

PROPOSED U. S. POTATO GRADE STANDARDS

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Most fresh fruit and vegetables are bought and sold using U. S. Grades as a standard quality. The U. S. Standards for Potatoes and their grades are used extensively in all growing areas of the United States and in all major markets. The U. S. No. 1 and U. S. No. 2 Grades are the most common now in use and these have remained unchanged for many years.

Increasing pressure by consumer demands for high, more uniform quality in the markets has caused the U. S. D. A. to take another look at the present potato grades, to see if they could be changed to better suit the potato industry.

They surveyed the industry from grower to market during this study. Some states and growing areas have Federal Marketing Orders imposed by the growers that set minimum size and maturity requirements that are more restrictive than the present grades. These are incorporated into the proposed grades.

Size variation was a complaint, generally this was concerning cartons marked with count, so a size range restriction was included in the proposed grade for containers marked with count. The proposed Size A requirements also limit the size range, as well as increase the amount of the specified size contained in the lot.

There was a demand for a higher quality grade with uniform sizing, so the proposed U. S. Extra No. 1 was written to fill this need. This grade limits the type of defects permitted and the defects tolerances as well as requiring a narrow size range.

It was found during this study the U. S. Commercial Grade was seldom used so it was deleted from the proposed U. S. Standards. The U. S. No. 2 Grade was changed very little.

In presenting these proposed standards, it is not our purpose to tell you they should or should not be accepted as they are. Our purpose is to tell you why they were proposed and to compare them to the existing standards and present the new U. S. Extra No. 1 grade.

COMPARISON OF PRESENT AND PROPOSED U. S. STANDARDS FOR POTATOES

| FACTOR | Present U. S. No. 1 | Proposed U. S. No. 1 | Proposed U. S. Extra No. 1 |
|---|--|--|--|
| Variety | On Variety or similar varietal characteristics. | Similar varietal characteristics. | Similar varietal characteristics. |
| Shape | Fairly well shaped. Not materially pointed dumbbell-shaped or otherwise deformed. | Same | Fairly well shaped. (a) Not materially pointed dumbbell shaped or otherwise deformed. (b) With 50% or more well shaped. (1) Normal shape for the variety. |
| Dirt or other foreign matter. | Free from damage: (a) Individual potato more than slightly dirty or slightly stained; or, (b) More than a moderate amount of loose dirt or other foreign matter present in containers. | When packed in containers of 25 pounds or less: (a) Fairly clean-at least 90% of the potatoes in the lot are reasonably free from dirt or staining and not more than a slight amount of loose dirt or other foreign matter present in container. When packed in containers of more than 25 pounds: (a) Free from damage by dirt-same definition as used in present standards. | Clean. (a) At least 90% of the potatoes in any lot practically free from dirt or staining. (b) Practically no loose dirt or other foreign matter present in the container. |
| Frozen, freezing injury, blackheart, late blight, southern bacterial wilt, ring rot, soft rot, wet breakdown. | Free from | Free from | Free from |

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| FACTOR | Present U. S. No. 1 | Proposed U. S. No. 1 | Proposed U. S. Extra No. 1 |
|-------------------|---|----------------------|----------------------------|
| Sunburn | Free from damage When discoloration extends into the flesh to the extent it cannot be removed without a loss of more than 5% of the total weight of the potato. | Same | Same |
| Greening | Free from damage: (a) When the appearance is materially affected by yellowish or greenish surface discoloration; or, (b) When the discoloration extends into the flesh to the extent that it cannot be removed without a loss of more than 5% of the total weight of the potato. | Same | Same |
| Grass or wireworm | Free from damage: (1) Based on round or intermediate type potato 2 1/2 inches in diameter or long type 6 ounces or more in weight: (a) When hole is over 3/4 inch long; or (b) When aggregate length of all holes exceeds 1 1/4 inches. Correspondingly shorter or longer holes allowed in smaller or larger potatoes. (2) When other types of injuries: (a) Materially affect appearance; or (b) Cannot be removed without loss of over 5% total weight of potato. | Same | Same |

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| FACTOR | Present U. S. No. 1 | Proposed U. S. No. 1 | Proposed U. S. Extra No. 1 |
|--------------------------------|--|---|----------------------------|
| Second growth or growth cracks | Free from damage: When the appearance of the individual potato is materially affected. | Same | Same |
| Air Cracks | Free from damage: When the appearance of the individual potato is materially affected. | Same | Same |
| External discoloration | Free from damage: When the appearance of the individual potato is materially affected. | Same | Same |
| Shriveled | Free from damage: When the individual potato is more than moderately shriveled, spongy or flabby. | Firm: Not shriveled, spongy, or flabby. | Same |
| Sprouting | Free from damage (a) When more than 10% of the potatoes in a lot have external sprouts over 3/4" long; or, (b) When removal of ingrown causes a loss of more than 5% of the total weight of the potato | Free from damage: (a) When more than 5% of the potatoes in a lot have any sprout more than 3/4" inch in length; (b) When individual sprouts or clusters "of sprouts" materially detracts from the appearance of the individual potato; or (c) When removal of an ingrown sprout causes a loss of more than 5% of the total weight of the potato. | Free from |

