Chapter Ag 20

AGRICULTURAL AND VEGETABLE SEEDS

Ag. 20.01 Procedures, standards, and tolerances. Except as otherwise provided, the methods and procedures used by the department for the sampling and analysis of seed for purity, germination and noxious weed seed content; the standards of germination of vegetable seed; and the tolerances for permitted variations between seed analysis data shown on the label of any lot of seed and actual percentages and rates of occurrence as determined by the department from an analysis of an inspector's sample of the same lot of seed, shall be as prescribed by the Rules for Testing Seed, published by the Association of Official Seed Analysts, effective July 1, 1965. The book containing such rules may be obtained from Dr. Louis N. Bass, National Seed Storage Laboratory, Colorado State University, Fort Collins, Colorado 80521, who is secretary-treasurer of the Association of Official Seed Analysts. A copy of the book is on file at the offices of the department of agriculture, secretary of state, and revisor of statutes.

History: 1-2-56; r. and recr. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.02 Germination. The combined total of the percentage of germination and the percentage of hard seed may be included on the seed analysis label in addition to the individual percentage of germination and the percentage of hard seed as required on the label.

History: 1-2-56; r. and recr. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.03 Fine-textured grasses. The names of the kinds of seed to be listed as fine-textured grasses under section 94.39 (2) (b), Wis. Stats., are:

(1) Colonial bentgrass (Agrostis tenuis).

(2) Creeping bentgrass (Agrostis palustris).

(3) Velvet bentgrass (Agrostis canina).

(4) Kentucky bluegrass (Poa pratensis).

(5) Rough bluegrass (Poa trivialis).

(6) Wood bluegrass (Poa nemoralis).

(7) Canada bluegrass (Poa compressa).

(8) Red fescue (Festuca rubra).

(9) Chewings fescue (Festuca rubra var. commutata).

(10) Sheep fescue (Festuca ovina).

History: 1-2-56; r. and recr. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.04 Sweetclover. White blossom sweetclover seed containing 5% or more of mottled seed shall not be labeled as white blossom sweetclover seed but shall be labeled sweetcover seed.

History: 1-2-56; am. Register, April, 1957, No. 16, eff. 5-1-57; am. Register, May, 1962, No. 77, eff. 7-1-62; r. and recr. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.045 History: Cr. Register, May, 1962, No. 77, eff. 7-1-62; r. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.05 Labeling of seed distributed to wholesalers. The labeling of seed supplied to a wholesaler or distributor may be on the invoice or an analysis label attached thereto, provided each container is clearly identified by the lot number corresponding to the lot number shown on the invoice or analysis label.

History: 1-2-56; r. and recr. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.06 Relabeling for germination. (1) Seed on which the germination test has expired under section 94.41 (1) (a) of the statutes may be relabeled in any manner which will clearly show all required label information, including the name and address of the person who relabeled the seed.

(2) It shall be the responsibility of the seed dealer having possession of seed on which germination data has expired to withdraw such seed from sale and identify it as expired seed until it has been retested and relabeled with current information by the holder of a seed labeler's license.

NOTE: Germination test data expires 12 months after the month in which the germination test was made for all seed other than seed packaged in hermetically sealed containers, for which initial germination test data expires 36 months after the month in which the test was made. See Section Ag 20.11 for rules governing the extended 36 month test period for seeds packaged in hermetically sealed containers. Seeds packaged in hermetically sealed containers under Section Ag 20.11 may not be sold after the expiration of such 36 month period unless relabeled with germination test data current within 9 months of date of sale.

History: 1-2-56; r. and recr. Register, February, 1969, No. 158, eff. 3-1-69; am. Register, April, 1975, No. 232, eff. 5-1-75.

Ag 20.07 Labels to accompany sample. (1) All samples drawn from any lot of seed by a department inspector and forwarded to the state seed laboratory for analysis shall be accompanied by one or more of the original labels pertaining to the lot of seed sampled, and for this purpose department inspectors may remove existing labels from any package or container of seed sampled and replace them with a replacement label bearing the same information as contained on the original label.

