

Assessment of genetic variability and magnitude of correlation co-efficient among different traits in isabgol (*Plantago ovata* L. Forsk)

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SUMMARY

The present investigation was carried out using 26 diverse genotypes including 3 checks. The genotypes were planted in Randomized Block Design with three replications during *Rabi*, 2010-2011 at Research Farm, Department of Plant Breeding and Genetics, Rajasthan College of Agriculture, MPUAT, Udaipur. The observations were recorded on ten randomly selected plants and estimation of different variability parameters and magnitude of correlation co-efficient among different traits in Isabgol (*Plantago ovata* L. Forsk). Analysis of variance revealed significant differences among the genotypes for all the characters suggesting sufficient amount of variability in the experimental material under study. High GCV coupled with high heritability and expected genetic gain of a character provides good selection advantage. There is a substantial scope for improvement of number of florets per plant, total soluble sugar, number of effective tillers per plant and seed yield per plant. Selection for these characters would be effective in selection of suitable genotype for Isabgol improvement. Association study indicated that seed yield per plant was positively and significantly correlated at both genotypic and phenotypic level with number of tillers per plant and 1000 seed weight, whereas swelling factor showed positive significant correlation with seed yield per plant only at genotypic level. These associations indicated that improvement in seed yield can be achieved by improving the characters for further breeding programme.

Key Words : Isabgol, Variability, Character association, Seed yield

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Isabgol [*Plantago ovata* L. Forsk.] is one of the most important medicinal plants valued for its thin white husk prescribed for certain ailment in the Unani and Ayurvedic medicine. The husk or mucilaginous seed coat has the property of absorbing and retaining water and as such, it has numerous pharmaceutical uses principally as swelling dietary and potentially for lowering blood cholesterol level. It is an anti-

diarrhoea drug and beneficial in chronic dysenteries of amoebic and bacillary origin. It is also known as “blond psyllium” belonging to the family *plantaginaceae* and genus *Plantago* which comprises about 200 species. Out of these 10 are found in India including 3 important species *viz.*, *ovata*, *psyllium* and *indica*. It has $2n=8$ chromosome number. Isabgol is an annual herb which is nearly stemless, softly hairy plant having tillers which spread nearly the ground surface. Its height is 25 to 40 cm and number of tillers varies from 3 to 10 depending on fertility of the soil. The flowers are bisexual, tetramerous, animophilous and protogynous in nature and such favouring out crossing (Husain *et al.*, 1984). India holds a monopoly in production and export of Isabgol to the world market. Isabgol is the major foreign exchange earner worth INR 2.5 billion (Dhar *et al.*, 2005). In Rajasthan, it is largely grown in Jodhpur, Pali, Jalore, Jaisalmer, Barmer, Nagaur, Sirohi

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