



Assessment of Strength of Self-incompatibility in S-allele Lines of Cabbage (*Brassica oleracea* var. *capitata* L.)

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Abstract: The present investigation deals with assessing the strength of self-incompatibility in the seeds of S-allele lines (I-4-6 and II-12-4-7) produced through temporary breakdown of self-incompatibility (SI) with the use of sodium chloride (NaCl) solution. The S-allele lines were raised from the seeds produced after NaCl solution sprays followed by manual pollination of freshly opened flowers during 2009-10. The pollinations viz. BP (selfing in bud stage) and OP (selfing in freshly opened flowers) were carried out manually in the test plants enclosed with insect proof nylon nets for testing their strength of self-incompatibility (SI) during 2010-11. Seed-set was recorded in BP on all the test plants confirming the viability of male and female gametes. However, no seed-set was recorded in OP treatments in each of flowering regimes viz. 25-50 per cent, 50-75 per cent and more than 75 per cent flowering, on the plants of S-allele lines, raised from OP seed obtained with 3% and 5% NaCl solution sprays. The S-allele lines, I-4-6 and II-12-4-7 were proved stable for their strength of self-incompatibility, since no seed-set was recorded in any of the OP treatments whereas variable numbers of seeds were obtained in BP treatment. This implies that NaCl sprays lead to breakdown of self-incompatibility temporarily.

Key Words: Cabbage, NaCl, Self-incompatibility, Stability, Pollination
