

Range Grass Subcommittee

Laboratory tests to compare three methods for determining the viability of western wheatgrass seed were made by six laboratories.

Three methods used were:

1. Germination as prescribed in the AOSA Rules plus tetrazolium (TZ) testing of remaining dormant ungerminated seed at the end of 28 days.
2. Tetrazolium test using the procedure outlined in AOSA Tetrazolium Handbook.
3. Clipping apex end of caryopsis (cutting test). A sharp razor blade was used to cut through the palea, lemma and a small portion of the endosperm material at the apex of the caryopsis. Then the seed was treated with a fungicide (Spergon) and germinated according to the AOSA Rules.

It is evident from the results that the definition of dormant seed needs to be emphasized. Dormant seed is defined in the AOSA Rules as "Viable seeds, other than hard seeds, which fail to germinate when provided the specified germination conditions for the kind of seed in question. Viability of ungerminated seeds may be determined by any appropriate method or combination of methods, such as; cutting test, tetrazolium test, scarification, and application of germination-promoting chemicals."

The following observations were made after summarizing the results:

1. There may have been closer correlations between methods if all laboratories had completed Method 1 according to instructions furnished them. The results of two laboratories had to be eliminated for lots 3, 4, and 5 because the tetrazolium test was not made on ungerminated seeds at the end of the 28 day test period. Also, the determination of dead seed prior to making the tetrazolium test caused a variation between laboratories.

2. After comparing the averages for each lot, it appears that Methods 2 and 3 are superior to the AOSA germination procedure.

3. Lots 3 and 4 caused the greatest problem when interpreting the germination tests. This was probably due to the extreme seedborne mold that was present on the seedlings.

4. Sum of germination and dormant seed percentages may be an accurate estimate (viability).

5. Methods 1 and 3 show considerable promise and tests among laboratories should be continued using them.

P. J. Hall, CHAIRMAN

RULES COMMITTEE

The following actions were taken by the Rules Committee during the past year and at the Rules Committee meeting of June 14, 1971.

1. The Rules Committee has agreed on the following interpretation regarding damaged soybean (*Glycine max*) seed:

INTERPRETATION:

"Soybean seed composed of loose or damaged seed coats containing

either an intact embryo or two "splits" shall be considered pure seed as long as the component parts are held together as a unit within the seed coat. Soybean seed composed of a damaged seed coat enclosing only one cotyledon (split) shall be considered inert matter."

This interpretation supersedes the one found in the *Newsletter* 42(3):71.

2. The members of the Rules Committee as well as other interested parties were canvassed about the deletion of the term "Firm" from the *AOSA Rules for Testing Seeds*. The unanimous opinion was that the 1970 AOSA convention took proper action in deleting this term.

3. Dr. Leroy Everson prepared a set of instructions for blower calibration and purity analysis of orchardgrass (*Dactylis glomerata*). These instructions have been approved by the Rules Committee as published in the March 1971 issue of the *Newsletter* 45(2):15-18.

4. The Uniform Blowing Method for Canada bluegrass (*Poa compressa*) and rough bluegrass (*Poa trivialis*) were accepted by the AOSA members at the Association's 61st Annual Meeting at Raleigh, North Carolina. The AOSA Executive Board has approved October 1, 1971 as the effective date for these new rules. Instructions are published in the March 1971 issue of the *Newsletter* 45(2):50.

5. In the Appendix of the *1970 Rules for Testing Seeds*, section 2-a of the seedling descriptions indicates that lettuce "seedling interpretations are to be made without the use of special magnification." The Rules Committee decided that for the purpose of examining lettuce seedlings for physiological necrosis, magnification up to and including 7X is not considered special magnification.

6. It has been reported that some laboratories are reporting swollen seeds of crownvetch as hard seed. In 4.9-d, second paragraph, the Rules provide: "If at the end of the germination period provided for legumes, cotton, okra and catnip, there are still present swollen seeds, or seeds which have just started to germinate, all seeds or seedlings except the above stated shall be removed and the test continued for 5 additional days. Any additional normal seedlings shall be included in determining the percentage germination." At this point, any remaining swollen seed would have to be determined to be either dormant or dead in accordance with 4.2-f of the Rules.

7. The question has been raised as to whether dormant seeds should be included among the items to be reported under section 4.7-a. It is the opinion of the Rules Committee that this is implied and seeds which are determined to be dormant at the end of the prescribed test period shall be reported as dormant seeds.

A. L. Larsen, CHAIRMAN

HARD SEED COMMITTEE

Committee members searched literature dealing with evaluation of hard seed. A small survey was also made to determine present procedures among laboratories for reporting hard seed content and viability. Several comments and recommendations were received.