

Chapter Ag 26

POTATOES, CERTIFIED SEED

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Ag 26.01 Definitions. (1) "Department" means the state of Wisconsin department of agriculture.

(2) "College" means the college of agricultural and life sciences of the university of Wisconsin.

(3) "Seed certification agency" means the department in cooperation with the college.

(4) "Certified seed potatoes" means seed potatoes inspected and certified as to seed source, cultural practices, storage and quality factors by the seed certification agency.

(5) "Person" includes individuals, partnerships, corporations, firms and associations.

(6) The grades of Wisconsin certified seed potatoes are: Badger State Brand Certified Seed, Wisconsin Red Tag Certified Seed, Blue Tag Growers' Foundation Seed, and Red Tag Growers' Foundation Seed.

(7) "Soft rot or wet breakdown" means any soft, mushy, or leaky condition of the tissue such as slimy soft rot, leak, or wet breakdown following freezing injury or sunscald.

(8) "Internal discoloration" means discoloration such as is caused by net necrosis or any other type of necrosis, stem-end browning, internal brown spot, or other similar types of discoloration not visible externally, except blackheart.

(9) "Diameter" means the greatest dimension at right angles to the longitudinal axis. The long axis shall be used without regard to the position of the stem (rhizome).

(10) "Fairly well shaped" means that the appearance of the individual potato or the general appearance of the potatoes in the container is not materially injured by pointed, dumbbell-shaped or otherwise ill-formed potatoes.

(11) "Damage" means any injury or defect which materially injures the edible or shipping quality, or the appearance of the individual potato or the general appearance of the potatoes in the container, or which cannot be removed without a loss of more than 5% of the total weight of the potato including peel covering defective area. Any one of the following defects or any combination of defects the seriousness of which exceed the maximum allowed for any one defect shall be considered as damage:

(a) Second growth or growth cracks which have developed to such an extent as to materially injure the appearance of the individual potato or the general appearance of the potatoes in the container.

(b) Air cracks which are deep, or shallow air cracks which materially injure the appearance of the individual potato or the general appearance of the potatoes in the container.

(c) External discoloration, when skinned areas on individual potatoes are materially affected by dark discoloration, or when the general appearance of the lot is materially affected in discoloration.

(d) Shriveling, when the potato is more than moderately shriveled, spongy or flabby.

(e) Sprouting, when more than 10% of the potatoes have spouts over three-fourths of an inch long.

(f) Surface scab which covers an area of more than 5% of the surface of the potato in the aggregate.

(g) Pitted scab which affects the appearance of the potato to a greater extent than the amount of surface scab permitted or causes a loss of more than 5% of the total weight of the potato including peel covering defective area.

(h) Rhizoctonia, when the general appearance of the potatoes in the container is materially injured or when individual potatoes are badly infected.

(i) Wireworm, grass root or similar injury, when any hole, on potatoes ranging in size from 6 to 8 ounces, is longer than three-fourths of an inch or when the aggregate length of all holes is more than 1¼ inches. Smaller potatoes shall have lesser amounts and larger potatoes may have greater amounts, provided that the removal of the injury by proper trimming does not cause the appearance of such potatoes to be injured to a greater extent than that caused by the proper trimming of such injury permitted on a 6 to 8 ounce potato.

(j) Dirt, when the general appearance of the potatoes in the container is more that slightly dirty or stained, or when individual potatoes are badly caked with dirt or badly stained; or other foreign matter which materially affects the appearance of the potatoes.

(12) "Serious damage" means any injury or defect which seriously injures the edible or shipping quality, or the appearance of the individual potato or the general appearance of the potatoes in the container, or which cannot be removed without a loss of more than 10% of the total weight of the potato including peel covering defective area. Any one of the following defects or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage:

(a) Dirt, when the general appearance of the potatoes in the container is seriously affected by tubers badly caked with dirt; or other foreign matter which seriously affects the appearance of the potatoes.

(b) External discoloration, when skinned areas on individual potatoes are seriously affected by very dark discoloration, or when the general appearance of the lot is seriously affected by discoloration.

(c) Fairly smooth cuts such as are made by the digger or by a knife to remove injury, when both ends are clipped, or when more than an estimated one-fourth of the potato is cut away, or, in the case of long varieties, when the remaining portion of the clipped potato weighs less than 6 ounces. Irregular types of cuts which seriously affect the appearance of the individual potato, or which cannot be removed without a loss of more than 10% of the total weight of the potato including peel covering defective area.

(d) Shriveling, when the potato is excessively shriveled, spongy, or flabby.

