

1. Yields of cytoplasmically pollen sterile hybrids, compared to their normal counterparts.

Normal and sterile forms of four double crosses and two single crosses (the sterile hybrids were made with T cytoplasm) were grown in 3 locations (Iowa, Illinois, and Ohio) at rates of 7, 10, 13, 16, 19 and 22 thousand plants per acre in 1955. The average yield of the normal hybrids was 101.97 bushels per acre. That of the sterile hybrids was 102.01 bushels per acre. The difference was not significant. However, analysis of variance indicated that the following interactions were highly significant: (1) cytoplasm x hybrids; (2) cytoplasm x locations; and (3) cytoplasm x rates of planting. Normal and sterile forms of one hybrid in which S cytoplasm was used for the sterile form also were entered in this test. Analysis of variance showed a highly significant difference between cytoplasm in favor of the sterile, and a highly significant interaction between cytoplasm and locations.

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