

PRELIMINARY SCREENING OF TORIA (*BRASSICA CAMPESTRIS* L. VAR. *TORIA*) GERMPLASM AGAINST PHYLLODY DISEASE

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Two hundred fifty accessions of *Brassica campestris* L. var. *toria* were screened under natural field conditions. Only ten genotypes were affected with the disease and infestation ranged 2 to 10 per cent while remaining lines were free from infection.

Keywords : *Brassica campestris* L. (*Brassica rapa* L.) var. *toria*; Germplasm; Phyllody; Rapeseed-mustard.

Rapeseed-mustard group of crops play vital role in the oil seed economy of our country. These crops occupied an area of 6 million hectares producing 6 million tones rapeseed-mustard production annually. The phyllody disease has been reported to prevalent in India on toria [*Brassica campestris* L. (*Brassica rapa* L.) var. *toria*] and sarson [*Brassica campestris* L. (*Brassica rapa* L.) var. *yellow sarson*]^{1,2}. The disease resulted in transformation of floral parts into leafy structures; green sepaloid petals, indehiscent stamens and ovary without ovules, which resulted up to 90 per cent yield losses on individual plant basis³. An effort has been made to screen the available toria germplasm in the Centre.

Two hundred fifty genotypes of *Brassica campestris* var. *toria* (NRCT 1 to NRCT 250) were grown in augmented design at National Research Centre on Rapeseed-Mustard, Sewar, Bharatpur. Each accession was sown in two rows of 3m length with spacing of 10-15 cm and 30 cm plant-to-plant and row-to-row respectively. Recommended doses of fertilizer and agronomic practices were followed as and when needed. Phyllody affected plants were recorded on the appearance of the disease and healthy plants of each of the culture were also counted for calculating the percentage of infestation.

Out of 250 genotypes only 11 were affected with the disease and the infestation ranged between 2 to 10 per cent (Table 1). The affected genotypes were NRCT 41, 42, 43, 76, 85, 107, 201, 203, 204, 238 and 240 and the

per cent of infection was 4, 4, 6, 9, 4, 3, 10, 2, 2; 3 and 2 respectively. Remaining genotypes were free from the phyllody disease, which could be used as a donor for developing tolerant / resistant varieties or direct use in cultivation if they possess good yield potential. Singh⁴ reported some of the promising accessions of toria for Biological yield / plant (>40g) NRCT 23, NRCT 74, NRCT 109, NRCT 111, NRCT 120 and NRCT 127 and for harvest index (>40%) NRCT 29, NRCT 100, NRCT 141 and NRCT 235 based on their economic performance and these promising lines were also free from the phyllody disease.

References

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Table 1. Field evaluation of toria (*Brassica campestris* L. var. *toria*) germplasm against phyllody disease.

Percentage of phyllody infection	Number of genotype	Name of accession
No infection	239	NRCT 1 to 40, NRCT 44 to 75, NRCT 77 to 84, NRCT 86 to 106, NRCT 108 to 200, NRCT 202, NRCT 205 to 237, NRCT 239 and NRCT 241 to 250.
Up to 2	03	NRCT 203, 204, and 240
3-6	05	NRCT 41, 42, 43, 85, 107 and 238
7-10	02	NRCT 76 and 201
Total	250	