(e) Surface scab which covers an area of more than 50% of the surface of the potato in the aggregate.

(f) Pitted scab which affects the appearance of the potato to a greater extent than the amount of surface scab permitted or causes a loss of more than 10% of the total weight of the potato including peel covering defective area.

(g) Wireworm, grass root or similar injury, when any hole, on potatoes ranging in size from 6 to 8 ounces, is longer than $1\frac{1}{4}$ inches or when the aggregate length of all holes is more than 2 inches. Smaller potatoes shall have lesser amounts and larger potatoes may have greater amounts, provided that the removal of the injury by proper trimming does not cause the appearance of such potatoes to be injured to a greater extent than that caused by the proper trimming of such injury permitted on a 6 to 8 ounce potato.

(h) Sunburn, when more than one-third of the surface of the potato shows green color.

History: 1-2-56; am. (1), (2), (3), (5), (7), (8), (9), Register, September, 1957, No. 21, eff. 10-1-57; cr. (h), Register, January, 1961, No. 61, eff. 2-1-61; am. (3), Register, August, 1962, No. 80, eff. 9-1-62; am. (1) and (2), renum. (3) to (9) to be (6) to (12), cr. (3), (4) and (5), Register, January, 1976, No. 241, eff. 2-1-76.

Ag 26.02 Prohibitions. (1) No person shall sell, offer for sale, have in his possession with intent to sell, advertise, label or otherwise represent any potatoes as certified seed unless such potatoes conform to the requirements of this chapter. It shall be unlawful to use or employ the term "certified" or the term "inspected" or any term or terms conveying a meaning substantially equivalent to the meaning of any of these terms, either orally or in writing, printing, marking or otherwise in reference to or in connection with, or in advertising or in characterizing or labeling of seed potatoes or the containers thereof, unless such containers shall have been duly inspected and certified pursuant to the provisions of this chapter.

(2) This section shall not apply to potatoes which have been officially inspected and certified as to quality in another state by an authorized agency of such state.

History: 1-2-56; am. Register, September, 1957, No. 21, eff. 10-1-57; renum. Ag 26.02 to be Ag 26.02 (1) and cr. (2), Register, January, 1961, No. 61, eff. 2-1-61; am. (1), Register, January, 1976, No. 241, eff. 2-1-76.

Ag 26.03 Certificates required. (1) **FIELD AND BIN INSPECTION CERTIFICATES.** No potatoes shall be graded unless they are stock upon which a field and bin inspection has been made for variety, cultural practices and disease conditions, and upon which a certificate based upon these inspections has been issued by the college. Any person

desiring to qualify a seed lot as Wisconsin certified seed or Growers' Foundation Seed shall make application to the department of plant pathology of the college for the required field and bin inspection. The applicant shall voluntarily agree to pay and shall be liable for the expenses of such inspection on a unit cost basis as determined from time to time by the college. The following field and bin inspection standards shall apply to all seed for which certification is requested.

(a) *Eligibility of seed.* 1. All potatoes grown on farms on which foundation or certified seed is to be produced shall be entered for certification and subject to field inspection.

2. All seed lots entered for certification shall be planted with foundation seed. Foundation seed not produced by the grower may be used upon approval of the college.

3. All potatoes stored in a warehouse in which certified or foundation seed is stored shall be from fields entered for certification.

(b) *Field standards.* 1. Each separate variety of foundation seed including the same variety from different sources grown in the same field shall be separated by at least 2 planting rows or otherwise separately identified as to variety and foundation seed source.

2. No variety shall be certified that is grown within 100 feet of potato crops in which there exists more virus than is permitted for seed certification. Less than 100 feet may be permitted if an adequate barrier or other condition affords protection to the seed field against vectors of virus diseases.

3. Fields which cannot be adequately inspected because of poor cultural conditions, weeds, chemical damage, leaf injury, late planting, or other conditions, shall be rejected.

(c) *Field inspection; tolerances.* 1. A minimum of two field inspections shall be made during the growing season, and the following disease tolerances shall be the maximum allowable for fields to qualify for certification:

<u>DISEASE AND VARIETY MIXTURE</u>	<u>1ST INSPECTION</u>	<u>2ND OR SUBSEQUENT INSPECTIONS</u>
Leafroll	1.5%	1.0%
Mosaics	2.0%	1.0%
Spindle tuber	<u>1.0%</u>	<u>1.0%</u>
TOTAL	3.0%	3.0%
Bacterial ring rot	none	none
Variety mixture	1.0%	0.1%

2. The college shall refuse certification on any lot of potatoes because of the prevalence to a damaging extent of any disease not mentioned herein, or serious insect damage, or because of any condition that impairs seed value or in any way interferes with satisfactory inspection of the potatoes.

