

1. Male fertile 33-16 inbred.

It was shown by Josephson and Jenkins (Jour. Agron. 40:267-274, 1948) that poor seed set in certain white hybrids was due to a cytoplasmic contribution for sterility in 33-16, an old inbred line developed in Indiana and still in extensive use. At that time it was suggested that it should be possible, through backcrossing, to develop a strain of 33-16 that does not carry the cytoplasmic contribution to male sterility.

Eight backcrosses have now been made following the initial crosses to K64 and CI. 43 as female parents. The recoveries are identical in all respects to original 33-16, except that the line recovered through CI. 43 is slightly later in flowering in certain crosses. Test crosses have shown that the male sterile cytoplasm has been completely eliminated and that the combining ability of the recovered lines is identical with that of original 33-16. The recoveries, however, do not possess the restoring factor(s) when crossed with TX 61M ms or 33-16, KY27 ms.

Seed of recovered fertile 33-16 can be obtained from the Kentucky Agricultural Experiment Station or the College of Agriculture, Potchefstroom, Union of South Africa.