NOTE

LONGEVITY AND VIABILITY OF KAFIR SEED

In breeding work with crops it is frequently desirable to resort to remnant seed, which may often be several years old, for the purpose of comparison with newly developed strains. Likewise, in genetic studies paternal material is usually preserved and often utilized in answering questions that may arise as the investigations proceed along major lines, or such remnant seed may furnish material for the study of minor phases of inheritance incidental to the main problem. In such instances, and also when used for general planting seed, it is of interest and importance to know how long stored seed of the major field crops may be expected to retain their viability under ordinary conditions of storage.

In inbreeding work with Standard Blackhul kafir at the Texas Experiment Station during the past 10 years it was found desirable to preserve remnant seed of different strains from year to year. Incidental to tracing back the origin of certain chlorophyll deficiencies in these inbred lines, the writer had occasion to use some of this old seed which had been grown in 1917. Since that time the seed had been stored in seed envelopes in the laboratory at Lubbock, which is located in a region of comparatively low humidity and rainfall.

In 1924, when first tested for germination, this seed, then seven years old, proved to have a viability of 88%. Tested again in 1926 and 1927 it germinated 79.5 and 65%, respectively. The latter figure includes 2% of seeds which germinated but produced very weak sprouts.

Assuming an original viability of approximately 100% for the seed in 1917, the first seven years in storage resulted in a loss of only 12% in germinability, while the last three years of the 10-year period reduced the viability 23%. These results indicate that kafir seed, and probably that of other similar grain sorghums, stored under laboratory conditions, have a rather consistent germinating capacity up to seven years, after which they lose their viability quite rapidly, and judging by the rate of decline, are of little value after 10 years.

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