(d) *Cultural standards.* An excessive number of missing hills, due to diseases, poor seed or other cultural conditions, shall be cause for rejection of the seed lot. Uneven or slowly emerging plants, weeds or any factor contributing to an unsatisfactory reading shall also be cause for rejection.

(e) *Bin inspection.* 1. All storage areas or bins to be used for the storage of seed potatoes for certification shall be cleaned and disinfected with an approved disinfectant by the end of the second field inspection. Disinfection shall be verified by the posting of a sanitation sign dated and signed by an inspector of the college.

2. Bins of seed potatoes shall be clearly labeled with the name of the grower, variety, foundation seed source, and bin measurements. Potatoes showing severe defects, such as frost, late blight, soft rot or any other conditions that may render a lot undesirable for seed is cause for rejection.

(f) *Foundation seed.* In addition to meeting all requirements for certified seed, foundation seed shall meet the following additional requirements:

1. Foundation seed may be stored separately or in the same warehouse with other potatoes inspected and passing foundation or certified quality.

2. Production of foundation seed shall be limited to those farms on which no ring rot has been found after two successive growing seasons. Seed lots may be continued a second season on lots providing no ring rot has been found and sanitary precautions are taken to prevent contamination of the seed.

3. No more than one-fourth of one percent of any or all virus diseases permitted for certified seed under section Ag 26.03(1)(d) Wis. Adm. Code shall be allowed on any field inspection, except for bacterial ring rot and varietal mixture for which there shall be a zero tolerance.

4. To be eligible for foundation seed a minimum sample of 300 to 400 B-size tubers shall be submitted to the college for a winter test. All lots showing not more than one-half of one percent total virus shall be eligible to receive foundation designation.

5. Foundation "State Farm" seed shall be the progeny from tuber-unit selections, combined with clonal increase, that have been rigidly screened for freedom from diseases by accepted indexing methods.

6. The inspection records on seed lots certified by out of state agencies as meeting foundation class or better, shall be submitted to the college before being approved for foundation planting. A grower purchasing such seed shall make a thorough investigation of the particular producer's operation to be assured an adequate sanitation program is being practiced to safeguard against contamination by bacterial ring rot and other diseases.

(2) **FINAL INSPECTION.** No potatoes shall be represented or sold as seed potatoes of a grade prescribed in this chapter unless they have been officially inspected and a certificate issued showing that they conform to such grade.

History: 1-2-56; am. Register, September, 1957, No. 21, eff. 10-1-57; am. (2), Register, January, 1961, No. 61, eff. 2-1-61; am. (1), Register, January, 1976, No. 241, eff. 2-1-76; am. (1) (a), r. (1) (f) 1, renum. (1) (f) 2 to 7 to be 1 to 6, Register, March, 1977, No. 255, eff. 4-1-77.

Ag 26.04 Grade inspection. (1) APPLICATION; COSTS. Any person desiring to sell or offer for sale potatoes as Wisconsin certified seed or

Growers' Foundation Seed shall make application to the department for the required grade inspection. The applicant shall agree to pay and shall be liable for the expense of such inspection on a unit cost basis as determined from time to time by the department.

(2) **NATURE OF GRADE INSPECTIONS.** The grade inspections shall include determinations as to quality and condition. Tolerances for the standards shall be calculated on the basis of weight and will be allowed as provided in this chapter.

(3) **PERMITTED TOLERANCES.** The tolerances herein specified are expressed on a container basis. The grade of an entire lot may be determined on the basis of sample inspections. In such cases the averages for the entire lot must be within the tolerances specified for the respective grades, but the contents of individual packages in the lot may vary from the specified tolerances, subject to the following limitations:

(a) When the tolerance specified is 10% or more, individual packages in any lot may contain not more than one and one-half times the tolerance specified, except that at least one defective and one off-size specimen shall be permitted in a package.

(b) When the tolerance specified is less than 10%, individual packages in any lot may contain not more than double the tolerance specified except that for frozen potatoes, or those affected by soft rot or wet breakdown, not more than one-tenth of the packages may contain more than double the tolerance but not more than four times the tolerance specified, and except that at least one defective and one off-size specimen shall be permitted in a package.

History: 1-2-56; am. (1) and (3), Register, September, 1957, No. 21, eff. 10-1-57; am. (1) and (2), Register, January, 1976, No. 241, eff. 2-1-76.

