

SELF-STERILITY IN *VINCA ROSEA*

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The flower structure of *Vinca rosea* is such that self-pollination and self-fertilization would seem to be the usual procedure, since the corolla of the flower is tubular and the stamens are adnate. At maturity the stigma grows up among the stamens. A series of hybridization experiments carried on during the summer of 1942, however, proved that the flowers are self-sterile and cross-fertilization is the rule. Frames of laths covered with cheesecloth were placed over red, white, and "red-eyed" forms of both diploid and tetraploid varieties. Although the plants bloomed throughout the entire period of two months under the frames, no fruits were set. In order to eliminate the possibility that the operation of a light factor caused the failure to set fruit, 12 flower buds were tied shut on plants of the various forms, and all of these flowers failed to set fruit. Hybridization experiments between the red, white, and "red-eyed" forms of the diploid and tetraploid varieties have not been successful to date.

Self-sterility and cross-fertilization have been reported among numerous horticultural species. Self-sterility seems to be a Mendelian recessive, as reported for most of the self-sterile species (Jones 1927, Lehmann 1927, Myers 1927, Pieters 1927, Shull 1927, Sirks 1927). The pollen tubes developing from the pollen derived from the flowers on the same plant seem to grow too slowly to reach the egg before it dies, whereas pollen from another plant develops rapidly enough to achieve fertilization before the egg deteriorates, according to East (1919). The specific factor operating in the self-sterility of *Vinca rosea* is yet to be determined.

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