

Tips for successful cultivation of Toria oil seed crop

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Torai oil seed is a popular crop in India which can be cultivated throughout the year in rotation with other crops. The paper highlights the proper cultivation in India. Given the high oil content and a short period of cultivation of three months, it can have beneficial effect in the life of farmers.

Keywords: Foot and mid-hills, Rain-fed area, Rapeseed-mustard, Crop, Oilseed

INDIA is the third largest rapeseed-mustard producer in the world after China and Canada with 12% of world's total production. This crop accounts for nearly one-third of the oil produced in India, making it the country's key edible oilseed crop. Due to the gap between domestic production and actual consumption of edible oils, India has to restore to import of edible oils. Mustard seeds and its oil is used for culinary purpose. Young leaves are used for vegetable purpose. Its oil cake is used for feeding cattle. Rapeseed-mustard is the major source of income especially even to the marginal and small farmers in rainfed areas. Since these crops are cultivated mainly in the rain-fed and resource scarce regions of the country, their contribution to livelihood security of the small and marginal farmers in these regions is also very important. This crop is suitable for cultivation in the foot and mid-hills. Due to its low water requirement (80-240 mm), it fits well in the rainfed cropping system. The toria crop is mostly sown in low fertile land and ignored area due to this reason it is attacked by many insect-pests and diseases those reduces the yield and seed quality.

Climatic and Soil Requirements: It can be grown in areas having 25-40

Table 1. List of varieties

Variety	Yield (q/ac)	Days for maturity	Oil content (%)	Special remarks
TL 17	5.20	90	42.0	Profuse branching and more pod bearing capacity
TL 15	4.50	88	41.0	Suitable for toria-wheat crop rotation

cm rainfall with well drained loamy soils.

Rotations: Summer Moong/Mash –Toria–Wheat, *Kharif* Fodder–Toria–Wheat, *Kharif* Fodder –Toria–Sunflower/Potato Spring, *Kharif* Fodder–Toria–Sugarcane, Paddy–Toria–Sunflower

Varieties: The varieties, yield, days of maturity and oil content are given in Table below.

Sowing Time and Seed Rate: Best sowing time is month of September with 1.50 kg seed per acre.

Spacing and Method of sowing: It is sown with drill or pora attached to plough with 30 cm row to row spacing and 4–5 cm deep. Thinning is done three weeks after sowing to maintain plant to plant distance as per requirement.

Fertilizer application: To reduce cost of cultivation and environment pollution, it is suggested to apply fertilizers on soil test basis (apply 20% more or less nitrogenous

fertilizer to the soils having poor or high organic carbon, respectively) or farmers can use 55 and 50 kg of urea and superphosphate (SSP) per acre, respectively at the time of sowing. Prefer phosphorus from single superphosphate as it contains sulphur along with phosphorus. If this fertilizer is not available, apply @ 80 kg gypsum or 13 kg bentonite-S per acre at sowing particularly in sulphur-deficient soils along with nitrogenous fertilizers 26 kg DAP per acre.

Weed Control: One hoeing is sufficient after third week of sowing with improved wheel hand hoe.

Irrigation: The crop should be sown with heavy *rauni*. If required then one irrigation should be given at time of flower initiation.

Harvesting: Timely sown crop is ready for harvesting in 1st week of December when the pods turn yellow and seeds become hard. To avoid shattering losses, harvesting should be carried out in the morning hours. During harvesting crop should be cut



Fig. 1. Hairy caterpillar on the infested leaves

close to the ground *via* sickle. The harvested crop should be stacked for 7-10 days before threshing. After proper drying of crop, complete the threshing operation. Cleaned seed must be dried in the sun for 4-5 days or till the moisture content reaches down to 8.0%. Seeds should be stored in gunny bags or bin after proper drying.

Insect-pests: Below are in insect-pest that harms the crops:

Painted bug: Bug is black in colour with red and yellow lines. It destroyed crop at germination stage also at maturity. The nymphs and adults suck the sap from the foliage

and leads to drying of the crop. Application of irrigation 3-4 week after sowing help in reducing pest population.

Hairy caterpillar: The larvae feed on leaves, young shoots and green pods. Young larvae they feed gregariously but the grown-up caterpillars migrate from one field to the other. When in the gregarious stage, they can be easily controlled by picking and destroying the infested leaves (Fig. 1).

Leaf miner: The larva of this insect is small and whitish called maggot. The young maggot mines zig-zag galleries in the leaves causes

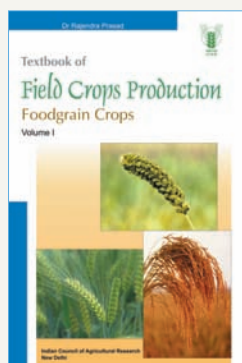
heavy damage. At the appearance of insect, spray the crop with 400 ml Rogor 30 EC (dimethoate) or 80-125 litre per acre with manually operated knapsack sprayer or apply 13 kg Furadan 3 G (carbofuran) per acre followed by light irrigation.

To kill the insect-pest, spray should be done in the afternoon when the pollinators/honey bees are less active.

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TECHNICAL SPECIFICATIONS

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