PlANT breeders interested in hybrid sorghum seed production recently have initiated intensive improvement programs in which two or three generations of breeding stocks may be grown each year. Consequently, seed may be harvested as early as feasible, dried immediately and planted within a few weeks after harvest.

During routine testing of such seed stocks, samples of freshly harvested and dried seed have been found which failed to germinate satisfactorily unless given special treatment. The seed was completely viable but was in a state of temporary dormancy. This dormancy was a problem only in seed planted immediately after harvest. The degree of dormancy varied among strains grown in the same area and harvested on the same date.

Discussion with sorghum breeders and seed analysts revealed that dormancy had been observed occasionally, but very little was known about the condition. Limited data indicated that seed harvested slightly immature and dried rapidly exhibited more dormancy than seed harvested in a more mature stage and dried slowly. Robbins and Porter (1) reported that immature seed are dormant and that a variety called Grohoma exhibited more dormancy than any of nine varieties tested.

General procedure for breaking dormancy has been to store seed several months before testing or if an immediate test was desired to store seed at a low temperature and then test. Seed testing instructions in the Agricultural Handbook (2) for testing dormant sorghum seed suggest pre-chilling at 5 to 10° C. for 5 days; slow drying; or, testing certain sorghums at 20 to 30° C.

Pre-chilling at low temperatures, scarifying with H\textsubscript{2}SO\textsubscript{4}, soaking in dilute solutions of KNO\textsubscript{3}, and various combinations of soaking, and drying treatments were attempted for breaking dormancy but results were unsatisfactory at this laboratory. Robbins and Porter (1) used the pre-chilling method of Whitcomb (4) but reported that the method was not completely successful. Two methods found by the writer to be effective for breaking dormancy were mechanical scarification, or a hot water treatment of short duration.

Published July, 1957

Notes

GERMINATION OF DORMANT SORGHUM SEED

PlANT breeders interested in hybrid sorghum seed production recently have initiated intensive improvement programs in which two or three generations of breeding stocks may be grown each year. Consequently, seed may be harvested as early as feasible, dried immediately and planted within a few weeks after harvest.

During routine testing of such seed stocks, samples of freshly harvested and dried seed have been found which failed to germinate satisfactorily unless given special treatment. The seed was completely viable but was in a state of temporary dormancy. This dormancy was a problem only in seed planted immediately after harvest. The degree of dormancy varied among strains grown in the same area and harvested on the same date.

Discussion with sorghum breeders and seed analysts revealed that dormancy had been observed occasionally, but very little was known about the condition. Limited data indicated that seed harvested slightly immature and dried rapidly exhibited more dormancy than seed harvested in a more mature stage and dried slowly. Robbins and Porter (1) reported that immature seed are dormant and that a variety called Grohoma exhibited more dormancy than any of nine varieties tested.

General procedure for breaking dormancy has been to store seed several months before an immediate test was desired to store seed at a low temperature and then test. Seed testing instructions in the Agricultural Handbook (2) for testing dormant sorghum seed suggest pre-chilling at 5 to 10° C. for 5 days; slow drying; or, testing certain sorghums at 20 to 30° C.

Pre-chilling at low temperatures, scarifying with H\textsubscript{2}SO\textsubscript{4}, soaking in dilute solutions of KNO\textsubscript{3}, and various combinations of soaking, and drying treatments were attempted for breaking dormancy but results were unsatisfactory at this laboratory. Robbins and Porter (1) used the pre-chilling method of Whitcomb (4) but reported that the method was not completely successful. Two methods found by the writer to be effective for breaking dormancy were mechanical scarification, or a hot water treatment of short duration.