

Title 2—DEPARTMENT OF AGRICULTURE
Division 90—[Weights and Measures] Weights, Measures and Consumer Protection
Chapter 36—Egg Quality Program

PROPOSED AMENDMENT

2 CSR 90-36.010 Enforcement of Missouri Egg Laws. The director is amending language in section 1, deleting subsections B-H and renumbering remaining sub-sections adding a new reference table to the new section B, subsection 2 and making non-substantial changes to the division name.

PURPOSE: The amendment to the rule is to remove unnecessary language that already referenced in the USDA grading manual.

(1) *[The Department of Agriculture utilizes the following standards, grades and weight classes for inspection of shell eggs.]* **The rule for the Division of Weights, Measures and Consumer Protection for Enforcement of Missouri Egg Laws shall incorporate by reference the USDA Agricultural Handbook 75 – 2000, USDA Egg Grading Manual.**

[(B) Terms Descriptive of Shell.

1. *Clean—A shell that is free from foreign material and from stains or discolorations that are readily visible. An egg may be considered clean if it has only very small specks, stains, or cage marks, if such specks, stains, or cage marks are not of sufficient number or intensity to detract from the generally clean appearance of the egg. Eggs that show traces of processing oil on the shell are considered clean unless otherwise soiled.*

2. *Dirty—A shell that is unbroken and that has dirt or foreign material adhering to its surface, which has prominent stains, or moderate stains covering more than one-thirty second (1/32) of the shell surface if localized, or one-sixteenth (1/16) of the shell surface if scattered.*

3. *Practically Normal (AA or A Quality)—A shell that approximates the usual shape and that is sound and is free from thin spots. Ridges and rough areas that do not materially affect the shape and strength of the shell are permitted.*

4. *Abnormal (B Quality)—A shell that may be somewhat unusual or decidedly misshapen or faulty in soundness or strength or that may show pronounced ridges or thin spots.*

(C) Terms Descriptive of the Air Cell.

1. *Depth of the air cell (air space between shell membranes, normally in the large end of the egg)—The depth of the air cell is the distance from its top to its bottom when the egg is held air cell upward.*

2. *Free air cell—An air cell that moves freely toward the uppermost point in the egg as the egg is rotated slowly.*

3. *Bubbly air cell—A ruptured air cell resulting in one (1) or more small separate air bubbles usually floating beneath the main air cell.*

(D) Terms Descriptive of the White.

1. *Clear—A white that is free from discolorations or from any foreign bodies floating in it. (Prominent Chalzas should not be confused with foreign bodies such as spots or blood clots.)*

2. *Firm (AA Quality)—A white that is sufficiently thick or viscous to prevent the yolk outline from being more than slightly defined or indistinctly indicated when the egg is twirled. With respect to a broken-out egg, a firm white has a Haugh unit value of seventy-two degrees Fahrenheit (72°F) or higher when measured at a temperature between forty-five degrees Fahrenheit (45°F) and sixty degrees Fahrenheit (60°F).*

3. *Reasonably firm (A Quality)—A white that is somewhat less thick or viscous than a firm white. A reasonably firm white permits the yolk to approach the shell more closely which results in a fairly well defined yolk outline when the egg is twirled. With respect to a broken-out egg, a reasonably firm white has a Haugh unit value of sixty degrees Fahrenheit (60°F) up to, but not including, seventy-two degrees Fahrenheit (72°F) when measured at a temperature between forty-five degrees Fahrenheit (45°F) and sixty degrees Fahrenheit (60°F).*

4. *Weak and watery (B Quality)—A white that is weak, thin, and generally lacking in viscosity. A weak and watery white permits the yolk to approach the shell closely, thus causing the yolk outline to appear plainly visible and dark when the egg is twirled. With respect to a broken-out egg, a weak and watery white has a Haugh unit value lower than sixty degrees Fahrenheit (60°F) when measured at a temperature between forty-five degrees Fahrenheit (45°F) and sixty degrees Fahrenheit (60°F).*

5. *Blood spots or meat spots—Small blood spots or meat spots (aggregating not more than one-eighth inch (1/8") in diameter) may be classified as B Quality. If larger, or showing diffusion of blood into the white surrounding a blood spot, the egg shall be classified as Loss. Blood spots shall not be due to germ development. They may be on the yolk or in the white. Meat spots may be blood spots which have lost their characteristic red color or tissue from the reproductive organs.*

6. *Bloody white—An egg which has blood diffused through the white. Eggs with bloody whites are classed as loss. Eggs with blood spots which show a slight diffusion into the white around the localized spot are not to be classed as bloody whites.*

(E) Terms Descriptive of the Yolk.