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| FACTOR | Present U. S. No. 1 | Proposed U. S. No. 1 | Proposed U. S. Extra No. 1 |
|---------------------------|--|--|----------------------------|
| Scab | <p>Free from damage:</p> <p>(a) Surface scab - when no pronounced contrast with background color of potato and aggregate area exceeds 5% of surface or, when pronounced contrast and aggregate area exceeds 3% of surface.</p> <p>(b) Pitted scab - when affecting appearance to greater extent than amount of surface scab permitted; or, causes loss of more than 5% of total weight of potato.</p> <p>(c) Russet scab - when materially affecting appearance.</p> | <p>Free from damage:</p> <p>(a) When materially detracting from appearance; or</p> <p>(b) Surface scab - when affecting more than 5% of surface.</p> <p>(c) Pitted scab - causes loss of more than 5% of total weight of potato.</p> | Same |
| Dry Rot | Free from damage: (See general definition) | Same | Same |
| Rhizoctonia | <p>Free from damage:</p> <p>(a) Appearance of potato materially affected; or,</p> <p>(b) Surface materially caked with black scurf.</p> | Same | Same |
| Mechanical or other means | <p>Free from damage:</p> <p>Cuts shatter bruises, other bruises, punctures or other injuries:</p> <p>(a) When materially affecting appearance; or</p> <p>(b) Which cannot be removed without loss of over 5% of total weight of potato.</p> | Same | Same |

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|------------------------|---|---|--|
| Hollowheart | Free from damage: When the internal appearance, of a potato cut longitudinally, is materially affected. | Same | Free from |
| Internal discoloration | Free from damage: (a) Internal discoloration occurring entirely within the vascular ring - when more than the equivalent of 3 scattered light brown spots one-eighth inch in diameter in a potato 2 1/2 inches in diameter or 6 ounces in weight, or correspondingly lesser or greater number of spots in smaller or larger potatoes; or, (b) Internal discoloration outside of or not entirely confined within the vascular ring - when removal causes a loss of more than 5% of the total weight of the potato. | Same | Free from |
| Tolerances for defects | Total 11%, by weight with not more than 6% for external defect; 5% for internal defects, including 3% for potatoes which are frozen or affected by southern bacterial wilt, ring rot, late blight, soft rot or wet breakdown, including 1% for potatoes which are frozen or affected by soft rot or wet breakdown. | Total 8%, by weight with not more than 5% for external defects; 5% for internal defects; or, 3% for defects causing serious damage incl. 1% for potatoes which are frozen or affected by soft rot or wet breakdown. | Total 5% by weight, with not more than 2% for defects causing serious damage, inc 1/2 of 1% for soft rot or wet breakdown. |

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| FACTOR | Present U. S. No. 1 | Proposed U. S. No. 1 | Proposed U. S. Extra No. 1 |
|-------------------------|---|---|--|
| Size | Unless otherwise specified not less than 1-7/8 inches in diameter. | Unless otherwise specified in connection with the grade: (1) Not less than 2 inches in diameter or 4 ounces in weight; or (2) When specified as new potatoes, not less than 1-7/8 inches in diameter. New potatoes are potatoes which skin easily or become feathered under normal handling practices. | All Varieties (a) Not less than 2 1/4 inches in diameter or 5 ounces in weight. (b) Shall not vary more than 1-1/4 inches in diameter or more than 6 ounces in weight. (c) Optional size designations may be used provided; it is not less than the minimums specified and do not exceed the diameter or weight ranges. |
| Size A | 1-7/8 inch minimum diameter. No maximum size. Round varieties - 60% or more 2 1/4 inches in diameter or larger. Long varieties - 40% or more 6 ounces in weight or larger. | All Varieties Minimum of 2 inches in diameter or 4 ounces in weight. Maximum weight of 16 ounces. At least 50% 2 1/2 inches in diameter or larger or 50% 6 ounces in weight or larger. | Same |
| Tolerances for off-size | 3% for potatoes below specified minimum, except 5%, permitted when packed for 2 1/4 inches or 6 ounces or larger. 10% allowed for any specified maximum size. | 3% for potatoes below specified minimum, except 5% permitted when packed for 2 1/4 inches or 5 ounces or larger. 10% allowed for any specified maximum size. | Same |
| U. S. No. 2 Scab | PRESENT 50% of surface may be affected | PROPOSED 25% of surface may be affected | |
| U. S. No. 2 Tolerances | Total 11% for defects with not over 6% for external or 5% for internal defects. | Total 10% for defects with not over 6% for either external or internal defects. | |

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| FACTOR | | |
|---------------------------|--|--|
| Application of Tolerances | <p>(Individual Containers)</p> <p>When packed in containers of more than 15 pounds</p> <p>(a) For a tolerance of 10% or more - not more than 1-1/2 times the tolerance.</p> <p>(b) For a tolerance of less than 10% - not more than double the tolerance.</p> <p>At destination - not more than 1/10 of the packages may contain more than 4 times the tolerance for potatoes which are frozen or affected by soft rot or wet breakdown. At least 1 defective and 1 off-size permitted in any package.</p> <p>When packed in containers of 15 pounds or less:</p> <p>(a) Not restricted to percentages of defects or off-size; provided,</p> <p>(1) Not more than 1/10 of packages contain more than 1 potato which is frozen or affected by soft rot or wet breakdown.</p> <p>(2) At least 1 defective and 1 off-size permitted in any package.</p> | <p>(Individual Samples)</p> <p>Shall have not more than double the tolerances specified, except at least 1 defective and 1 off-size permitted in any sample.</p> <p>At destination - not more than 1/10 of the samples may contain 3 times the tolerance permitted for potatoes which are frozen or affected by soft rot or wet breakdown.</p> |

SIZE RANGE PERMITTED IN CONTAINERS MARKED WITH COUNT

| <u>Size Designation</u> <u>(Count)</u> | <u>Minimum Weight</u> <u>Ounces</u> | <u>Maximum Weight</u> <u>Ounces</u> |
|---|--|--|
| 50 | 12 | 18 |
| 55 | 12 | 18 |
| 60 | 11 | 16 |
| 70 | 10 | 15 |
| 80 | 9 | 13 |
| 90 | 8 | 12 |
| 100 | 7 | 10 |
| 110 | 6 | 9 |
| 120 | 5 | 8 |
| 140 | 4 | 7 |