POVERTY grass, *Danthonia spicata* (L.) Beauv., is a perennial with rather wide distribution on poor soils throughout the eastern United States. Because of the ability of this grass to grow on poor and eroded soil, it may have some value for erosion control work. Two samples collected in the Shenandoah National Forest by D. W. Levandowsky were submitted by M. M. Hoover of the Soil Conservation Service with the request that experiments be made to determine the germination requirements of this seed. No published information has been found on the germination requirements of *Danthonia spicata*.

The writer will not attempt to review the extensive literature on the occurrence of dormancy of seeds and methods for overcoming dormancy which has been reviewed by Crocker (2, 3), Toole (7), and others.

The greater part of the work on sulfuric acid treatment of seeds deals with cotton and legumes and will not be reviewed here. Burton (1) has recently published on the beneficial effect of treatment with sulfuric acid on several species of southern grasses and found that crude sulfuric acid of approximately 78% strength could be used successfully. Stoddart and Wilkinson (6) showed that the seed of *Oryzopsis hymenoides*, a western grass, is benefitted by treatment with concentrated sulfuric acid, the length of treatment giving best results depending on the size of the seed. Huntamer (4) found a 5-minute treatment with concentrated sulfuric acid beneficial for *O. hymenoides*.

**MATERIALS AND METHODS**

As stated above, two samples were used in these experiments. Samples No. 1 and No. 2 presumably of 1938 harvest were received on August 29 and December 22, 1938, respectively. Apparently both samples were from the same original bulk, the difference in results with the two samples being due to difference in storage conditions. Sample No. 1 was stored as a small sample in the laboratory during the 4 months that sample No. 2 remained in bulk storage.

The seed as received was cleaned by means of an air blast blower. Both samples contained approximately 77% of heavy caryopses. Only the heavy caryopses were used in this study. The seed was placed for germination in Petri dishes on paper toweling saturated with tap water or with a 0.2% solution of potassium nitrate. Tests were made in duplicate. The seed was germinated at both constant and alternating temperatures. The alternation of temperature was secured by transferring the test from one germination chamber to another, the test remaining

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2. Junior Botanist. Grateful acknowledgment is made to E. H. Toole for his suggestions and criticisms throughout these investigations, and to V. R. Boswell for his assistance with the statistical analysis.
3. Figures in parenthesis refer to "Literature Cited", p. 965.