1. *Outline slightly defined (AA Quality)*—A yolk outline that is indistinctly indicated and appears to blend into the surrounding white as the egg is twirled.

2. *Outline fairly well defined (A Quality)*—A yolk outline that is discernible but not clearly outlined as the egg is twirled.

3. *Outline plainly visible (B Quality)*—A yolk outline that is clearly visible as a dark shadow when the egg is twirled.

4. *Enlarged and flattened (B Quality)*—A yolk in which the yolk membranes and tissues have weakened and/or moisture has been absorbed from the white to such an extent that the yolk appears definitely enlarged and flat.

5. *Practically free from defects (AA or A Quality)*—A yolk that shows no germ development but may show other very slight defects on its surface.

6. *Serious defects (B Quality)*—A yolk that shows well developed spots or areas and other serious defects, such as olive yolks, which do not render the egg inedible.

7. *Clearly visible germ development (B Quality)*—A development of the germ spot on the yolk of a fertile egg that has progressed to a point where it is plainly visible as a definite circular area or spot with no blood in evidence.

8. *Blood due to germ development*—Blood caused by development of the germ in a fertile egg to the point where it is visible as definite lines or as a blood ring. Such an egg is classified as inedible.

(F) Classifying Eggs by Weight and Grade.

1. Eggs shall be classified by weight into the classes of Jumbo, Extra Large, Large, Medium, Small, and Peewee. Egg scales for accurately weighing individual eggs in ounces per dozen shall be a part of the equipment in the egg candling room.

2. *Classes and weights for consumer grades for shell eggs are:*

<i>Size or weight class</i>	<i>Minimum net weight per dozen (ounces)</i>	<i>Minimum net weight 30 per dozen (pounds)</i>	<i>Minimum net weight for individual eggs at rate per dozen (ounces)</i>
<i>Jumbo</i>	30	56	29
<i>Extra Large</i>	27	50 1/2	26
<i>Large</i>	24	45	23
<i>Medium</i>	21	39 1/2	20
<i>Small</i>	18	34	17
<i>Peewee</i>	15	28	--

3. *Interior egg quality specifications for these standards are based on the apparent condition of the interior contents of the egg as it is twirled before the candling light.*

4. *Inspectors will determine grades of eggs (AA, A, and B) by candling with a suitable single hole candling light.*

(G) Grades.

1. U.S. Grade AA.

A. U.S. Consumer Grade AA (at origin) shall consist of eggs which are at least eighty-seven percent (87%) AA Quality. The maximum tolerance of thirteen percent (13%) which may be below AA Quality may consist of A or B Quality in any combination, except that within the tolerance for B Quality not more than one percent (1%) may be B Quality due to air cells over three-eighths inch (3/8"), blood spots (aggregating not more than one-eighth inch (1/8") in diameter), or serious yolk defects. Not more than five percent (5%) (seven percent (7%) for Jumbo size) Checks are permitted and not more than one-half percent (0.50%) Leakers, Dirties, or Loss (due to meat or blood spots) in any combination, except that such Loss may not exceed three-tenths percent (0.30%). Other types of Loss are not permitted.

B. U.S. Consumer Grade AA (destination) shall consist of eggs which are at least seventy-two percent (72%) AA Quality. The remaining tolerance of twenty-eight percent (28%) shall consist of at least ten percent (10%) A Quality and the remainder shall be B Quality, except that within the tolerance for B Quality not more than one percent (1%) may be B Quality due to air cells over three-eighths inch (3/8"), blood spots (aggregating not more than one-eighth inch (1/8") in diameter), or serious yolk defects. Not more than seven percent (7%) (nine percent (9%) for Jumbo size) Checks are permitted and not more than one percent (1%) Leakers, Dirties, or Loss (due to meat or blood spots) in any combination, except that such Loss may not exceed three-tenths percent (0.30%). Other types of Loss are not permitted.

