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## RESEARCH NOTE

# Development of Random-mated Populations Using Bulked Pollen Methodology: Cotton as a Model

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Random mating has been used successfully to break linkages in cross-pollinated crops. In self-pollinated crops, however, the requirements for cross-pollination can markedly influence the feasibility of random mating. The objective of this study was to evaluate Miravalle's bulked-pollen method for its ability to simulate random mating in cotton (*Gossypium hirsutum* L.). Pollen from a selection from Auburn G1-213 glandless ( $gl_2gl_2$ ,  $gl_3gl_3$ ) and 'TM-1' glanded ( $GL_2GL_2$ ,  $GL_3GL_3$ ) cottons were mixed at five different proportions of blooms (1:13, 1:26, 1:39, 1:52, and 1:65) from the two genotypes to serve as a model for Miravalle's bulked-pollen method in upland cotton. Observed progeny genotypic ratios were nearly as expected except for the 1:26 treatment, which had an excess of glandless progeny. Crosses containing 'Stoneville 825' nectariless ( $ne_1ne_1$ ,  $ne_2ne_2$ ) developed with this methodology were also assayed for the nectariless trait, and the trait segregated as expected. Combining the glanded data resulted in the expected segregation. Cotton pollen mixed well and the final boll set was excellent. The results of this study indicate that the bulked-pollen methodology can be used to develop a random-mated population.