Ag 26.05 Badger State Brand. (1) **GRADE REQUIREMENTS.** Badger State Brand Certified Seed shall consist of potatoes of one variety, certified by the college, which are fairly well shaped, not frozen; which are free from freezing injury, blackheart, late blight, ring rot and soft rot or wet breakdown, and from damage caused by dirt or other foreign matter, second growth, growth cracks, air cracks, cuts, shriveling, sprouting, scab, dry rot, rhizoctonia, other disease, wireworm, other insects or mechanical or other means and which are free from serious damage caused by sunburn, hollow heart, mahogany browning and internal necrosis.

(2) **SIZE.** Unless a different minimum or maximum size is clearly stated on the official tag, the minimum size of each potato shall not be less than 1½ inches in diameter and the maximum size shall not exceed 12 ounces in weight.

(3) **TOLERANCE FOR SIZE.** (a) In order to allow for variations incident to proper sizing, not more than 3% of the potatoes in any lot may be below the minimum size.

(b) Not more than 15% of the potatoes in any lot may exceed the maximum size; provided, when the maximum size is not more than 12 ounces, the quantity of potatoes in excess of 16 ounces shall not exceed 5% of such lot.

(4) **TOLERANCE FOR DEFECTS.** In order to allow for variations incident to proper grading and handling other than size, hollow heart, mahogany browning and internal necrosis, not more than a total of 6% of the potatoes in any lot may fail to meet the required grade, but not more than 3% of the potatoes in any lot shall be affected by late blight or damaged by scab, and including not more than one per cent for potatoes that are frozen or affected with soft rot or wet breakdown. In addition to the above tolerances, not more than 5% of the potatoes may be seriously damaged by sunburn and not more than 5% of the potatoes may be seriously damaged by hollow heart, mahogany browning and internal necrosis. No tolerance shall be allowed for bacterial ring rot.

(5) **SALE AND DISTRIBUTION.** (a) *Bags.* Potatoes of this grade shall, except for bulk shipment under paragraph (b), be sold, distributed or transported for sale as certified seed potatoes in new clean bags bearing the brand name Badger State Brand Certified Seed or the brand of the grower or an organization through which he markets his seed potatoes. They shall have no other grade designation. An official blue tag, printed with the words "Badger State Brand Certified Seed" and showing net weight, variety, season, and name and address of grower, shall be attached to each bag with an official metal seal furnished by the department.

(b) *Bulk shipment.* Potatoes of this grade may be sold, distributed or transported for sale in bulk in containers or carriers which can be sealed and which have been thoroughly cleaned and disinfected immediately prior to the stock being loaded. Each container or carrier shall be identified with an official blue tag containing information required under paragraph (a) and be attached to each container or carrier with an official metal seal furnished by the department in such a manner that the shipment cannot be unloaded without destroying the seal and removing the tag.

History: 1-2-56; am. Register, September, 1957, No. 21, eff. 10-1-57; am. (4), Register, January, 1961, No. 61, eff. 2-1-61; am. (5) Register, January, 1961, No. 61, eff. 8-1-61; am. (5), Register, August, 1962, No. 80, eff. 9-1-62; am. (5), Register, January, 1976, No. 241, eff. 2-1-76.

Ag 26.06 Wisconsin Red Tag. (1) **GRADE REQUIREMENTS.** Wisconsin Red Tag Certified Seed shall consist of potatoes of one variety, certified by the college, which are not badly misshapen, not frozen, free from freezing injury, blackheart, late blight, ring rot, and soft rot or wet breakdown, and from damage caused by dirt or other foreign matter, air cracks, cuts, shriveling, sprouting, scab, dry rot, rhizoctonia, other disease, wireworm, other insects or mechanical or other means and which are free from serious damage caused by growth cracks, mahogany browning or internal necrosis. Potatoes misshapen because of second growth may be certified in special instances when such potatoes are acceptable to the buyer.

(2) **SIZE.** The size requirements and the tolerances for size to be allowed shall be the same as for Badger State Brand Certified Seed.

(3) **TOLERANCE FOR DEFECTS.** In order to allow for variations incident to proper grading and handling other than size, hollow heart, mahogany browning and internal necrosis, not more than a total of 20% of the potatoes in any lot may fail to meet the required grade, but not more than 6% shall be allowed for defects causing serious damage and not more than 3% of the potatoes in any lot shall be affected by late

blight or damaged by scab, and including not more than 1% for potatoes that are frozen or affected with soft rot or wet breakdown. In addition to the above tolerances, not more than 5% of the potatoes may be seriously damaged by mahogany browning or internal necrosis. No tolerance shall be allowed for bacterial ring rot.

