

II. Do you think the designation of special pure seed units for each species is essential if a pure seed percentage is to be given? Yes, 3; No, 10.

III. a. Do you think special rulings should be made for the classification of incidental seeds occurring in range grasses as weed seed or crop seed? Yes, 9; No, 4. b. What should be the status of range grass seeds in other crops? Weed, 3; Crop, 3; Crop with exceptions, 2; undecided, 4.

A number of suggestions for methods of germination were made, and we recommend that the list be published in the News Letter before the committee's bibliography is revised.

The following points might be brought to your attention: (1) The general method for evaluating the seed of range grasses is decidedly an open question, but analysts are for the most part opposed to a method which names considerable inert matter as a part of the pure seed unit; (2) the problem of classification of incidental seeds becomes particularly difficult where native grasses are concerned; and (3) the methods now recommended for the germination of common range grasses are being revised in various laboratories. In connection with germination, the increasing use of 15°C temperature should be noted. The success of the sharply alternating 10-30°C for crested wheatgrass in a Canadian laboratory brings up the question as to whether source of seed may influence laboratory as well as field performance.

Encouragement of research and compilation of information were also aims of the subcommittee this year, but these it was unable to implement with appropriations of time. It is hoped that this report to all analysts will be of some aid in these directions. - Elizabeth McSwain, Chairman.

REPORT OF THE COMMITTEE ON RULES AND REGULATIONS

During the latter part of 1948 and the early months of 1949 the committee received suggestions for 75 to 100 changes and additions to the "Rules for Testing Seeds." Each of these suggestions was given careful study and consideration by the committee which approved the 64 items (with some modifications) that were distributed to the Association in mimeograph form under date of March 28, 1949. All proposed rule changes were brought before the Association for discussion at its 39th annual meeting, at which time each addition to and change from the mimeographed list of 64 items was discussed in full detail. The final report of the committee, including the above-mentioned modifications, was adopted by the Association as shown in the minutes. It does not appear necessary to print the report of the committee since all of the changes have been placed in the rules and the entire rules are published below. The final report of the committee showing the action taken by the Association is filed with the Secretary-Treasurer. The minutes of the Association show that these "Rules for Testing Seeds" shall become effective on July 1, 1950. - O. L. Justice, Chairman, Leatha B. Howard, Elva L. Norris, George A. Elliott, Jennie S. Jones,

<u>Found by test:</u>	<u>Tolerance</u>	<u>Found by test:</u>	<u>Tolerance</u>
96 or over	5	70 or over but less than 80	8
90 or over but less than 96	6	60 or over but less than 70	9
80 or over but less than 90	7	Less than 60	10

In Table 9 these tolerances have been added to germination values ranging from 50 per cent to 99 per cent for tests based on 400 or more seeds.

Table IX. - Tolerances for Germination Tests

Per cent found by test	The following are within tolerance	Per cent found by test	The following are within tolerance
99	100	74	82
98	100	73	81
97	100	72	80
96	100	71	79
95	100	70	78
94	100	69	78
93	99	68	77
92	98	67	76
91	97	66	75
90	96	65	74
89	96	64	73
88	95	63	72
87	94	62	71
86	93	61	70
85	92	60	69
84	91	59	69
83	90	58	68
82	89	57	67
81	88	56	66
80	87	55	65
79	87	54	64
78	86	53	63
77	85	52	62
76	84	51	61
75	83	50	60

When only 200 seeds of mixtures are tested 2 percent shall be added to the above germination tolerances.

REPORT OF THE SPECIAL COMMITTEE ON STANDARDIZED TESTS

1948 - 1949

The work of this committee during the past year has been concerned with the implementation of recommendations of this committee at the last meeting and completion of part of the study of the relative merits of germination media.

Among these recommendations were:-

- (1) To request M. T. Munn to prepare an illustrated description of the slanted towel method for the handbook. This request has been transmitted to him.
- (2) The preparation of a list of seeds to be considered as crop or weed. O. L. Justice undertook this and I would like to ask him to present his report on it.

Survey of Classifications of Weed Seeds

The committee chairman requested O. L. Justice to prepare a list showing the classification of certain kinds of plants with respect to crops and weeds in the various States and Canada. Accordingly, a list of approximately 100 species, which under certain circumstances may be classed as weeds and under other circumstances as crops, was circulated to the membership of the Association in September 1948 with the request that each laboratory indicate the classification of each kind listed. To date replies have been received from 43 States and from Canada. The classification among the States is so diverse

that it is not possible to tabulate the results in any meaningful manner. The results show quite clearly that no systematic or logical plan has been followed by the States in classifying these kinds since certain kinds are classed as weeds in one State and as crops in adjacent States. The information suggests that some group such as the Standardized Test Committee should prepare a list of plants showing their classification to submit to the Association as a working basis. It is believed that some kinds could be set out as weeds under all conditions and some other kinds could be designated as crops under all conditions. A third group might include those which would be classified as crops when submitted as pure samples and as weeds when found as incidental seeds. It is further believed that a standard classification would be of considerable importance to analysts and seedsmen and would be acceptable to the States.