(2) When an entire package is not taken as a sample, or the original label cannot be removed without damage to the package or container, the owner or custodian of the seed shall furnish a duplicate label or a true copy thereof, on request of the department inspector.

History: 1-2-56; r. and recr. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.08 Test reports. (1) Reports of tests made by the state seed laboratory shall not be used in any way which would infer that the department recommends or guarantees any lot of seed, or that the sample tested is representative of the entire lot. Test reports made on

seed samples submitted to the state seed laboratory are applicable only to the sample tested and do not assure that the sample is representative of the lot.

(2) The use of the words "state tested" or "state" or the name "State of Wisconsin Department of Agriculture" or "State Seed Laboratory", or words of similar import, shall not be used in advertising, selling or labeling of seed in any way to give the impression that the state or any of its subdivisions guarantees or assumes responsibility for any data on any seed label or for the quality of any lot of seed.

History: 1-2-56; r. and recr. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.09 History: 1-2-56; r. Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.09 Fees. The fees for testing seed samples submitted to the state seed laboratory are based on costs of time and materials and are as set forth in this section. Except as otherwise described, the 3 basic tests consist of the purity analysis, the noxious weed seed examination and the germination test. The fees for the various types and categories of seeds and seed tests are as follows:

	Purity	Noxious	Germination	Complete
(1) AGRICULTURAL SEED (other than grasses)				
(a) *Large* ---------- Field corn, soybeans	$3.00	No Charge	$3.00	$5.50
(b) *Medium* ---------- Buckwheat, cereals, flax, rape, sorghum, vetch	$2.00	$2.00	$2.50	$6.00
(c) *Small* ---------- Alfalfa, alsike clover, birdsfoot trefoil, crown vetch, ladino clover, millets (Japanese, proso, foxtail), red clover, sudangrass, sweetclover, timothy, white clover	$2.50	$2.50	$3.00	$7.50
(2) GRASS SEED				
(a) *Large* ---------- Smooth brome, chewings fescue, red fescue, meadow fescue, orchardgrass, reed canarygrass, ryegrass, tall fescue	$4.00	$4.00	$3.50	$11.00
(b) *Small* ---------- Bentgrass, bluegrass, Poa Trivialis, redtop	$4.50	$3.50	$4.00	$11.50

(3) SEED MIXTURES

The charge for seed mixtures (in which more than one kind of crop seed is present to the extent of 5% or more) is the total of (a) the fee for the kind of crop seed in the mixture having the highest fee and (b) 50% of the fees applicable to the other kinds in the mixture.

(4) VEGETABLE SEED
(a) *Purity Analysis* ---------- $3.00
(b) *Germination:*
1. Brussels sprouts, cabbage, collards, cucumbers, kale, kohlrabi, leek, lettuce, muskmelon, okra, onions, radish, rutabaga ----- $3.00

2. Artichoke, asparagus, beans, beets, carrots, celeriac, celery, chicory, citron, dill, eggplant, endive, mangel, New Zealand spinach, parsley, parsnip, peas, pepper, pumpkins, Swiss chard, rhubarb, salsify, squash, sweetcorn, tomato, watermelon---------- $3.50

(5) UNUSUAL SAMPLES
The work of testing screenings, dirty samples and unusual seeds (including flowers, shrubs, weeds) will be performed on an actual cost basis to be estimated and quoted upon request after receipt of the sample.

(6) SPECIAL TESTS
(a) *Tetrazolium Test* ----------
(b) Fees for the examination of samples for noxious weed seeds of other states are the same as those for Wisconsin as set forth herein, except that the fees will double if an examination is requested both for Wisconsin and other states.

History: 1-2-56; am. Register, November, 1965, No. 119, eff. 12-1-65; renum. from Ag 20.10 to be Ag 20.09, Register, February, 1969, No. 158, eff. 3-1-69; am. Register, December, 1973, No. 216, eff. 1-1-74.

