

SUCCESSFUL CULTIVATION OF TORIA IN PUNJAB

Balwinder Singh Dhillon

Regional Research Station, Ballowal Saunkhri
Punjab Agricultural University, Ludhiana

ARTICLE ID: 011

Toria is very successful as an additional oilseed crop though is not cultivated as a main crop due to its low-yield potential. Being of short duration it can fit well as a relay crop between the *kharif* and *rabi* crops. A number of farmers are taking an early crop of paddy, while others have the fallow area due to one or the other reason. All such areas can be brought under toria cultivation as no other crop except fodder can be grown after which the *rabi* crop can be harvested. In trade, toria, is categorised as rapeseed. Toria is sown exclusively under irrigated conditions. The rapeseed and mustard crops grow well in areas having 25 to 40 cm of rainfall. Toria is grown in medium to high rainfall areas. Toria should be grown preferably on loamy soils.

Toria variety TL 17 is suitable for multiple cropping systems due to its early maturity. It matures in 90 days. It has profuse branching and siliqua bearing capacity. Variety TL 15 takes about 88 days to mature. Because of its early maturity, it fits well in multiple cropping systems. It yields 11.3 q per ha. Its oil content is 41 per cent.

Seedbed preparation

A fine seedbed is required to ensure good germination. In rainfed areas, one or two ploughings each followed by planking are sufficient. Toria in particular requires a fairly moist seedbed for good germination, but too moist seedbed impairs its germination.

Zero tillage sowing

Rapeseed and mustard crops can also be successfully cultivated with zero till drill after the rice harvesting. This reduces cost of cultivation and helps in timely sowing of crop after basmati and cotton.

Time of sowing

The optimum time of sowing for toria is whole September.

Seed rate and method of sowing

When sown as sole crop, 3.8 kg seed per ha is sufficient for toria. In case the soil moisture is inadequate, the seed is mixed with moist soil and kept overnight before sowing. Seed mixed with soil increases the bulk and thus ensures uniform distribution in the field. The depth of sowing should be 4-5 cm. Toria is sown in 30 cm apart rows with a drill or a pona attached to a plough. Manually operated single-row oilseed drill can be used for sowing at the recommended seed rate and plant spacing. It ensures uniform placement of seeds at a uniform depth and row spacing is maintained with the help of markers provided in the machine. At 3 mm exposure length of fluted roller, desired seed rate of about 3.8 kg per ha can be achieved.

Toria+gobhi Sarson intercropping

To get higher oilseed production, toria and gobhi sarson (GSL 1) can be sown simultaneously in third week of September in alternate rows 22.5 cm apart or sowing toria by broadcast and gobhi sarson in lines 45 cm apart, using one kg seed per acre for each crop. While toria will be harvested around mid-December, gobhi sarson will continue in the field till end of March. Average yield of both the crops is 30 q per ha (10 q toria+20 q gobhi sarson).

Fertilizer application

To get good yield from toria, should apply 62.5 kg nitrogen (138 kg urea) and 20 kg phosphorus (125 kg single superphosphate) per ha.

To Toria+Gobhi sarson sown together in third week of September, drill 62.5 kg N (138 kg urea) and 30 kg P₂O₅ (187.5 kg single superphosphate) per acre at sowing. Apply 75 kg N (162 kg urea) with irrigation after harvesting toria.

Weed control

One hoeing to toria three weeks after sowing and one or two preferably with improved wheel hand hoe.

Irrigation

Toria should be sown after heavy rains and if need arises, one irrigation should be given at the time of flower initiation.

Harvesting and threshing

Harvest the crop when siliquae turn yellow. Toria mature in January. Owing to grain shattering in toria care should be taken to harvest it at the proper time. The harvested crop



should be stacked for 7-10 days before threshing. Spike tooth type thresher recommended for wheat can also be used for threshing of toria after proper modifications.

