

IDAPA 02 – IDAHO DEPARTMENT OF AGRICULTURE

Ag Inspections Division

02.02.02 – Rules Governing Apple Grading and Storage

Who does this rule apply to?

Growers or packers of Idaho apples

What is the purpose of this rule?

This rule governs grades for Idaho Apples and Idaho Summer Apples, including color requirements, defects, tolerances, packing, and marking. The utilization of the industry driven and recognized Idaho Apple Grades on product containers by apple packers, allows them another uniform grade standard to better meet the needs of industry and consumers. These rules also govern registration requirements and prescribe the maximum oxygen levels for sealed controlled atmosphere (CA) storage of apples. The CA storage rule currently in place was requested and advocated by industry to ensure a level playing field with other states' CA storage rules.

What is the legal authority for the agency to promulgate this rule?

This rule implements the following statutes passed by the Idaho Legislature:

- [22-702, Idaho Code](#) – Standards for Farm Products and Receptacles
- [22-802, Idaho Code](#) – Apple Grades – Annual Publication of Regulations
- [22-803, Idaho Code](#) – Certificate of Inspection

Who do I contact for more information on this rule?

Idaho State Department of Agriculture
2270 Old Penitentiary Rd.
Boise, ID 83712
P.O. Box 7249
Boise, ID 83707
Phone: (208) 332-8500
Fax: (208) 334-2170
Email: rulesinfo@isda.idaho.gov
Webpage: <https://agri.idaho.gov/main/>

Table of Contents

02.02.02 – Rules Governing Apple Grading and Storage

000. Legal Authority.	3
001. Scope.	3
002. -- 008. (Reserved)	3
009. Incorporation By Reference.	3
010. Definitions.	3
011. -- 119. (Reserved)	3
SUBCHAPTER A – APPLE GRADES	
120. Grades.	3
121. Unclassified Designation.	4
122. Tolerances.	4
123. Calculation Of Percentages.	5
124. Condition After Storage Or Transit.	5
125. -- 129. (Reserved)	5
130. Scorable Defects.	5
131. -- 219. (Reserved)	8
SUBCHAPTER B – CONTROLLED ATMOSPHERE STORAGE	
220. Apples, Controlled Atmosphere Registration.	8
221. Apples Represented As Having Been Exposed To “Controlled Atmosphere” Storage.	9
222. -- 999. (Reserved)	10

02.02.02 – RULES GOVERNING APPLE GRADING AND STORAGE

000. LEGAL AUTHORITY.

Sections 22-702, 22-802, and 22-803 Idaho Code.

(4-6-23)

001. SCOPE.

These rules govern the criteria and grades for Idaho Apples and Idaho Summer Apples, including color requirements, defects, tolerances, packing, and marking. These rules also govern registration requirements and prescribe the maximum oxygen levels for sealed controlled atmosphere storage of apples.

(4-6-23)

002. -- 008. (RESERVED)

009. INCORPORATION BY REFERENCE.

01. United States Standards for Apples. This rule incorporates CFR Title 7 Subtitle B Chapter I Subchapter C Part 51, Subpart B: <https://www.ecfr.gov/current/title-7/subtitle-B/chapter-I/subchapter-C/part-51/subpart-B>; published Nov. 19, 2002.

(4-6-23)

010. DEFINITIONS.

The following definitions apply in the interpretation and enforcement of this chapter:

(4-6-23)

01. Carefully Hand-Picked. Apples do not show evidence of rough handling or of having been on the ground.

(4-6-23)

02. Lot. Any group of containers of apples from one (1) grower or orchard and of one (1) variety and that is set apart or is separate from any other group or groups by some evidence such as a lot number or similar mark of identification.

(4-6-23)

03. Packer or Repacker. A person other than an owner or operator of a controlled atmosphere storage plant who removes apples from the containers in which they were treated and places them into other containers or replaces them into the original containers.