Ag 20.10 Standards of germination. Standards of germination for vegetable seeds shall be:

Artichoke	60%	Leek	60%
Asparagus	70%	Lettuce	80%
Bean, garden	70%	Muskmelon	75%
Bean, lima	70%	Mustard	75%
Beets	65%	Okra	50%
Broccoli	75%	Onion	70%
Brussels sprouts	70%	Parsley	60%
Cabbage	75%	Parsnip	60%
Carrot	55%	Peas	80%
Cauliflower	75%	Pepper	55%
Celery and celeriac	55%	Pumpkin	75%
Chicory	65%	Radish	75%
Citron	65%	Rhubarb	60%
Collards	80%	Rutabaga	75%
Corn	75%	Salsify	75%
Cress, garden	75%	Spinach	60%
Cress, water	40%	Spinach (New Zealand)	40%
Cucumber	80%	Squash	75%
Eggplant	60%	Swiss chard	65%
Endive	70%	Tomato	75%
Kale	75%	Turnip	80%
Kohlrabi	75%	Watermelon	70%

History: 1-2-56; renum. from Ag 20.11 to be Ag 20.10 and am., Register, February, 1969, No. 158, eff. 3-1-69.

Ag 20.11 Seed packaged in hermetically sealed containers. (1) Seed packaged in hermetically sealed containers may be sold for a

period of 36 months after the month in which the seed was retested for germination if packaged and tested under the following conditions:

(a) The seed was packaged and tested within 9 months after harvest;

(b) The seed is packaged in a hermetically sealed container which does not allow water vapor penetration (WVP) through any wall, including the seals, greater than 0.05 grams of water per 24 hours per 100 square inches of surface at 100° F. with a relative humidity on one side of 90% and on the other side of 0%. Water vapor penetration or WVP is measured in accordance with standards of the U. S. Bureau of Standards, expressed as follows: gm. H_2O/24 hr./100sq. in./100°F./90% RH V. 0% RH;

(c) The seed as packaged in the container does not exceed the percentage of moisture, on a wet weight basis, as specified below:

1. Agricultural Seed	Percent
Beet, field	7.5%
Beet, sugar	7.5%
Bluegrass, Kentucky	6.0%
Fescue, red	8.0%
Ryegrass, annual	8.0%
Ryegrass, perennial	8.0%
All others	6.0%

2. Vegetable Seed	Percent
Bean, garden	7.0%
Bean, lima	7.0%
Beet	7.5%
Broccoli	5.0%
Brussels sprouts	5.0%
Cabbage	5.0%
Carrot	7.0%
Cauliflower	5.0%
Celeriac	7.0%
Celery	7.0%
Chard, Swiss	7.5%
Chinese cabbage	5.0%
Chives	6.5%
Collards	5.0%
Corn, sweet	8.0%
Cucumber	6.0%
Eggplant	6.0%
Kale	5.0%
Kohlrabi	5.0%
Leek	6.5%
Lettuce	5.5%
Muskmelon	6.0%
Mustard, India	5.0%
Onion	6.5%
Onion, Welsh	6.5%
Parsley	6.5%
Parsnip	6.0%
Pea	7.0%
Pepper	4.5%
Pumpkin	6.0%
Radish	5.0%
Rutabaga	5.0%
Spinach	8.0%
Squash	6.0%
Tomato	5.5%
Turnip	5.0%
Watermelon	6.5%
All Others	6.0%

(d) The container is conspicuously labeled in not less than 8 point type to indicate:

1. That the container is hermetically sealed;

2. That the seed has been preconditioned as to moisture content; and

3. The calendar month and year in which the germination test was completed.

(e) The percentage of germination of vegetable seed at the time of packaging was equal to or above standards of germination under section Ag 20.10.

(2) Seed packaged in hermetically sealed containers under subsection (1) may not be sold after expiration of the initial 36 month period unless retested in the preceding 9-month period, the seed as retested conforms to germination standards set forth in section Ag 20.10, and the seed is relabeled with germination retest data current within 9 months prior to date of sale.

History: Cr. Register, April, 1975, No. 232, eff. 5-1-75.

