COMPARISON OF CHAMBER AND FIELD GERMINATION TESTS OF SOYBEANS

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There seems to be an opinion current among soybean growers that soybean seed germinates better in the field than the chamber test would seem to warrant. In other words, field germination appears to be higher than the chamber test. This paper will report a series of tests on the germinability of soybean seeds when germinated in the chamber and under field conditions, respectively.

In chamber and soil tests made in the greenhouse with crimson clover, Goss reports an 8% increase in germination in favor of the chamber tests where 164 samples were taken. Whitcomb made comparative tests with five different crop seeds, viz., wheat, oats, flax, corn, and peas, and reports that the chamber tests averaged 16.5% higher than corresponding field tests.

In further tests with wheat, oats, barley, flax, rye, red clover, alfalfa, sweet clover, and corn, Whitcomb reports an average of 24% higher germination in chamber than in field tests.

From these tests Whitcomb draws the conclusion that chamber or laboratory germination tests may be expected to be higher than field tests and lays down the general principle that the difference in favor of chamber tests will vary inversely with the size of the seed. In other words, the differential, if any, in favor of the chamber tests as applied to different crop species increases as the size of the seed decreases.

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