

1510.2355 MINNESOTA CERTIFIED SEED POTATO GRADES AND TOLERANCES.

Subpart 1. **Minnesota certified seed potato grades.** Before potatoes are eligible for grading as certified seed potatoes, the requirements of parts 1510.2315 to 1510.2330 must be met.

Subp. 2. **Minnesota blue tag certified seed potato grade.** To be graded as Minnesota blue tag certified seed potatoes, the potatoes must meet the requirements in items A to C.

A. Condition. The potatoes must be, at the time of final inspection, of one variety, unwashed, fairly well-shaped, free from bacterial ring rot, late blight, freezing, black heart, and soft rot or wet breakdown, and free from damage caused by soil or other foreign matter, second growth, air cracks, cuts, shriveling, sprouts, pitted scab, surface scab, powdery scab, russet scab, dry rot, other diseases, insects or worms, mechanical or other means, flattened or depressed areas with underlying flesh discoloration, and from serious damage caused by hollow heart, wire worm, growth cracks, or internal discoloration other than hollow heart. Sunburn and silver scurf are not factors. This item does not apply to hollow heart if labeled "hollow heart exempt," on the tag or certificate.

B. Size. For round or intermediate shaped varieties, the maximum size is 12 ounces (340.2 grams) and, unless otherwise specified, the minimum size shall be not less than 1-1/2 inches (38.1 millimeters) in diameter. For long varieties, the maximum size is 14 ounces (396.9 grams) and, unless otherwise specified, the minimum size shall be not less than 1-1/2 inches (38.1 millimeters) in diameter. For all varieties, size "B," the minimum diameter shall be not less than 1-1/2 inches (38.1 millimeters) and the maximum size shall be not more than 2-1/4 inches (57.1 millimeters) in diameter. The department may grade potatoes that do not meet the maximum and minimum size specifications as Minnesota blue tag certified seed potatoes if the buyer agrees to accept potatoes of alternate size specifications from the grower and these specifications are listed on the tag or bulk certificate issued by the department.

C. Lot tolerances. In order to allow for variations incident to proper grading and handling, the following tolerances, by weight, are provided:

(1) For defects:

(a) ten percent for potatoes seriously damaged by hollow heart, unless labeled "hollow heart exempt" on the tag or certificate;

(b) five percent for potatoes seriously damaged by internal discoloration (other than hollow heart);

(c) ten percent for potatoes damaged by soil or other foreign matter;

(d) 20 percent for potatoes damaged by sprouts;

- (e) ten percent for potatoes seriously damaged by wireworm; and
- (f) six percent for potatoes which fail to meet the remaining requirements of the grade, provided that included in that amount not more than the following percentages are allowed for the following defects:
 - i. soft rot, frozen, or wet breakdown, 0.5 percent;
 - ii. damage by surface, powdery, or pitted scab, 2.0 percent;
 - iii. damage by dry rot, 2.0 percent, of which not more than 1.0 percent late blight tuber rot;
 - iv. bacterial ring rot, 0.0 percent; and
 - v. late blight tuber rot, 1.0 percent; and
- (g) the following do not affect seed quality and must not be scored against the grade:
 - i. brown discoloration following skinning;
 - ii. dried stems;
 - iii. flattened or depressed areas showing no underlying flesh discoloration;
 - iv. greening;
 - v. sunburn;
 - vi. skin checks; and
 - vii. silver scurf.

(2) For offsize:

- (a) five percent for potatoes which fail to meet the required or specified minimum size; and
- (b) ten percent for potatoes which fail to meet the required maximum size.

Subp. 3. [Repealed, 22 SR 1547]

Subp. 3a. **Minnesota yellow tag certified seed potato grade.** To be graded as Minnesota yellow tag certified seed potatoes, the potatoes must meet the requirements in items A to D.

A. Condition. At the time of final inspection, the potatoes must be of one variety, unwashed, fairly well-shaped, free from bacterial ring rot, late blight, freezing, black heart, and soft rot or wet breakdown, and free from damage caused by second growth, air cracks, cuts, shriveling, pitted scab, surface scab, powdery scab, dry rot, other diseases, insects or

worms, mechanical means or other means, and from serious damage caused by soil or other foreign matter, hollow heart, wireworm, growth cracks, russet scab, or internal discoloration other than hollow heart. Sunburn and silver scurf are not factors. This item does not apply to hollow heart if labeled "hollow heart exempt," on the tag or certificate.

B. Size. For all varieties, the maximum size is 14 ounces (396.9 grams) and the minimum size is 1-1/2 inch (38.1 mm) in diameter. For all varieties, the minimum diameter for size "B" shall not be less than 1-1/2 inches (38.1 millimeters) and the maximum diameter shall not be more than 2-1/4 inches (57.1 millimeters). The department may grade potatoes that do not meet the maximum and minimum size specifications as Minnesota yellow tag certified seed potatoes if the buyer agrees to accept potatoes of alternate size specifications from the grower and these specifications are listed on the tag or bulk inspection certificate issued by the department.