(4) **SALE AND DISTRIBUTION.** (a) *Bags.* Potatoes of this grade shall, except for bulk shipment under paragraph (b), be sold, distributed or transported for sale as certified seed potatoes in new clean bags, which may be plain or bear the brand of the grower or an organization through which he markets his seed potatoes. They shall have no other grade designation. An official red tag, printed with the words "Wisconsin Red Tag Certified Seed" and showing variety, season, name and address of grower, and net weight, shall be attached to each container with an official metal seal furnished by the department.

(b) *Bulk shipment.* Potatoes of this grade may be sold, distributed or transported for sale in bulk in containers or carriers which can be sealed and which have been thoroughly cleaned and disinfected immediately prior to the stock being loaded. Each container or carrier shall be identified with an official red tag containing the information required under paragraph (a) and be attached to each container or carrier with an official metal seal furnished by the department in such a manner that the shipment cannot be unloaded without destroying the seal and removing the tag.

History: 1-2-56; am. Register, September, 1957, No. 21, eff. 10-1-57; am. (3), Register, March, 1958, No. 27, eff. 4-1-58; am. (4), Register, August, 1962, No. 80, eff. 9-1-62; am. (1) and (4), Register, January, 1976, No. 241, eff. 2-1-76.

Ag 26.07 Growers' Foundation Seed. (1) **BLUE TAG.** (a) *Grade requirements.* Blue Tag Growers' Foundation Seed shall consist of potatoes of one variety, certified by the college, which shall meet the grade requirements of Badger State Brand Certified Seed.

(b) *Size.* The size requirements and the tolerances for size to be allowed shall be the same as for Badger State Brand Certified Seed.

(c) *Sale and distribution.* 1. *Bags.* Potatoes of this grade shall, except for bulk shipment under subdivision 2., be sold, distributed or transported for sale as Growers' Foundation Seed potatoes in new clean bags bearing the brand name Badger State Brand or the brand of the grower or the organization through which he markets his seed potatoes. They shall have no other grade designation. The official blue tag used for Badger State Brand Certified Seed, with the word "Foundation" overprinted on the face of the tag, shall be attached to each container with an official metal seal furnished by the department.

2. *Bulk shipment.* Potatoes of this grade may be sold, distributed or transported for sale in bulk only in intrastate commerce under permit from the department. Only containers or carriers which can be sealed and which have been thoroughly cleaned and disinfected immediately prior to the stock being loaded may be used. Each container or carrier shall be identified with an official blue tag containing the information required under subdivision 1., with the word "Foundation" overprinted on the face of the tag, and be attached to each container or carrier with an official metal seal furnished by the department in such a manner that the shipment cannot be unloaded without destroying the seal or removing the tag.

(2) **RED TAG.** (a) *Grade requirements.* Red Tag Growers' Foundation Seed shall consist of potatoes of one variety, certified by the college, which shall meet the grade requirements of Wisconsin Red Tag Certified Seed.

(b) *Size.* The size requirements and the tolerances for size to be allowed shall be the same as for Badger State Brand Certified Seed.

(c) *Sale and distribution.* 1. *Bags.* Potatoes of this grade shall, except for bulk shipment under subdivision 2., be sold, distributed or transported for sale as Growers' Foundation Seed in new clean bags, which may be plain or bear the brand of the grower or the organization through which he markets his seed potatoes. They shall have no other grade designation. The official red tag used for Wisconsin Red Tag Certified Seed, with the word "Foundation" overprinted on the face of the tag, shall be attached to each container with an official metal seal furnished by the department.

2. *Bulk shipment.* Potatoes of this grade may be sold, distributed or transported for sale in bulk, only in intrastate commerce under permit from the department. Only containers or carriers which can be sealed and which have been thoroughly cleaned and disinfected immediately prior to the stock being loaded may be used. Each container or carrier shall be identified with an official red tag containing the information required under subdivision 1., with the word "Foundation" overprinted on the face of the tag, and be attached to each container or carrier with an official metal seal furnished by the department in such a manner that the shipment cannot be unloaded without destroying the seal or removing the tag.

History: 1-2-56; am. Register, September, 1957, No. 21, eff. 10-1-57; am. Register, August, 1962, No. 30, eff. 9-1-62; am. (1) (c) and (2) (c), Register, January, 1976, No. 241, eff. 2-1-76.

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