

MULETHI



GENERAL INFORMATION

It is known as sweet root and is used to prepare various ayurvedic medicines. Its roots are used for preparing various drugs. Drugs prepared from mulethi are used to cure skin problems, jaundice, ulcers, bronchitis etc. It is perennial shrub with average height of 1-2m. Flowers are of purple to pale whitish blue in color having 0.8-1.2cm length. Fruits contain numerous seeds and are 2-3cm long. Roots are sweet in taste and have no odor. It is found throughout the world in Greek, China, Egypt and India and is native to parts of Asia and southern Europe. In India it is cultivated in Punjab and sub Himalayan tracts.

CLIMATE

Temperature

15-30°C

Rainfall

50-100cm

Sowing Temperature

8-18°C

Harvesting Temperature

15-25°C

SOIL

Owing to its hardy nature it is grown in variety of soils i.e. acidic to slightly alkaline soil. If soil is alkaline it requires pH of 5.5-8.2. It gives best result when grown under sandy loam fertile soil having pH of 6-8.2.

POPULAR VARIETIES WITH THEIR YIELD

G. glabra: Found in Turkey, Iran, Iraq, central Asia and north-western part of China. There are three further varieties of *G. glabra* viz. Spanish and Italian licorice (*G. glabra* var. typical), Russia licorice (*G. glabra* var. glandulifera) and Persian and Turkish licorice (*G. glabra* var. violacea).

G. uralensis: Found in central Asia, north-western and eastern parts of China and Mongolia.

G. inflata: Found only in north eastern parts and autonomous region of China-the Xinjiang Uygur.

LAND PREPARATION

For mulethi plantation, it requires well leveled fields. To bring soil to fine tilth, plough land properly to avoid stagnant water in fields.

SOWING

Time of sowing

Prepare nursery in the month of January to February. The planting can be done in February – March or July – August.

Spacing

Plant spacing should be 90 x 45cm.

Method of sowing

Direct sowing or transplanting.

SEED

Seed Rate

For good growth of plant use stem cutting 100-120kg/acre. The beds should be 6-8cm deep.

NURSERY MANAGEMENT AND TRANSPLANTING

Prepare fields properly before sowing. The stem or root is taken for propagation. 15-25cm long root/stem having 2-3 eye buds is taken for sowing. Sowing is directly done in the main fields.

After sowing light irrigations must be done during spring. Irrigations should be done frequently until roots/stems establish themselves in soil. The planting can be done in February – March or July – August.

FERTILIZER

It doesn't require any fertilizers. If the land is poor then at the time of land preparation, apply compost mix it well with soil. Mulching is done to retain the moisture in the soil.

WEED CONTROL

Hoeing and weeding is done to keep the field weed free. In first year of planting 3-4 hoeing cum weeding are given and then in next year 2 weeding cum hoeing is required for healthy growth of crop.

IRRIGATION

In dry summer season, apply irrigation with interval of 30-45 days and in winter season it does not require any irrigation. In total there are 7-10 irrigations are given to the crop. Stagnation of water should be avoided as it will cause root rot disease.

PLANT PROTECTION



- **Pest and their control:**

Spider mites: They invade the foliage usually in dry summers.

Spraying water to foliage helps to get rid from this disease.



Slugs: The slugs affect the plant by feeding themselves on green leaves. Application of copper wire or diatomaceous earth is used to make barrier around plant.



Caterpillars: Caterpillars feed themselves on green leaves as a result they affect plant.

Application of *Bacillus thuringiensis* or spraying of neem oil helps to get rid of caterpillars.



- **Disease and their control**

Powdery mildew: It is a fungal disease which affects the leaves of the plant causing white spots.

Application of potassium bicarbonate is done to kill powdery mildew.

HARVESTING

Plant starts yielding by two and a half year to three years. Harvesting is done depending upon purpose like for fresh market, long distance transport etc. Harvesting is mainly done in winters (November or December) to obtain high glycyrrhizic acid content. For processing, roots are used.

POST-HARVEST

After harvesting the roots are sun dried and then grading is done. The roots are packed in air-tight bags. From dried roots several products like tea, powder, supplements etc. are made after processing.

REFERENCES

1. Punjab Agricultural University Ludhiana
2. Department of Agriculture
3. Indian Agricultural Research Institute, New Delhi
4. Indian Institute of Wheat and Barley Research
5. Ministry of Agriculture & Farmers Welfare