Ag 20.12 Preinoculated legume seeds; standards of effectiveness. (1) TEST STANDARDS. The effectiveness of inoculum in or on legume seeds when preinoculated with rhizobial inoculum shall be determined in accordance with test methods, standards and procedures prescribed in this section.

(2) QUALITY STANDARDS. (a) Rhizobial inoculum applied to small seeded legume seed shall be considered ineffective unless 90 percent of the seedlings are found to be satisfactorily nodulated under laboratory tests as prescribed under this section.

(b) A seedling to be considered satisfactorily nodulated shall show evidence of vigorous growth and green color almost equal to positive check seedlings after 21 days, and the formation of at least one pink nodule on the roots.

(c) A positive test in the acetylene-reduction method will be determined by the formation of ethylene in the test.

(3) TEST METHODS AND PROCEDURES. (a) Tests to determine satisfactory seedling nodulation shall be conducted as prescribed in Preinoculated Testing Handbook, revised 1974 edition, published by the Association of Official Seed Analysts, P. O. Box 1705, North Brunswick, New Jersey 08902, as Contribution No. 30 to the Handbook on Seed Testing (Growth Performance Tests for the Presence of Rhizobia on Preinoculated Seed), except as modified under paragraph (b). Copies may be obtained from the Association and are also on file in offices of the department, the secretary of state and the revisor of statutes.

(b) Department modifications of the above test are: the test tubes containing media are autoclaved at 121 ° C for 30 minutes; 2 seeds are placed in each tube, 35 tubes used per test; one ml of sterile distilled water is added to each tube after approximately ¼ inch of sterile media or fine gravel is placed upon the seed; and the planted tubes are placed in a dark room or chamber where the temperature is maintained at 20 ° C for 2 days.

(c) Acetylene-reduction tests to determine nitrogen fixation shall be conducted as prescribed under section IV(37) "Nitrogen Fixation—Assay Methods and Techniques," in Methods of Enzymology, Vol. XXIV, Photosynthesis and Nitrogen Fixation, Part B, edited by Anthony San Pietro, Department of Plant Sciences, Indiana University, Bloomington, Indiana, 1972 edition, except as modified under paragraph (d). Copies may be obtained from Academic Press, Inc., 111 Fifth Avenue, New York, New York 10003, and are on file in offices of the department, the secretary of state and the revisor of statutes.

(d) Preparation of the test seedlings prior to the standard acetylene-reduction test is as follows: place the root systems of test

seedlings to be analyzed in a 20 ml vial. Remove 1 ml of air, add 1 ml of 1 atmosphere acetylene and allow to react at room temperature for 24 hours. Place the root systems of nodulated control seedlings and the root systems of non-nodulated control seedlings in 20 ml vials. Remove 1 ml of air, add 1 ml of 1 atmosphere acetylene to each and allow to react for 24 hours at room temperature. Add 0.3 ml of air, withdraw 0.3 ml of gas from the test seedling vial and inject into a gas chromatograph packed with separating material that can distinguish ethylene from acetylene. Inject 0.3 ml of gas from the non-nodulated control vial into the gas chromatograph. Inject standards of ethylene and acetylene for comparison of retention times.

(e) Methods of sampling seed to determine compliance with this section shall be those specified in the Rules for Testing Seed described in Wis. Adm. Code section Ag 20.01.

(4) TEST EVALUATION: (a) All seedlings produced from each test will be used for nodule evaluation.

(b) Failure in the performance of positive or negative controls will eliminate, from evaluation, those tests established on the same planting date.

(c) The department shall use the acetylene-reduction test to determine the nitrogen-fixing ability of test seedlings prior to initiating enforcement action.

(5) COMPLIANCE. The sale or distribution of legume seed labeled or represented as having been preinoculated is prohibited under section 94.41 (1) (j) of the statutes unless the inoculum applied to such seed meets standards of effectiveness as prescribed in this section.

History: Cr. Register, December, 1975, No. 240, eff. 1-1-76.