DETASSELING no longer is necessary in the production of hybrid corn seed for crosses involving female parents into which has been incorporated cytoplasmic male sterility. The most commonly used male-sterile cytoplasm is the Texas (T) type. Pollen production in the hybrid progeny is insured by using a male parent that carries restorer genes capable of restoring pollen fertility in the presence of this male-sterile cytoplasm. Since most Corn Belt inbred lines do not have the restorer genes, it has been necessary to incorporate them from other lines by backcrossing.

Only limited information is available on the effects that male-sterile cytoplasm and pollen fertility restoring genes may have on hybrid performance when both are present. Results reported by Stringfield (6) generally showed that, given an adapted genetic background and T-type cytoplasm, plants possessing the Rf allele usually were more productive than plants with the rf allele. Based on reports that sterile plants are equal to, or more productive than, normal fertile plants, he concluded that restored sterile plants were superior in performance to normal fertile plants. Everett (3) showed a nonsignificant yield reduction of 6.3% for NE 310, a restored sterile 3-way cross, in comparison with NE 310 in normal cytoplasm. The number of replications was not indicated. Josephson and Kincer (4) found no significant difference in grain yield for 9 comparisons of restored sterile hybrids with their normal counterparts. The tests had five replications.