2. U.S. Grade A.

A. U.S. Consumer Grade A (at origin) shall consist of eggs which are at least eighty-seven percent (87%) A Quality or better. Within the maximum tolerance of thirteen percent (13%) which may be below A Quality, not more than one percent (1%) may be B Quality due to air cells over three-eighths inch (3/8"), blood spots (aggregating not more than one-eighth inch (1/8") in diameter), or serious yolk defects. Not more than five percent (5%) (seven percent (7%) for Jumbo size) Checks are permitted and not more than one-half percent (0.50%) Leakers, Dirties, or Loss (due to meat or blood spots) in any combination, except that such Loss may not exceed three-tenths percent (0.30%). Other types of Loss are not permitted.

B. U.S. Consumer Grade A (destination) shall consist of eggs which are at least eighty-two percent (82%) A Quality or better. Within the maximum tolerance of eighteen percent (18%) which may be below A Quality, not more than one percent (1%) may be B Quality due to air cells over three-eighths inch (3/8"), blood spots (aggregating not more than one-eighth inch (1/8") in diameter), or serious yolk defects. Not more than seven percent (7%) (nine percent (9%) for Jumbo size) Checks are permitted and not more than one percent (1%) Leakers, Dirties, or Loss (due to meat or blood spots) in any combination, except that such Loss may not exceed three-tenths percent (0.30%). Other types of Loss are not permitted.

3. U.S. Grade B.

A. U.S. Consumer Grade B (at origin) shall consist of eggs which are at least ninety percent (90%) B Quality or better, not more than ten percent (10%) may be Checks and not more than one-half percent (0.50%) Leakers, Dirties, or Loss (due to meat or blood spots) in any combination, except that such Loss may not exceed three-tenths percent (0.30%). Other types of Loss are not permitted.

B. U.S. Consumer Grade B (at destination) shall consist of eggs which are at least ninety percent (90%) B Quality or better, not more than ten percent (10%) may be Checks and not more than one percent (1%) Leakers, Dirties, or Loss (due to meat or blood spots) in any combination, except that such Loss may not exceed three-tenths percent (0.30%). Other types of Loss are not permitted.

4. Additional tolerances:

A. In lots of two (2) or more cases:

(I) For Grade AA—No individual case may exceed ten percent (10%) less AA Quality eggs than the minimum permitted for the lot average.

(II) For Grade A—No individual case may exceed ten percent (10%) less A Quality eggs than the minimum permitted for the lot average.

(III) For Grade B—No individual case may exceed ten percent (10%) less B Quality eggs than the minimum permitted for the lot average.

B. For Grades AA, A, and B, no lot shall be rejected or downgraded due to the quality of a single egg except for Loss other than blood or meat spots.

Table I—Summary of U.S. Consumer Grades for Shell Eggs

U.S. Consumer Grade (origin)	Quality required	Tolerance permitted	
		Percent	Quality
Grade AA	87 percent AA	Up to 13 Not over 5	A or B Checks
Grade A	87 percent A or better	Up to 13 Not over 5	B Checks
Grade B	90 percent B or better	Not over 10	Checks
U.S. Consumer Grade (destination)	Quality Required	Tolerance permitted	
		Percent	Quality
Grade AA	72 percent AA	Up to 28 Not over 7	A or B Checks
Grade A	82 percent A or better	Up to 18 Not over 7	B Checks
Grade B	90 percent B or better	Not over 10	Checks

1 In lots of two or more cases, see Table II of this section for tolerances for an individual case within a lot.

2 For the U.S. Consumer grades (at origin), a tolerance of 0.50 percent Leakers, Dirties, or Loss (due to meat or blood spots) in any combination is permitted, except that such Loss may not exceed 0.30 percent. Other types of Loss are not permitted.

3 For the U.S. Consumer grades (destination), a tolerance of 1 percent Leakers, Dirties, or Loss (due to meat or blood spots) in any combination is permitted, except that such Loss may not exceed 0.30 percent. Other types of Loss are not permitted.

4 For U.S. Grade AA at destination, at least 10 percent must be A quality or better.

5 For U.S. Grade AA and A at origin and destination within the tolerances permitted for B quality, not more than 1 percent may be B quality due to air cells over 3/8 inch, blood spots (aggregating not more than 1/8 inch in diameter), or serious yolk defects.