(4-6-23)

011. -- 119. (RESERVED)

SUBCHAPTER A – APPLE GRADES

120. GRADES.

01. Idaho Extra Fancy. “Idaho Extra Fancy” consists of apples of one (1) variety that are mature but not overripe except that Red Delicious and Delicious are not further advanced in maturity than “Firm ripe”. All “Idaho Extra Fancy” apples are to be carefully hand-picked, clean, fairly well formed; free from decay, internal browning, internal breakdown, scald, bitter pit, scab, Jonathan spot, freezing injury, visible water core, and broken skins and bruises except those that are slight and incident to proper handling and packing. The apple is also free from injury caused by smooth net-like russetting, sunburn or sprayburn, limb rubs, hail, drought spots, scars, disease, insects, or other means; and free from damage by smooth solid, slightly rough or rough russetting, or stem or calyx cracks, and free from damage by invisible water core after January 31st of the year following the year of production. Each apple of this grade has the amount of color specified in US Standards for Grades of Apples.

(4-6-23)

02. Idaho Fancy. “Idaho Fancy” consists of apples of one (1) variety that are mature but not overripe except that Red Delicious and Delicious are not further advanced in maturity than “Firm ripe”. All “Idaho Fancy” apples shall be carefully hand-picked, clean, fairly well formed; free from decay, internal browning, internal breakdown, bitter pit, Jonathan spot, scald, freezing injury, visible water core, and broken skins and bruises except those that are incident to proper handling and packing. The apples are also free from damage caused by russetting, sunburn or sprayburn, limb rubs, hail, drought spots, scars, stem or calyx cracks, disease, insects, invisible water core after January 31st of the year following the year of production, or damage by other means. Each apple of this grade has the amount of color specified in US Standards for Grades of Apples.

(4-6-23)

03. Idaho No. 1. The requirements of this grade are the same as for “Idaho Fancy” except for color, russetting, and invisible water core. In this grade less color is required for all varieties with the exception of the yellow and green varieties other than Golden Delicious. Apples of this grade are free from excessive damage caused by russetting, which means that apples meet the russetting requirements for “Idaho Fancy” as defined under the definitions of “damage by russetting,” except the aggregate area of an apple that may be covered by smooth net-like

russetting does not exceed twenty-five percent (25%); and the aggregate area of an apple that may be covered by smooth solid russetting does not exceed ten percent (10%): Provided, that in the case of the Yellow Newtown or similar varieties the aggregate area of an apple that may be covered with smooth solid russetting. This grade has the amount of color specified in US Standards for Grades of Apples. for the variety. There is no requirement in this grade pertaining to invisible water core. (4-6-23)

a. Idaho No. 1 Hail consists of apples that meet the requirements of Idaho No. 1 grade except that hail marks where the skin has not been broken, and well healed hail marks where the skin has been broken, are permitted, provided the apples are fairly well formed. (4-6-23)

04. Idaho Utility. “Idaho Utility” consists of apples of one (1) variety that are mature but not overripe, carefully hand-picked, not seriously deformed, free from decay, internal browning, internal breakdown, scald, and freezing injury. The apples are also free from serious damage caused by dirt or other foreign matter, broken skins, bruises, russetting, sunburn or sprayburn, limb rubs, hail, drought spots, scars, stem or calyx cracks, visible water core, disease, insects, or other means. (4-6-23)

05. Combination Grades. (4-6-23)

a. Combinations of the above grades may be used as follows: (4-6-23)

i. Combination Idaho Extra Fancy and Idaho Fancy; (4-6-23)

ii. Combination Idaho Fancy and Idaho No. 1; (4-6-23)

iii. Combination Idaho No. 1 and Idaho Utility; (4-6-23)

b. Combinations other than these are not permitted in connection with the Idaho apple grades. When combination grades are packed, at least fifty percent (50%) of the apples in any lot will meet the requirements of the higher grade in the combination. (4-6-23)

121. UNCLASSIFIED DESIGNATION.

“Unclassified” consists of apples that have not been classified in conformity with any of the foregoing grades. The term “unclassified” is not a grade within the meaning of these standards, but is provided as a designation to show that no definite grade has been applied to the lot. (4-6-23)

122. TOLERANCES.

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the following tolerances are provided as specified: (4-6-23)