C. Lot tolerances. In order to allow for variations incident to proper grading and handling, the following tolerances, by weight, are provided:

(1) for defects:

(a) 20 percent for potatoes seriously damaged by hollow heart, unless labeled "hollow heart exempt" on the tag or certificate;

(b) five percent for potatoes seriously damaged by internal discoloration (other than hollow heart);

(c) ten percent for potatoes seriously damaged by soil or other foreign matter;

(d) ten percent for potatoes seriously damaged by wireworm;

(e) 20 percent for potatoes that fail to meet the remaining requirements of the grade with not more than six percent serious damage provided that included in that amount not more than the following percentages are allowed for the following defects:

i. soft rot, frozen, or wet breakdown, 0.5 percent;

ii. damaged by surface, powdery, or pitted scab, 5.0 percent;

iii. damaged by dry rot, 2.0 percent, of which not more than 1.0 percent is late blight tuber rot;

iv. bacterial ring rot, 0.0 percent; and

v. late blight tuber rot, 1.0 percent; and

(f) the following do not affect seed quality and must not be scored against the grade:

i. brown discoloration following skinning;

ii. dried stems;
 iii. flattened or depressed areas with or without underlying flesh discoloration;

- iv. greening;
- v. sunburn;
- vi. skin checks;
- vii. silver scurf; and
- viii. sprouts; and

(2) for offsize:

(a) five percent for potatoes that fail to meet the required or specified minimum size; and

(b) ten percent for potatoes that fail to meet the required maximum size.

D. **Shape.** The potatoes must be fairly well shaped, with an exception for long varieties when specified as "except for shape." In that case the tubers may be misshapen.

Subp. 4. **Minnesota white tag certified seed potato grade.** Minnesota white tag certified seed potato grade consists of certified seed potatoes that are graded according to agreement between the seller and the purchaser as to size and defects, except that not more than one-half percent of soft rot, frozen, or wet breakdown and two percent dry rot, of which not more than one percent late blight tuber rot is allowed.

Subp. 5. **Application of tolerance.** The contents of individual containers, other than bulk conveyances, in the lot are subject to the following limitations provided that the averages for the entire lot are within the tolerances specified for the grade. An individual container in any lot may contain not more than double the tolerance specified except for sprouts and except that at least one defective specimen, other than bacterial ring rot, and one offsize specimen may be permitted in any container.

Subp. 6. **Condition after transit.** Deterioration developing in transit shall be considered as affecting condition and not grade.

Subp. 7. **Definitions.** For the purpose of this part, the terms in items A to J have the meanings given them unless the context clearly indicates otherwise.

A. "Mature" means that the outer skin (epidermis) does not loosen or "feather" readily during the ordinary methods of handling.

B. "Well-shaped" means the normal shape for the variety.

C. "Fairly well-shaped" means that the individual potato is not materially pointed, dumbbell-shaped, or otherwise ill-formed.

D. "Fairly clean" means that the individual potato is reasonably free from dirt, staining, or other foreign matter.

E. "Slightly dirty" means that the appearance of the individual potato is not materially affected by dirt, staining, or other foreign matter.

F. "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 (stolon).

G. "Soft rot or wet breakdown" means any soft, mushy, or leaky condition of the tissues.

H. "Dry rot" means decaying tissue that is dry.

I. "Damage" means any defect or combination of defects which materially affects the appearance of the individual potato or which cannot be removed without a loss of more than five percent of the total weight of the potato including the peel covering the 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 damage:

(1) russet scab when it materially detracts from the appearance of the individual potato;

(2) second growth or growth cracks which have developed to such an extent as to materially affect the appearance of the individual potato;

(3) air cracks when removal causes a loss of more than five percent of the total weight of the potato;

(4) shriveling when the potato is more than moderately shriveled, spongy, or flabby;

(5) sprouting when the individual potato has sprouts over one inch in length;

(6) surface, powdery, or pitted scab, individually or in combination, which covers an area of more than five percent of the surface of the potato in the aggregate, or causes a loss of more than five percent of the total weight of the potato including peel covering defective area;

(7) soil if the individual potato has more than 50 percent of its surface affected by lightly caked soil which is scattered, or more than 15 percent of its surface badly caked with soil.

J. "Serious damage" means any defect or combination of defects which seriously affects the appearance of the individual potato or which cannot be removed without a loss of more than ten percent of the total weight of the potato including the peel covering the 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:

- (1) russet scab when it seriously detracts from the appearance of the potato;
- (2) dirt when the appearance of the individual potato is seriously affected by caked or smeared dirt or other foreign matter;
- (3) cuts when both ends are clipped or when more than an estimated one-fourth of the potato is cut away from one end or when the remaining portion of the clipped potato weighs less than six ounces;
- (4) other cuts which seriously affect the appearance of the individual potato or which cannot be removed without a loss of more than ten percent of the total weight of the potato including peel covering defective area;
- (5) shriveling when the potato is excessively shriveled, spongy, or flabby;
- (6) surface, powdery, or pitted scab, individually or in combination, which covers an area of more than 25 percent of the surface of the potato in the aggregate, or causes a loss of more than ten percent of the total weight of the potato including peel covering defective area;
- (7) wireworm and air cracks when removal causes a loss of more than ten percent of the total weight of the potato.

Statutory Authority: *MS s 14.05; 18.79; 21.113; 21.118*

History: *8 SR 1659; 11 SR 1407; 12 SR 1809; 17 SR 1829; 21 SR 482; 22 SR 1547; 26 SR 1141; 30 SR 1271; 35 SR 1325*

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