprout and establish themselves in the field. Fresh planting can be raised during February-March or July-August.

**THINNING AND WEEDING**

Three to four hoeing cum weeding are required in the first year of planting and in subsequent years two hand weeding-cum-hoeings are considered to keep the fields weed free for healthy growth of plants.

### **MANURES, FERTILISERS AND PESTICIDES**

The medicinal plants have to be grown without chemical fertilizers and use of pesticides. Organic manures like, Farm Yard Manure (FYM), Vermi-Compost, Green Manure etc. may be used as per requirement of the species. To prevent diseases, bio-pesticides could be prepared (either single or mixture) from Neem (kernel, seeds & leaves), Chitrakmool, Dhatura, Cow's urine etc.

### **IRRIGATION**

The crop requires irrigation at an interval of 30-45 days in dry summer season. The plant sheds leaves in November and no irrigation is given throughout winter season. In all 7-10 irrigation are given to the crop. It is important to avoid water-logging in field as stagnation of water in the field will cause-root rotting due to infection of soil borne diseases.

### **HARVESTING/POST HARVESTING OPERATION**

It is found that high yields are obtained from 2-½-3 year old crop manual digging is performed for harvesting roots but is found very costly. One disc harrow for digging which has proved successful and is highly economical. It overturns the soil, which is left in field for sun-drying; later the roots are sorted out and cleaned. The crop is harvested in winter season i.e. November or December months to obtain roots of high glycyrrhizic acid.

At harvest, the roots contain 50-60 percent moisture and should be dried in the sun for 2-3 days and then in shade for next 10-12 days. The dry roots should possess not more than 10% moisture when these are ready to be stored in polythene lined bags. The roots are cut into pieces of convenient size and sorted into grades, based on thickness.

### **YIELD**

The yield of dry root at Hissar (Haryana) is recorded between 70 to 80 q/ha. At Anand 10 to 20 months crop has given an average yield of 20 to 25 q/ha.

### **ECONOMICS**

Return Rs. 3,50,000/- to 4,00,000/-per hectare (YEAR-2001)

**Note:** Market for medicinal plants is volatile and the economics may vary.

### **INSTITUTE TO BE CONTACTED:**

**DEPARTMENT OF PLANTS BREEDING,  
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