01. Defects. (4-6-23)

a. Idaho Extra Fancy, Idaho Fancy, Idaho No. 1, Idaho No. 1 Early and Idaho No. 1 Hail grades: Ten percent (10%) of the apples in any lot may fail to meet the requirements of the grade, but not more than one-half (1/2) of this amount, or five percent (5%), is allowed for apples that are seriously damaged, including therein not more than one percent (1%) for apples affected by decay or internal breakdown. (4-6-23)

b. Idaho Utility grade: Ten percent (10%) of the apples in any lot may fail to meet the requirements of the grade, but not more than one-half (1/2) of this amount, or five percent (5%), is allowed for apples that are seriously damaged by insects, and including in the total tolerance not more than one percent (1%) for apples affected by decay or internal breakdown. (4-6-23)

02. Applying Tolerances to Combination Grades. When applying tolerances to combination grades, no part of any tolerance is allowed to reduce, for the lot as a whole, the fifty percent (50%) of apples of the higher grade required in the combination but individual containers will not have less than forty percent (40%) of the higher grade. (4-6-23)

03. Size. When size is designated by the numerical count for a container, not more than five percent

(5%) of the apples in the lot may vary more than one fourth (1/4) inch in diameter. When size is designated by minimum or maximum diameter, not more than five percent (5%) of the apples in any lot may be smaller than the designated minimum and not more than ten percent (10%) may be larger than the designated maximum. (4-6-23)

04. Firmness. Not more than five percent (5%) of the apples in any lot of Red Delicious and Delicious varieties can be further advanced in maturity than “Firm ripe” as defined in Subsection 010.05.c. Provided, the Idaho No. 1, Idaho No. 1 Hail, and Idaho Utility grades are exempt from this requirement. (4-6-23)

123. CALCULATION OF PERCENTAGES.

01. When Numerical Count is Marked On Container. Percentages are calculated on the basis of count. (4-6-23)

02. When Minimum Diameter or Minimum and Maximum Diameters are Marked on Container. Percentages are calculated on the basis of weight. (4-6-23)

03. Apples are in Bulk. Percentages are calculated on the basis of weight. (4-6-23)

124. CONDITION AFTER STORAGE OR TRANSIT.

Decay, scald, or any other deterioration that may have developed on apples after they have been in storage or transit are considered as affecting condition and not the grade. (4-6-23)

125. -- 129. (RESERVED)

130. SCORABLE DEFECTS.

01. Injury. Any specific defect defined in this subsection or an equally objectionable variation of any one (1) of these defects, any other defect, or any combination of defects, that more than slightly detracts from the appearance or the edible or shipping quality of the apple. The following specific defects are considered as injury: (4-6-23)

a. Russetting in the stem cavity or calyx basin that cannot be seen when the apple is placed stem end or calyx end down on a flat surface, is not considered in determining whether or not an apple is injured by russetting. Smooth net-like russetting outside of the stem cavity or calyx basin is considered as injury when an aggregate area of more than ten percent (10%) of the surface is covered, and the color of the russetting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous net-like russetting when the appearance is affected to a greater extent than the above amount permitted. (4-6-23)

b. Sunburn or sprayburn, when the discolored area does not blend into the normal color of the fruit. (4-6-23)

c. Dark brown or black limb rubs that affect a total area of more than one-fourth (1/4) inch in diameter, except that light brown limb rubs of a russet character are considered under the definition of injury by russetting. The area refers to that area of a circle of the specified diameter. (4-6-23)

d. Hail marks, drought spots, other similar depressions or scars. (4-6-23)

i. When the skin is broken, whether healed or unhealed; (4-6-23)

ii. When there is appreciable discoloration of the surface; (4-6-23)

iii. When any surface indentation exceeds one-sixteenth (1/16) inch in depth; (4-6-23)

iv. When any surface indentation exceeds one-eighth inch (1/8) in diameter; or (4-6-23)

v. When the aggregate affected area of such spots exceeds one-half (1/2) inch in diameter. The area refers to that of a circle of the specified diameter. (4-6-23)