(3) Compilation of previous reports of the standardized test committee for publication in available form. It was suggested this might be a contribution to the hand book. A compilation was prepared but it was not considered satisfactory for the purpose intended and it is being revised.

(4) The next point concerns one of the recommendations of this committee made at the last meeting. As a result of some correspondence in connection with the procedure for disposition of *Agrostis* in samples containing more than one species of *Agrostis*, it has been found that the example given has not exactly followed the procedure laid down, in that the naked caryopses are shown as having been separated from the whole one gram working sample. The example for the case where no field information is available should read as follows and this should be substituted for the example given:-

“Example:

Where no field information available			gms.	%
Total <i>Agrostis</i> , including naked caryopses			.9524	95.07
400 seeds with lemma and palea plus naked caryopses				
Naked caryopses (Report as unidentified)	117	22.63%)		21.52
Creeping Bent	173	33.46%)		31.81
Red Top	147	28.43%)		27.03
Brown Top	80	15.48%)		14.71
	517	100.00		
Inert Matter			.0433	4.32
Weed Seeds			.0061	.61
				100.00

(5) Finally, a report has been prepared on the study of germination media. This has been carefully studied by the members of this committee. It is far too long and detailed to give here and, in fact, it is not proposed to publish it. But a brief outline of the plan, scope and results of the investigation may be given.

Owing to the fact that the Seed Research Laboratory has been non-functional ever since these tests were started, the work has been all done by the Beltsville, New York State, and Albert Dickinson laboratories. The seed samples used were kindly supplied by L. J. LaPine and consisted of one higher- and one lower-germinating sample of each of sweet clover, radish, Sudan grass, millet and flax.

Each cooperating laboratory sent each of the others a supply of their blotters, sand and paper towels. Each laboratory was also supplied with four aluminium boxes of the type used in the Canadian seed laboratories.

The samples were to be tested on each medium, using otherwise the official methods. Blotter and towel tests were to be done, where possible, both with and without aluminium boxes. In addition to reporting the results of the germination tests, the media were to be scored according to a score chart with points assigned to each of the qualities considered desirable in the medium, the point score having been previously agreed upon by

the members of the committee. These results have been analysed statistically. The point scores were as follows:-

For Blotters and Towels:		
Shoot development		20 points
Root development		20 points
Freedom from root penetration		15 points
Freedom from breaks due to blotter or towel pressure		10 points
Moisture retention and control		15 points
Firmness and freedom from tearing		15 points
Colour		5 points
	Total	100 points
For Sand:		
Shoot development		25 points
Root development		10 points
Moisture retention		15 points
Ease of handling		15 points
Freedom from caking		15 points
Ease of counting		10 points
Cleanliness		5 points
Suitability for re-use		5 points
	Total	100 points

The results with blotters were probably more clear-cut than those with other media. While the germination percentages obtained with different blotters differed little, there was a wide range of appraisal of the blotters when evaluated on the basis of the point scores.

The Ottawa blotter was preferred on all points for most samples but the only factors of any consequence were freedom from root penetration, firmness and freedom from tearing and moisture control. In moisture control it was not quite as satisfactory for radish and Sudan grass as Albert Dickinson and Beltsville blotters.

In the case of the sands, however, germination results differed widely in many cases and it was evident that the experience of individual workers strongly influenced evaluation of the sand.

The following conclusions have resulted from this investigation:-

- (1) Aluminium boxes in conjunction with blotters may be used if procedure in any laboratory makes their use desirable. For example, in laboratories in which the work is interrupted by week-ends and holidays, it may be highly desirable to place the blotters in aluminium boxes to reduce drying.
- (2) Specifications for the Ottawa blotter should be recommended as the standard blotter for germination testing but with a somewhat lighter colour.
- (3) Specifications should be prepared based on the Ottawa sand as representing the desirable type but, as sands are hard to standardize without undue expense, a permissible range should be allowed to include types varying as much as, but not more than, the New York "builders' sand". In all cases sands should be washed and free of clay, silt, and soluble salts.

No recommendations are made with respect to towels because the kinds of seeds used in this investigation are not normally tested in towels and, also, only one laboratory made the complete series of tests in towels. However, it may be said that, except for millet, germination results with towels were distinctly higher than the corresponding averages of all blotter tests which suggests that the use of towels for smaller seeds might warrant investigation.

In concluding this report, I would like to express my appreciation of the tremendous amount of work done by the cooperating laboratories in carrying out all these tests. Not only did they make a large number of tests, but each test had to be considered carefully from the point of view of scoring the media both individually and in relation to one another.- C. W. Leggatt, Chairman, O. L. Justice, W. D. Hay, Geo. A. Elliott, W. A. Davidson, L. J. LaPine.