

# **Intercultural Operations**

### **Weed Control**

Weeds must be removed in the initial period when it is easier to enter the field. Weeding with hand or mechanical hoes within the first six weeks of planting can help in the control of weeds. This process can be repeated once or twice at an interval of about two to three weeks, after the first weeding.

Since weeding and hoeing accounts for 30% of cost of cultivation, use of wheel hoes either driven by hand or bullock drawn helps in reducing cost on interculture. Weedicides cannot control all the variety of weeds. Therefore best method is to combine manual, mechanical and chemical methods.

Some of the effective herbicides include Oxyflurofen (0.5 kg a.i. / ha), Pendimethalin (0.75 a.i. / ha), Simazine and Atrazine (1 kg a.i. / ha) [a.i. = active ingredient]. The best procedure is to first apply the weedicide followed by manual or mechanical weeding at 8 to 10 weeks when mulching should also be applied.

## **Crop Rotation**

Continuous cropping of any of the mints is not advisable, as it results into considerable increase in the weed population, soil-borne diseases and insect problems. One of the best methods of weed control in mint is to follow a suitable crop rotation. Rotation of mints with transplanted rice minimizes weeds interference, helps in reducing the soil-borne diseases, fungal pathogens and the insects. In the districts of Lucknow, Barabanki, Sitapur, etc., the best rotation is rice-potato-transplanted mint. In areas where rice is not a popular kharif crop, any other food crop which requires clean cultivation can be included in rotation.

#### **Rotations for Mint Cultivation in India**

Rotation of the Early Mint	Rotation of the Transplanted Mint
1. Maize/rice-potato-mint	Maize-late potato-mint
2. Rice-mint	Rice-field pea-mint
3. Maize/rice-vegetable pea-mint	Maize/rice-mustard-mint
4. Maize/rice sugarcane-mint	Maize/rice-wheat-mint
5. Maize/rice-lahi-mint	Maize-lahi-wheat-mint
6. Arhar-mint	Arhar-wheat-mint

## Intercropping

Mint as a minor crop can be intercropped with some major crops. To inter crop sugarcane and mint, sugarcane is planted in the spring in February. The row to row distance of sugarcane is kept at 90 cm. A few days after planting of sugarcane, stolons of mint are planted. While sugarcane continues to grow, the mint is harvested in the month of May. Usually the fertilizer would be applied at double the rate in mint-sugarcane intercropping fields.

Leguminous crops, maize, sunflower, wheat and onion or garlic can be intercropped with mints. In such intercropping systems, planting of mint stolon and transplanting of onion / garlic should be done simultaneously. Intercropping of legumes is particularly profitable with transplanted mints. Besides the additional yield of legume grain, there is benefit from biological nitrogen fixation that occurs in the root nodules of leguminous plants.

If wheat is sown late, mint stolons can be sown between the wheat lines. Both wheat and mint will grow together. Wheat will be harvested and subsequently mint will take over.