FACTORS AFFECTING THE GERMINATION OF BULBLETS OF BULBOUS BLUEGRASS, _POA BULBOSA_  

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In 1933, Mrs. Grace Cole Fleischman, formerly of the Cooperative Seed Testing Laboratory, Corvallis, Oregon, requested that a study be made of the factors affecting the germination of bulblets of bulbous bluegrass, _Poa bulbosa_ L. _Poa bulbosa_ is a commercial crop in southern Oregon and northern California. Schoth and Vinall describe the plant, its distribution, its uses and value, and its method of forming bulblets, sometimes referred to as bulbils, instead of true seed in the panicle. The plant ceases growth around May 1 to 15 when the bulblets formed in the panicle are mature. The crop is cut for “seed” when approximately 75 to 85% mature to prevent considerable loss by shattering.

**MATERIAL AND METHODS**

The bulblets for study were furnished by Mrs. Fleischman. The samples were stored after receipt in cloth or paper bags in the laboratory at room temperature unless otherwise indicated.

The bulblets were germinated in duplicate tests of 100 bulblets each at various constant and one alternating temperature in Petri dishes on moistened paper toweling or on soil. The paper toweling was moistened with tap water or with a 0.2% solution of potassium nitrate. The temperature of the 3°, 10°, and 20° C chambers were controlled within 1° of that listed. The temperature of the 5° chamber varied between 2° and 5°.

To prechill the bulblets, they were placed on the moistened substratum in Petri dishes and held at 5° C for 7 to 14 days before transferring to 10° or 20° constant temperatures. The time of counting is computed from the day the seed was placed to prechill.

The germination values summarized in Table I and in the figures are based on duplicate tests of 100 bulblets each. In Figs. 1 to 4 an average germination of several samples is given for simplification since the results of the individual samples were comparable.

**RESULTS**

**GERMINATION OF FRESH BULBLETS**

Bulblets from the 1935 crop at Medford, Oregon, were received June 24, 1935, and tested two days later at 5°, 10°, and 20° C on substrata moistened with water or with potassium nitrate.

The germination data at 5° and at 10° C show that temperature was the most important factor influencing germination, although potassium nitrate increased germination at either temperature. The

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