



Mint (*Mentha Arvensis*) Cultivation in India

(*Ravindra Kumar Meena¹, Deepak Kumar Koli², Ganesh Kumar Koli¹, Ram Kishor Meena³ and Khemendra Choudhary¹)

¹CCS Haryana Agricultural University, Hisar, Haryana (125 004), India

²ICAR-Indian Agricultural Research Institute, New Delhi, Delhi (110 012), India

³SKN Agriculture University, Jobner, Rajasthan, (303329), India

*ravimeena101295@gmail.com

Japanese Mint (*Mentha Arvensis*) also known as pudina, is a perennial herb with creeping root stalk and an erect stem, 1-2 quadrangulate branched with short dense hair. Leaves are 2.5-5 cm long, oblong-ovate. Flowers are in auxiliary whorls, none at the top. Plant rises to a height of 0.4-0.8 meter. Branching freely, flowers appearing in May-June and again in September-November under cultivation. Pepper Mint (*Mentha piperita*), Bergamot Mint (*Mentha citrata*) and Spear Mint (*Mentha spicata*) are also commercially cultivated though on a lesser scale. These species are morphologically variant to that of Japanese Mint.

Uses

Mint is used for flavouring meat, fish, sauces, soups, stews, vinegar, tea, tobacco and cordials. The mint oil is used for the production of natural menthol, demethylated oil is for flavouring mouth washes, tooth paste and pharmaceutical preparations. In medicine, it is used against stomach disorders, rheumatism, in ointments for headaches, in cough drops, inhalations etc. The oil and dried plants are antiseptic, carminative, refrigerant, stimulant and diuretic.

Soil

It grows in variety of soil i.e. medium to fertile deep soil having good water holding capacity. It can survive in poor water logging. It gives best result under rich humus soil. The pH ranging from 6-7.5 suited best for the crop

Popular Varieties With Their Yield

MAS-1, Hybrid-77, Shivalik, EC-41911, Gomti, Himalaya, Kosi, Saksham, Kushal, Punjab Spraymint 1

Land Preparation

For Mint plantation, beds of convenient size are made. Ploughing and harrowing should be done during land preparation. Application of organic manure i.e. FYM @100-120 q/acre is mixed with soil. Green manuring is added after FYM.

Sowing

Optimum time for sowing is from December-January. Suckers are planted at end to end distance of 40 cm and row to row 60 cm distance. Depth should be 2-3 cm. Propagation is done by stolons or branches. For good growth, use stolons at the rate of 160 kg per acre land. Stolons are obtained from previous planting and obtained in the month of December and

January. To protect crop from stolon root, before sowing do stolon treatment with Captan @0.25% or Agallol solution @0.3% or Benlate @0.1% for 2-3 minutes.

Nursery Management And Transplanting

Do cutting of suckers of length 10-14 cm before sowing. Sow Mint suckers on furrows of convenient size and width. Suckers are planted at end to end distance of 40 cm and row to row 60 cm distance. After sowing, irrigation is given to moist the soil. After transplanting take spray of Sinbar @400 g/acre for weed control. To protect from weeding, herbicides spray of Atrazine and Simazine @400 g/acre, Pendimethalin @800 ml/acre and Oxyfluorfen @200 ml/acre are given.

Fertilizer

At the time of land preparation, apply FYM @80-120 qtl/acre and mix well in soil. Apply nitrogen@58 kg/acre in the form of urea@130 kg/acre, Phosphorus @32-40 kg in the form of single super phosphate @80-100 kg/acre and Potassium @20 kg/acre in the form of MOP@33 kg/acre.

Irrigation

In summers before monsoon depending upon climate and soil 6-9 irrigations must be done. After monsoon crop requires 3 irrigation i.e. one irrigation in each month (September, October and November). In winters, crop does not require too much irrigation but if no rains occur in winter then single irrigation should be given.

Weed Control

Do frequent hand weeding and hoeing after the first harvest to keep field weed free. Application of Sinbar@400 g/acre is used to control weeds. Application of organic mulch with oxyfluorfen @200 ml/acre or application of pendimethalin herbicide @800 ml/acre is done to control weeds. If weed intensity is high, take post emergence spray of Dalapon @1.6 kg/acre or Gramoxone @1 ltr/acre and pre emergence spray of Diuron @ 800 g/acre or Terbacil @800 g/acre.

Plant Protection

A) Pest and their control:

Hairy caterpillar: Caused by *Dicarsia obliqua*. They feed on green leaves and damage the whole plant. To control this pest application of Malathion or Thiodan @1.7ml in litre of water is done.

Cutworms: Caused by *Agrotis flammatra*. It damages the collar region of the plant during spring season. To control this pest soil is treated with Phorate @10gm before planting is done.

Red Pumpkin Beetle: Caused by *Aulocophora foenicollis*. It feeds on fresh greeny leaves and buds. To control this pest application of Thiodan @1ml in 1 litre of water is given.

Mint Leaf Roller: Caused by *Syngamia abruptalis*. The pest folds the leaf and feed themselves inside the leaf mainly in August-September. To get rid of this pest application of Thiodan @1.5ml in 1 litre of water is given 2-3 times at weekly intervals.

B) Disease and their control:

Stolon Rot: Caused by *Macrophomina phaseoli* and it occurs on underground parts of the plant causes visible brown lesions resulting in decay. To control this disease application of Captan @0.25% or Agallol solution @0.3% or Benlate @0.1% are given for 2-3 minutes on the stolons is given.

Fusarium Wilt: Caused by *Fusarium oxysporum*. It caused yellowing, curling and drying of leaves. To get rid of this disease application of Bavistin, Benlate and Topsin is given.

Leaf Blight: Caused by *Alternaria* sp. It causes damage of foliage in summer season. To control this disease application of copper fungicide is done.

Harvesting

Plants are ready for harvesting after 100-120 days. Harvesting is done when yellowing of lower leaves starts. Harvesting is done with the help of sickle and herbs are removed 2-3cm above ground. Next harvesting is done at the interval of 80 days after first harvesting. For processing fresh leaves are used.

Yield

A good crop of Japanese mint can give as high a yield as 48 t/ha of fresh herb. However, the average yield of mints from three cuttings is 20-25 t/ha. The fresh herb contains 0.4% oil.

Post-Harvest

After harvesting, distillation is done by stem distillation method. Then mint oil is packed in large steel or aluminium containers. Quick transports are done for less spoilage of crop. From mint leaves several products like mint oil and chutneys are made after processing.