AOSA Referee Committee

Sharon Dobbins

Nearly all Regional Chairmen of the AOSA Referee Committee have sent referee projects to official and commercial laboratories in their regions.

Ellen Chirco, Chairman of Region III, reports that the identification project for this region consists of Rumex and Polygonum spp. If you are outside Region III and want to participate in this project, contact Ellen at: (315) 787-2242 or Seed Laboratory, NYSAES, Geneva, NY 14456.

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Rules Committee
Proposed Rule Changes

R. Danielson

The following changes and/or additions to the AOSA Rules have been reviewed by the Rules Committee and are being presented here in order that the membership can study them prior to voting at the annual meeting.

The name and address of the person submitting the change is shown in case you need more information about the proposed rule.

We have some very important changes this year, so please study them and be prepared to cast an intelligent, well-informed vote next June in Florida.

1. Deletion of existing formulas for determining percentages of annual and perennial ryegrass.

   This proposal would modify section 3.5 on page 28 of the rules by doing away with the formulas for determining annual and perennial ryegrass. A fluorescence test would still be conducted in the traditional manner, but rather than calculate annual and perennial ryegrass, only the fluorescence and non-fluorescence levels would be determined.

   The proposed rule and the reasons for the change were submitted by the AOSA Ryegrass Fluorescence Committee headed by Dr. Ben Clark, c/o New York State Agricultural Experiment Station, Sturtevart Hall, Geneva, New York 14456. Phone (315) 787-2242.

Proposed Rule

3.5 Fluorescence test of ryegrass. - A fluorescence test may be made on samples of seed represented to be perennial ryegrass (Lolium perenne), annual ryegrass (L. multiflorum) or mixtures of the two species. The seedlings shall be grown on filter paper and the number of normal fluorescent seedlings determined under ultraviolet light during the germination period with a final count made at the end of the prescribed germination period. The number of fluorescent normal seedlings and the total number of normal seedlings shall be determined[a]. These numbers shall be used to calculate the percentages of fluorescence and non-fluorescence as follows:

$$\frac{\text{Number of fluorescent normal seedlings}}{\text{Total number of normal seedlings}} \times 100 = \% \text{ fluorescence}$$

100 - % fluorescence = % nonfluorescence.

Example: 360 normal seedlings were produced in a 400 seed test, 8 of the normal seedlings were fluorescent. Substituting we have $\frac{8}{360} \times 100 = 2.22\%$ fluorescence

100 - 2.22 = 97.78% nonfluorescence

[a]For a description of method and apparatus for determining fluorescence in ryegrass, see article in AOSA Newsletter 37(3): 20-27. The formulae presented in the article should be disregarded.

Reasons for proposed change:

Research indicates that there is not a close genetic linkage between the fluorescence character and annual or perennial behavior in ryegrass. Also, it has been observed that populations of ryegrass may contain intermediate types which cannot definitely be classified as either annual or perennial.

The fluorescence test as presently conducted arbitrarily designates certain seeds as annual and certain others as perennial. The seeds so designated may or may not be annual or perennial in accordance with that designation. Therefore, the results of the present fluorescence test may be inaccurate and misleading when they are used to determine the percentages of annual and perennial seeds in a seed sample. Consequently, it seems desirable to discontinue the use of the fluorescence test for that purpose.

It appears that the fluorescence test can be used validly to detect off-types in cultivars of annual or perennial ryegrass which breed true for the fluorescence characteristic. At present, however, information about the fluorescence characteristics of ryegrass varieties is incomplete making it difficult to calculate with certainty the percentage of off-types in seed samples based on the percentage of fluorescent seedlings. Therefore, it seems desirable for seed analysts to determine the percentages of fluorescence and nonfluorescence and let others determine how they will use that information.

It is hoped that plant breeders, seed producers and seed control officials in cooperation with seed analysts will be able to describe ryegrass varieties in respect to their fluorescence characteristics so that the results of the proposed new procedure for conducting fluorescence tests can be used in calculating the percentage of other crop seeds (seeds of plants grown as crops other than the kind or cultivar included in pure seed) in ryegrass varieties.

When there is need for determining the percentages of annual and perennial ryegrass seeds in a sample, it can probably be done more accurately by growth chamber or electrophoresis tests or by other tests yet to be developed than by the fluorescence test.

2. Delete the requirement that normal cowpea seedlings must have cotyledons.

This proposal would delete cowpeas from section 7.c page 113 of the seedling description portion of the rules and add them to section 7.a on page 112.

The proposal below was submitted by Dwight Lambert, Seed Standardization Branch, USDA, AMS, LPG&S Division, Building 306, Room 213, BARC-E, Beltsville, Maryland 20705. Phone (301) 344-2089.

Proposed Rule

Delete: Vigna unguiculata subsp. unguiculata cowpea in section 7.c, page 113.

Add: Vigna unguiculata subsp. unguiculata cowpea to section 7.a, page 112.

3. Establishment of a uniform blowing method for blue grama (Bouteloua gracilis).

This proposal would delete reference to blue grama in section 2.7g(1) page 23 of the rules; add blue grama to section 2.7g(2) page 24 of the rules; and create the addition of a new section "g" under 2.11, page 26, of the rules.

If the uniform blowing method is not adopted into the rules at the 1981 meeting, the method of determining pure seed of blue grama will automatically revert to the method described in section 2.7g(1), page 23 of the rules.