- e. Disease. (4-6-23)
 - i. Cedar rust infection that affects a total area of more than three-sixteenths (3/16) inch in diameter. The area refers to that of a circle of the specified diameter. (4-6-23)
 - ii. Sooty blotch or fly speck that is thinly scattered over more than five percent (5%) of the surface, or dark, heavily concentrated spots that affect an area of more than one-fourth (1/4) inch in diameter. The area refers to that of a circle of the specified diameter. (4-6-23)
 - iii. Red skin spots that are thinly scattered over more than one-tenth (1/10) of the surface, or dark, heavily concentrated spots that affect an area of more than one-fourth (1/4) inch in diameter. (4-6-23)
- f. Insects. (4-6-23)
 - i. Any healed sting or healed stings that affect a total area of more than one-eighth (1/8) inch in diameter including any encircling discolored rings. The area refers to that of a circle of the specified diameter. (4-6-23)
 - ii. Worm holes. (4-6-23)
- 02. Damage.** Any specific defect defined in this subsection or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, that materially detracts from the appearance, or the edible or shipping quality of the apple. The following specific defects are considered damage: (4-6-23)
 - a. Russetting in the stem cavity or calyx basin that cannot be seen when the apple is placed stem end or calyx end down on a flat surface, is not considered in determining whether or not an apple is damaged by russetting, except that excessively rough or bark-like russetting in the stem cavity or calyx basin shall be considered as damage when the appearance of the apple is materially affected. The following types and amounts of russetting outside of the stem cavity or calyx basin are considered as damage: (4-6-23)
 - i. Russetting that is excessively rough on Roxbury Russet and other similar varieties. (4-6-23)
 - ii. Smooth net-like russetting, when an aggregate area of more than fifteen percent (15%) of the surface is covered, and the color of the russetting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous net-like russetting when the appearance is affected to a greater extent than the above amount permitted. (4-6-23)
 - iii. Smooth solid russetting, when an aggregate area of more than five percent (5%) of the surface is covered, and the pattern and color of the russetting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous solid russetting when the appearances affected to a greater extent than the above amount permitted. (4-6-23)
 - iv. Slightly rough russetting that covers an aggregate area of more than one-half (1/2) inch in diameter. (4-6-23)
 - v. Rough russetting that covers an aggregate area of more than one-fourth (1/4) inch in diameter. (4-6-23)
 - b. Sunburn or sprayburn that has caused blistering or cracking of the skin, or when the discolored area does not blend into the normal color of the fruit unless the injury can be classed as russetting. (4-6-23)
 - c. Limb rubs that affect a total area of more than one-half (1/2) inch in diameter, except that light brown limb rubs of a russet character are considered under the definition of damage by russetting. (4-6-23)
 - d. Hail marks, drought spots, other similar depressions or scars. (4-6-23)

- i. When any unhealed mark is present; (4-6-23)
 - ii. When any surface indentation exceeds one-eighth (1/8) inch in depth; (4-6-23)
 - iii. When the skin has not been broken and the aggregate affected area exceeds one-half (1/2) inch in diameter. The area refers to that of a circle of the specified diameter; or (4-6-23)
 - iv. When the skin has been broken and well healed, and the aggregate affected area exceeds one-fourth (1/4) inch in diameter. (4-6-23)
 - e. Stem or calyx cracks that are not well healed, or well healed stem or calyx cracks that exceed an aggregate length of one-fourth (1/4) inch. (4-6-23)
 - f. Invisible water core existing around the core and extending to water core in the vascular bundles; or surrounding the vascular bundles when the affected area surrounding three (3) or more vascular bundles meet or coalesce; or existing in more than slight degree outside the circular area formed by the vascular bundles. (4-6-23)
 - g. Disease. (4-6-23)
 - i. Scab spots that affects a total area of more than one-fourth (1/4) inch in diameter. The area refers to that of a circle of the specified diameter. (4-6-23)
 - ii. Cedar rust infection that affects a total area of more than one-fourth (1/4) inch in diameter. The area refers to that of a circle of the specified diameter. (4-6-23)
 - iii. Sooty blotch or fly speck that is thinly scattered over more than one-tenth (1/10) of the surface, or dark, heavily concentrated spots that affect an area of more than one-half (1/2) inch in diameter. The area refers to that of a circle of the specified diameter. (4-6-23)
 - iv. Red skin spots that are thinly scattered over more than one-tenth (1/10) of the surface, or dark, heavily concentrated spots that affect an area of more than one-half (1/2) inch in diameter. The area refers to that of a circle of the specified diameter. (4-6-23)
 - h. Insects. (4-6-23)
 - i. Any healed sting or healed stings that affect a total area of more than three-sixteenths (3/16) inch in diameter including any encircling discolored rings. The area refers to that of a circle of the specified diameter. (4-6-23)
 - ii. Worm holes. (4-6-23)
- 03. Serious Damage.** Any specific defect defined in this subsection or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects that seriously detracts from the appearance, or the edible or shipping quality of the apple. The following specific defects are considered as serious damage: (4-6-23)
- a. The following types and amounts of russetting are considered as serious damage: Smooth solid russetting, when more than one-half (1/2) of the surface in the aggregate is covered, including any russetting in the stem cavity or calyx basin, or slightly rough, or excessively rough or bark-like russetting, that detracts from the appearance of the fruit to a greater extent than the amount of smooth solid russetting permitted: Provided, that any amount of russetting is permitted on Roxbury Russet and other similar varieties. (4-6-23)
 - b. Sunburn or sprayburn that seriously detracts from the appearance of the fruit. (4-6-23)
 - c. Limb rubs that affect more than one-tenth (1/10) of the surface in the aggregate. (4-6-23)
 - d. Hail marks, drought spots, or scars, if they materially deform or disfigure the fruit, or if such

