NOTE

GERMINATION OF SEED OF GOOSEGRASS, ELEUSINE INDICA

DURING the last several years we have carried on work on the germination requirements of various weed seeds. Although the work with goosegrass, *Eleusine indica* (L) Gaertn., involved approximately 140 tests of 100 seeds each with three samples collected in successive years, it is not considered that the problem is completed. Since probably it will be impossible for the authors to complete this work, a summary of the results obtained is given in the hope it may serve as a starting point for others.

Germination was negligible at 10°, 15°, and 20° C, constant temperature, and at 15° to 25° alternating temperature. When 0.2% solution of potassium nitrate was used to moisten the substratum, germination of fresh seed was 90% or above after 14 to 56 days in the germinator at the alternations 20° to 35°, 20° to 40°, or 25° to 40°. Germination at the alternating temperature 20° to 30° with light, was slower and with two of the three samples less complete. When tested with water, germination was poor at 20° to 30°. At the higher temperatures germination with water was slower than with potassium nitrate and often the final germination with water was lower (Table 1).

Seed tested approximately 2 months after collection showed the same response to temperature as when freshly harvested.

Total exclusion of light had little effect on germination when potassium nitrate was used but caused a reduction in germination when water was used to moisten the substratum.

Prechilling the seed at 3° C for 2 to 8 weeks was not beneficial.

Scarification with emery paper caused earlier germination but even after scarification (the pericarp is thin and papery so that it is the true seed coat that is affected) germination was benefited by potassium nitrate and high temperature.

In conclusion, 20° to 35° C or 25° to 40° C alternations seem to be the most favorable temperatures for germination. Potassium nitrate is beneficial and light is needed if potassium nitrate is not used. The time for complete germination at 20° to 35° C with potassium nitrate

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1For all alternating temperature conditions, the seed was kept for approximately 17 hours at the first temperature mentioned and for 7 hours at the second temperature.