

REPORT OF THE SPECIAL COMMITTEE ON STANDARDIZED TESTS

On July 27, 1945, the Committee on Standardized Tests met at Lansing, Michigan, and held discussions for three days. Those in attendance were Wright, Steinbauer, Justice, Davidson, LaPine, and Porter. Observations of seedlings in towels, blotters and sand were made and compared with photographs of similar seedlings made by the United States Department of Agriculture. Root development of seedlings in quartz sand, builder's sand, and soil was studied. The "Rules for Testing Seeds" were reviewed to determine if any clarification could be made with reference to the following; (1) insect infested seed of alfalfa, red clover, field peas and hairy vetch; (2) dallis grass seed infected with the ergot fungus, and (3) rye grass seed infected with the blind-seed disease fungus. The need for standardization of specifications for towels, blotters, builder's sand, filter paper and filters for ultra violet light used in making fluorescence tests of rye grass seedlings received careful consideration. A review of the discussions and recommendations follows:

1. The Beltsville laboratory has compared the root development of sudan grass, sorghum, bluegrass, and onion seedlings in quartz sand, builder's sand, and soil with the result that quartz sand appeared inferior to the other two media. Other members of the committee had not observed this condition, hence it was decided that further study should be undertaken.

2. The use of towels in upright position as described by M. T. Munn in Vol. 17, No. 2, pg. 29 issue of the "News Letter" for the germination of seed was discussed. The Beltsville laboratory reported favorably on this method. The committee recommended that for the next year each member assume the responsibility for studying the germination of one or more kinds of seed in sand, upright towels, and horizontal towels. Assignments will be made by the committee chairman

to include corn, peas, cow peas, field peas, beans, soybeans, horse beans, velvet beans, peanuts, lupines, etc.

3. The committee members were unanimous in their opinion that standard specifications should be provided for seed testing equipment and materials insofar as possible. It was recommended that Mr. Davidson (a) assemble and send to each member of the committee all specifications for blotters, towels, filter paper, builder's sand, and filters for ultra violet light that he could obtain for review by each member and (b) confer with the Bureau of Standards in Washington, D. C. to determine if the Bureau could assist in preparing specifications for such materials and also provide a service for testing them. The committee believes that if the above proposal can be put into operation it will enable all seed laboratories to purchase materials of the same grade and standard which are considered essential to uniformity in seed testing.

4. Consideration and discussion of the problem of classifying particles in lots of seed infested with insects and in lots infected with ergot and other fungi resulted in the following conclusions: (a) The committee recommends that further study by the research committee be made with air pressure as a possible means of separating insect infested from non-infested seed in a uniform manner. (b) The committee is of the opinion that, according to the present rules, caryopses of rye grass infected with the blind-seed disease fungus should be classed as pure seed regardless of the degree of infection. It is recommended that the research committee study the disposition that could be made of such infected seeds.

5. The committee approved as a standard for the interpretation of normal and abnormal sprouts, the following photographs prepared by the United States Department of Agriculture:

Field peas - Greenhouse - abnormal; Greenhouse - normal; soil - abnormal;
towels - abnormal; soil - normal.

Hairy vetch - Sand - normal (2456); towel - normal (2457); towel - abnormal
(2452); Greenhouse - normal (2454); Greenhouse - abnormal (2453).

Lima beans - Sand - normal (2380); sand - abnormal (2401); sand - abnormal
(2400) -- all sprouts except fourth from right which is to
be blocked out of the negative.

Tomato - (2513); spinach (2509); chicory (2504); Sericea lespedeza (2494);
Cretalaria (2496), and (2497).

Blue lupine - Sand - normal; sand - abnormal; soil - normal; soil - abnormal;
Rolled towel - normal; Rolled towel - abnormal; photographs
showing 'baldhead' seedlings to be considered as 'abnormal'.

Submitted by, W. A. Davidson, O. L. Justice, L. J. LaPine, G. P. Steinbauer,
W. H. Wright, and R. H. Porter, chairman.