FIELD GERMINATION OF ALFALFA SEED SUBMITTED FOR REGISTRATION IN COLORADO AND VARYING IN HARD SEED CONTENT

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HARD or impermeable seeds which commonly occur in alfalfa are those that do not absorb water (swell) and germinate under laboratory conditions standard for determining germination of alfalfa seed. These seeds, for the most part, are alive and when planted in the field may produce healthy seedlings, but there are differences of opinion as to their agricultural value for planting. Since alfalfa seed offered for sale often contains high percentages of hard seeds, it is desirable to know the comparative planting value of seed containing high and low percentages of hard seeds.

The results of a study conducted under irrigation on the Agronomy Farm of the Colorado Experiment Station at Fort Collins, Colorado, to determine the agricultural value of alfalfa seed varying from 1 to 62% of hard seeds are presented in this paper.

LITERATURE

Harrington (1) states, "A large proportion of impermeable alfalfa... seeds will germinate in the soil during the first few months after planting, some of them early enough to be of importance to the crop," and recommends, "To the percentage of germination add two-thirds of the percentage of impermeable seeds... More than two-thirds of the impermeable seeds may germinate, but not soon enough to compete with weeds."

Leggatt (2) concluded that hard seed of alfalfa had practically the same value from the point of view of number of plants produced as had the permeable, although the permeable seeds gave more prompt germination. Lute (4) found that "Impermeable seeds have a considerable agricultural value when there is a very high impermeable seed content," "They do not increase the number of plants when only a few are present," and "They germinate more slowly than other seeds."

Whitcomb (6) says, "These results with alfalfa would seem to indicate that the hard seeds are of practically the same value as plant producers in the field as the ordinary seeds." He confirms this viewpoint in later papers (7, 8, 9). This investigator (10) later states, "Half the hard seeds may be safely added to the laboratory germination of alfalfa... for the purpose of interpretation of the field value of these seeds."

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3Figures in parenthesis refer to "Literature Cited", p. 949.