6 For U.S. Grades AA and A Jumbo size eggs, the tolerance for Checks at origin and destination is 7 percent and 9 percent, respectively.

Table II—Tolerance for Individual Case Within a Lot

U.S. Consumer Grade	Case Quality	Origin (percent)	Destination (percent)
Grade AA	AA (min)	77	62
	A or B	13	28
	Check (max)	10	10
Grade A	A (min)	77	72
	B	13	18
	Check (max)	10	10
Grade B	B (min)	80	80
	Check (max)	20	20

SUMMARY OF U.S. STANDARDS FOR QUALITY OF INDIVIDUAL SHELL EGGS
Specifications for Each Quality Factor

Quality Factor	AA Quality	A Quality	B Quality
Shell	Clean Unbroken Practically normal	Clean Unbroken Practically normal	Clean to slightly stained* Unbroken Abnormal
Air Cell	1/8 inch or less in depth Unlimited movement and free or bubbly	3/16 inch or less in depth Unlimited movement and free or bubbly	Over 3/16 inch in depth Unlimited movement and free or bubbly
White	Clear Firm	Clear Reasonably firm	Weak and Watery Small blood and meat spots present**
Yolk	Outline slightly defined Practically free from defects	Outline fairly well defined Practically free from defects	Outline plainly visible Enlarged and flattened Clearly visible germ development but not blood Other serous defects

For eggs with dirty or broken shells, the standards of quality provide two additional qualities. They are:

Dirty	Checks
Unbroken. Adhering dirt or foreign material, prominent stains, moderate stained areas in excess of B Quality.	Broken or cracked shell but membranes intact, not leaking.***

* Moderately stained areas permitted (1/32 of surface in localized, or 1/16 if scattered).

** If they are small (aggregating not more than 1/8 inch in diameter).

*** Leaker has broken or cracked shell membranes, and contents leaking or free to leak.

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[(H)] (B) Basis of Grading Service (Sampling).

Minimum Number of Cases Comprising a Representative Sample	
Cases in Lot	Cases in Sample
1 case	1
2 to 10, inclusive	2
11 to 25, inclusive	3
26 to 50, inclusive	4
51 to 100, inclusive	5
101 to 200, inclusive	8
201 to 300, inclusive	11
301 to 400, inclusive	13
401 to 500, inclusive	14
501 to 600, inclusive	16

[(D)] (C) Identification of Graded Eggs in Containers.

[(J)] (D) Identification of Graded Eggs in Bulk. All eggs in bulk, packed in cases, graded for retail sale, must be accompanied by grading certificates bearing the name and address (city and state), or approved identification number of the dealer under whose authority the eggs were packed and the date when said eggs were graded. The identification may be stamped or printed in bold, legible type with letters no less than three-sixteenths inch (3/16") in height upon a grading certificate of strong paper approximately five inches (5") long and three inches (3") wide which shall be placed under the top flat above the first layer of eggs, or said information may be stamped or printed on the outside of the egg case.

AUTHORITY: section 196.354, RSMo 2000. Original rule filed April 27, 1964, effective May 7, 1964. Amended: Filed April 1, 1966, effective April 11, 1966. Emergency rescission filed Dec. 10, 1981, effective Jan. 1, 1982, expired March 1, 1982. Rescinded: Filed Dec. 10, 1981, effective Jan. 1, 1982. Emergency rule filed Dec. 10, 1981, effective Jan. 1, 1982, expired March 1, 1982. Readopted: Filed Dec. 10, 1981, effective March 11, 1982. Rescinded and readopted: Filed Nov. 4, 2002, effective May 30, 2003.*

**Original authority: 196.354, RSMo 1955, amended 1995.*

PUBLIC COST: The proposed amendment will not cost public entities more than five hundred (\$500) in the aggregate.

PRIVATE COST: The proposed amendment will not cost private entities more than five hundred (\$500) in the aggregate.

*NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to these proposed amendments with Mr. Ronald G. Hayes, Division Director, Weights, Measures and Consumer Protection Division, P.O. Box 630, Jefferson City, MO 65102 or online at Agriculture.MO.Gov/proposed-rules/. To be considered, comments must be received within thirty (30) days after publication of this notice in the **Missouri Register**. No public hearing is scheduled.*