The proposal below was submitted by the Rangegrass subcommittee, chaired by Kenneth Boatwright, Seed Laboratory, Texas Department of Agriculture, P. O. Box 629, Giddings, Texas 78942. Phone (713) 542-3691.

Proposed Rule

Under 2.11 Uniform Blowing Method (add) g. Uniform Blowing Method for blue grama (Bouteloua gracilis): The Uniform Blowing Method shall be used for the separation of pure seed and inert matter in samples of blue grama. The setting shall be determined for the individual blower by multiplying the Kentucky bluegrass calibration setting by 1.157. Before blowing, extraneous material that will interfere with the blowing process should be removed. The sample to be blown should be approximately divided into four (4) parts and each part blown separately. (The 1.157 factor is restricted to the General Seed Blower.)

Under 2.7g(1) (delete) ... multiple florets (double florets) of blue grama (Bouteloua gracilis); ...,

Under 2.7g(2) (add) ... Blue grama (Bouteloua gracilis).

Reasons for the Proposed Change

The modified method is the least variable technique for separating out the pure seed fraction for blue grama seeds. However, this method has met with disapproval because of the characteristics of the actual analytical values obtained, especially the substantial lowering of the pure live seed. The blowing method produces analytical results that simulate hand results more closely. The blowing method is generally less variable than the hand method but not to the extent that the modified method is lower. The three-fold saving of analytical time by the blowing or modified methods over the hand method would promote more timely return of blue grama analysis to the user. It appears that the blowing method would be a reasonable compromise between the high reproducibility and time savings achieved by the modified method and the analytical values produced by the hand method.

Detailed presentations of research comparing the hand, modified and blowing methods appear in the February (1980), May (1980) and February (1981) issues of the AOSA Newsletter.

4. The following nomenclature changes were submitted by Dr. Gunn, Chairman, AOSA Nomenclature Committee, USDA, Beltsville Agricultural Research Center, Beltsville, Maryland 20705. Phone (301) 344-2612.

These changes are in accordance with ISTA nomenclature.

Rule Page Number	Change
4	Agropyron intermedium (Host) Baumgarten ~~Beauvois~~ var. intermedium, intermediate wheatgrass.
4	Agropyron intermedium (Host) Baumgarten ~~Beauvois~~ var. trichophorum ~~trichorphorum~~ (Link) Halacsy, pubescent wheatgrass

5	Agrostis stolonifera L. / var. palustris (Hudson) Farwell, creeping bentgrass
6	Calamagrostis canadensis (Michaux) Nuttall /, bluejoint
8	Festuca ~~longifolia-Thuillier~~ trachyphylla (Hackel Krajina), hard fescue
13	Brassica juncea (L.) Czernajew &-Gessen, India mustard
13 & 14	Include "L." after Brassica oleracea
15	Lycopersicon ~~esculentum-Miller~~ lycopersicum (L.) Farwell, tomato
15	Valerianella locusta (L.) ~~Laterrode~~ Laterrade, cornsalad
16	Abies concolor (~~Gord.-&-Glend.~~ Gordon) Hildebrand, white fir
16	Abies grandis (~~Douglas~~ D. Don) Lindley, grand fir
16	Abies lasiocarpa (Hooker) ~~Endlicher~~ Nuttall, subalpine fir
17	Cedrus atlantica (Endlicher) ~~Loureiro~~ Carriere, atlas cedar
20	Pinus ponderosa / Lawson, ponderosa pine, western yellow pine

5. Reduce the length of the germination for carrot from 21 to 14 days.

   This proposal was submitted by Susan Taylor, Ransom Seed Laboratory, PO Box 212, Santa Barbara, California 93102. Phone (805) 969-0915.

   This proposal would simply change 21 days to 14 days for carrot (Daucus carota) on page 55 of the rules.

6. Require carrots and parsnips to have a long, vigorous primary root, rather than allow secondary roots to substitute for the primary root.

   This proposal was also submitted by Susan Taylor, Ransom Seed Laboratory.

The proposal would require the following addition to the Normal Seedling section of Part 11. Miscellaneous plant families on page 116 of the rules:

(c) Root crops (carrot and parsnip) must have a long, vigorous primary root.

Late Received Rule Change Proposal

The following proposed rule change was received too late to be reviewed by the Rules Committee; however, it is being presented here for your evaluation prior to vote at the Florida meeting.

This rule change was proposed by James Bruce, Iowa State University Seed Laboratory, Ames, Iowa 50011. Phone (515) 294-6826. It concerns classification of ergotized crop and weed seeds.

Proposal

Change section 2.7h to read:

"Seed units with nematode galls, fungus bodies (i.e. ergot, smut, etc.) and spongy or corky caryopses which cannot be readily distinguished from uninfected seed units."

Change section 2.10a. (8) to read:

"Seed units which can be readily determined to contain nematode galls or fungus bodies (smut, ergot and other sclerotia). Refer to Section 2.7h."

Add section (f) to section 2.10b. (2) as follows:

"Grass florets and caryopses which can be readily determined to contain nematode galls or fungus bodies (smut, ergot and other sclerotia)."

Supporting Evidence

At the 1980 AOSA convention, we presented a number of ergotized Agropyron repens "seeds" which were visibly ergotized, but did not have ergot protruding from the tip of the seed unit, as would be required if considered under the "crop" rules presently in force. There is no parallel to the current crop rule in the "weed" section.

Adopting the proposed amendments would bring the AOSA rules into line with International Seed Testing Association regulations and the Federal Seed Act. The proposed amendments would also clarify rulings on ergotized or otherwise infected weed seed.