defects affect more than one-tenth (1/10) of the surface in the aggregate: Provided, that no hail marks that are unhealed are permitted and not more than an aggregate area of one-half (1/2) inch is allowed for well healed hail marks where the skin has been broken. The area refers to that of a circle of the specified diameter. (4-6-23)

- e. Stem or calyx cracks that are not well healed, or well healed stem or calyx cracks that exceed an aggregate length of one-half (1/2) inch. (4-6-23)
- f. Visible water core that affects an area of more than one-half (1/2) inch in diameter. (4-6-23)
- g. Disease. (4-6-23)
- i. Scab spots that affect a total area of more than three-fourths (3/4) inch in a circle of the specified diameter. (4-6-23)
- ii. Cedar rust infection that affects a total area of more than three-fourths (3/4) inch in diameter. The area refers to that of a circle of the specified diameter. (4-6-23)
- iii. Sooty blotch or fly speck that affects more than one-third (1/3) of the surface. (4-6-23)
- iv. Red skin spots that affect more than one-third (1/3) of the surface. (4-6-23)
- v. Bitter pit or Jonathan spot that is thinly scattered over more than one-tenth (1/10) of the surface and does not materially deform or disfigure the fruit. (4-6-23)
- h. Insects. (4-6-23)
- i. Healed stings that affect a total area of more than one-fourth (1/4) inch in diameter including any encircling discolored rings. The area refers to that of a circle of the specified diameter. (4-6-23)
- ii. Worm holes. (4-6-23)

131. -- 219. (RESERVED)

SUBCHAPTER B – CONTROLLED ATMOSPHERE STORAGE

220. APPLES, CONTROLLED ATMOSPHERE REGISTRATION.

01. Registration. Any person who owns or operates a controlled atmosphere room or storage building for apples in Idaho, and any person who engages in this State in the business of packing or repacking apples so treated in this State or any other state and who intends to, or does, represent such apples as having been exposed to “controlled atmosphere” storage, shall register with the Director on a form prescribed by the Director. (4-6-23)

02. Registration Period. The registration period for owners or operators of controlled atmosphere rooms or storage buildings in this State commences on September 1 and end on August 31 of each year, and for packers or repackers of apples that have been held in a controlled atmosphere room or storage building in this State or in any other state, the registration period extends for a period not to exceed one (1) year. Owners or operators of such rooms or storage buildings shall register on or before September 1 of each year. (4-6-23)

03. Interstate Registration. Any person who owns or operates a controlled atmosphere room or storage building located outside of Idaho or who engages at a place outside of this State in the business of packing or repacking apples that have been held in controlled atmosphere storage and who intends to, or does, market in the state of Idaho apples so treated and represented as having been exposed to “controlled atmosphere” storage, shall register with the Director in the same manner as required of any person within the State unless such person has registered with the proper authorities in the state of origin and has been assigned a comparable registration number or CA identification under authority of laws or rules of such state that at least conform to the provisions of these rules. (4-6-23)

