ful fertilization percentage obtained.\textsuperscript{8} It became apparent, after careful observation, that many bee species were associated with peanut flowering. In 1962 an extensive collection of bees visiting flowers resulted in a list of 18 identified species of potential bee pollinators.\textsuperscript{4}

The purpose of the present investigation was to determine whether out-crossing occurred when screen wire barrier cages were used to exclude some potential insect pollinators from flowering plants. This study was part of a broader one to investigate the implications of natural crossing in the maintenance of genetic purity in seed increase generations.

In 1963 a field was planted to 2 peanut varieties. 'Krinkle' and 'Pearl' were sown alternately in single-variety hills of 2 plants, each at intervals of 18 inches in and across rows to facilitate random cross-pollination to be detected by the seedling-marker method of Hammons.\textsuperscript{5} Eight aluminum screen wire cages, 52 \( \times \) 22 \( \times \) 22 inches, were placed across rows to enclose plots of 6 hills, 3 each of both varieties. The cages were placed in position before flowers appeared. They excluded bees and prevented visitations to flowers by some insects.

Paired with each caged plant set, and adjacent to it across rows, was a like-sized uncaged plot. The plants were exposed to normal random visitations by free-flying insects from natural populations in the area.

Peanuts were harvested from each plant-hill in each plot and seeds from the Pearl variety planted in soil in greenhouse benches. Hybrids were detected by the seedling-marker method of Hammons. A concurrent check of crossing frequency for the season and at the test location was carried out in an adjacent field area with Krinkle and Pearl, planted as in the test field. Only two plots were staked off. Statistical analyses of the differences between the percentages of hybrids resulting in the caged and uncaged plots were carried out, after arcsin transformation of data, via the method of paired comparisons.

A total of 398 seedlings were obtained from seed taken in caged plots and 1115 seedlings from uncaged plots. No hybrids were recorded from caged-plot seed; 6 hybrids developed from the uncaged plot seed giving a natural crossing frequency of 0.538\%. A "t" test of the mean difference between the 2 lots was significant at the 5\% level of probability.

Seed from the independent check plot, planted in the greenhouse, produced 6 hybrids among 877 seedlings from uncaged plots. No hybrids were recorded from caged-plot seed; 6 hybrids developed from the uncaged plot seed giving a natural crossing frequency of 0.538\%. A "t" test of the mean difference between the 2 lots was significant at the 5\% level of probability.

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