

SELFING IN ALFALFA SEED PRODUCTION

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Selfing in alfalfa during seed production has implications on both commercial and experimental populations. Without emasculation, cross pollination results in an unknown mixture of self and cross seeds unless the seed parent is male sterile or self-sterile thereby controlling pollination. Self and crossed seed have been reported within the same pod (1, 10). Some cross-pollination studies (5, 9) have used white, cream or yellow flower color as markers. All clones or lines had had varying degrees of self-fertility, and thus may have influenced seed composition. Bee species fixation, pollen or nectar attractiveness, self-fertility and flower color preferences may have flawed the random pollination assumption. Recent studies using normal flower colors (2, 8) found approximately 25% selfing under more normal seed production conditions. Selfing and resulting selfed seed in cultivars and experimental populations can have a big effect on research results. Variable estimates of inbreeding depression (3) may be due to the fact that most starting materials were not all So plants. Certain studies indicate that selective establishment pressure on mixed plant populations minimizes the survival of S1 plants in competition with hybrid progeny (6, 11) and leads to stable performance of cultivars (4, 7).

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