04. Written Agreement. The Director will assign each approved registrant a registration number preceded by the letters CA. The Director shall require from each applicant for registration, an agreement in writing in the form required by the Director that the apples so treated or packed or repacked by said applicant will be or have been kept in a room or storage building with not more than five percent (5%) oxygen for a minimum of not less than forty-five (45) days for Gala and Jonagold varieties and not less than sixty (60) days for other apples, and that the oxygen level in such room or storage building will be or has been reduced to five percent (5%) within twenty (20) days after the date of sealing of the storage room, and including any other pertinent facts as may be required by the Director to assure that the apples in question have been so treated. (4-6-23)

05. Refusal Upon Violation. The Director may refuse to approve an application for registration and refuse to issue a registration number if the applicant previously has violated any of the provisions of these rules, or has failed or refused to furnish the information or evidence required by these rules. (4-6-23)

06. Required Air Components Determinations. Each owner or operator of a controlled atmosphere room or storage building in this state shall make the required air components determinations as to the percentage of carbon dioxide and oxygen and temperature at least once each day and maintains a record in the form as required by the Director of Agriculture, including the name and address of the owner or operator, room number or numbers, room capacity, lot identification, quantity in each lot, date of sealing, date of opening; a daily record of date and time of test, percentage of carbon dioxide, percentage of oxygen and the temperature. (4-6-23)

07. Written Reports. Each owner or operator of a controlled atmosphere room or storage building in this state will submit to the Idaho Director of Agriculture, within ten (10) days after the date of sealing, a written report pertaining to each room showing the owner's room number, or numbers, date of sealing, and variety and quantity of apples contained therein. (4-6-23)

08. Maintaining Identity. The identity of all apples represented as having been exposed to "controlled atmosphere" storage will be maintained from the original room or storage building where they were treated through the various channels of trade to the retailer. (4-6-23)

09. Investigations. Enforcing officers may investigate and examine records and invoices relating to any transactions in order to determine the identity of apples represented as having been exposed to controlled atmosphere storage and in this connection gives consideration to the presence of CA storage registration numbers on invoices submitted in transactions by the owners or operators and a combination of both the CA storage and packer or repacker's CA registration number on invoices submitted in transactions by said packer or repacker. (4-6-23)

221. APPLES REPRESENTED AS HAVING BEEN EXPOSED TO "CONTROLLED ATMOSPHERE" STORAGE.

01. Registration Number -- Owner/Operator. Each container and consumer package of such apples moved into the channels of trade by the owner or operator of a controlled atmosphere room or storage building located in Idaho or by any other person, will be marked with said owner or operator's assigned registration number. (4-6-23)

02. Registration Number -- Packer/Repacker. Each container and consumer package of such apples received from an owner or operator of a controlled atmosphere room or storage building located either in Idaho or in another state and that are packed or repacked by another person in this state, will be marked with the said packer or repacker's assigned registration number. (4-6-23)

03. Controlled Atmosphere (CA) Identification. Each container and consumer package of such apples moved into the channels of trade in Idaho by the owner or operator of a controlled atmosphere room or storage building located outside of Idaho or by any other person or by a packer or repacker of such apples engaged in such business outside of Idaho will be marked with the proper registration number or CA identification. Such registration number or CA identification is the registration number assigned by the Director to such owner or operator of a CA plant or to such packer or repacker as the case may be or a comparable registration number of identification assigned under authority of laws or regulations of another state that at least conform to the provisions of Subsection 200.04 above. (4-6-23)

04. Labeling Requirements. The registration number or other identification required to be marked on containers is in letters or figures at least one-half (1/2) inch in height, and all such markings are clear and conspicuous and in a place readily visible to the purchaser, and shall meet the rule requirements of Sections 22-801 and 22-802, Idaho Code. (4-6-23)

05. Inspection and Certification. All apples sold as Controlled Atmosphere apples must be inspected and certified as to grade and condition and be marked with a state lot number in addition to the CA number. (4-6-23)

06. Conditions and Standards. At the time of shipment, all apples shipped and marked with a CA number will meet the U.S. condition and maturity standards for Export. (4-6-23)

07. Failure to Meet Requirements. Failure to meet any one of the requirements noted above will prohibit such apples from being sold as CA storage apples or the containers marked as such. (4-6-23)

222. -- 999. (RESERVED)