

**RULES
OF
TENNESSEE DEPARTMENT OF AGRICULTURE
DIVISION OF MARKETS**

**CHAPTER 0080-5-4
EGG RULES AND REGULATIONS**

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0080-5-4-.01 DEFINITION OF UNFIT FOR HUMAN FOOD. The phrase “or otherwise unfit for human food” shall be construed to include any and all eggs which have been in incubating machines to the time of first candling and at such time found to be infertile, such eggs shall be denatured or destroyed at hatchery. “Eggs that are filthy” are eggs with an appreciable amount of dirt or other foreign material or with prominent spots or smears of feces on the shell surface.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.02 INEDIBLE EGGS. All inedible eggs, whenever and wherever found, shall be subject to the provision of the Tennessee Code Annotated Title 52, Chapter 1 which reads as follows:

“Whenever the Commissioner or any of his authorized agents shall find in any room, building, vehicle of transportation or other structure, any meat, seafood, poultry, vegetable, fruit or other perishable articles which are unsound, or contain any filthy, decomposed or putrid substance, or that may be poisonous or deleterious to health or otherwise unsafe, the same being hereby declared to be a nuisance, the Commissioner or his authorized agent shall forthwith condemn or destroy the same or in any other manner render the same unsalable as human food.”

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.03 DEFINITION OF THE WORD DEALER. The word “dealer” shall be applied only to persons who are engaged in handling eggs as an incident to their regular business operation and not to persons who are in the business of assembling eggs in case lots and selling or disposing of them in quantities to retailers, wholesalers, processors, or through other distribution channels.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.04 LABELING AND DATING.

- (1) All shell eggs packed in bulk or cases not in cartons for retail trade shall bear an egg candling certificate which gives the packer and/or distributor’s name and address, license number, if subject to a license, date of candling and/or grading and classification of the eggs as to grade and size, or ungraded.

Sample of egg candling certificates which may be used for the identification of eggs as provided for in the Tennessee Egg Law. The minimum size of certificates is 2” x 4” and shall be furnished by licensee.

TENNESSEE EGG CANDLING CERTIFICATE

Packer’s Name _____
 Address _____
 License Number _____
 Date of Candling _____
 Classification _____

Each carton or other type container of eggs packed for retail trade shall bear the same information as required on candling certificate with the exception of a license number.

- (a) All eggs offered or exposed for sale at retail in Tennessee shall be labeled and advertised according to standards set forth in the rules and regulations promulgated by the Commissioner.
 - 1. All eggs offered or exposed for sale at retail which are not properly labeled shall be removed from sale or properly classified at the time of inspection.
- (2) **DATING.** The date to be shown on the carton or candling certificate is that on which the final grading or check grading is made. The date shall be shown by: day of month, month and day, day of year, or by month, day and year. Example: 1 through 31; 82; or April 12, 1965, 4-12-65.
- (3) **LABELING.**
 - (a) In all instances the labeling of eggs which have been packed in cartons or other type containers for consumer trade shall be in type not less than 1/4 inch in height, plain, conspicuous, and easy to read and shall be placed on top of all cartons or others kinds of containers. The classification shall be spelled out in full. Eggs sold in bulk quantities shall have on each case, box, basket, or other receptacle a placard no smaller than (6 x 3) inches in size bearing the classification of the eggs in print not less than 1/2 inch in height, plain, conspicuous and easy to read. All labeling and advertising of eggs in papers, on billboards, windows, etc., shall conform to the standards set forth in the Tennessee Egg Law and Rules and Regulations promulgated therefor. The use of the word “preservative” in regard to the keeping qualities of eggs is prohibited. Mislabeling shall be deemed to be a violation of the Act.
 - (b) All egg cartons used for selling, exposing or offering eggs for sale at retail in this State shall be approved by the Department of Agriculture prior to use.

Authority: T.C.A. §52-206. **Administrative History:** Original Rule certified June 5, 1974.

0080-5-4-.05 REFRIGERATION OF EGGS IN RETAIL MARKETS WHICH ARE NOT PRODUCED AND MARKETED UNDER THE TENNESSEE FANCY FRESH EGG MARKETING PROGRAM.

- (1) Packers shall be responsible for the quality of eggs for five days after delivery to retail markets provided the receiver keeps the eggs adequately refrigerated at all times but for only two days if the eggs are not refrigerated at all times.
- (2) Adequate refrigeration shall mean any type of artificial refrigeration with controlled temperature and humidity, sanitary, and free of objectional odors. The temperature shall be 60° F or lower and humidity shall be approximately 70 percent.
- (3) Shell eggs packed in bulk or cases not in cartons shall be the responsibility of the retail merchant at the time of delivery.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.06 AUTHORITY TO MAKE INSPECTIONS. Persons employed and authorized by the Tennessee Department of Agriculture to make inspections of eggs and/or egg products and of poultry and/or poultry products and places picking or processing or merchandising same shall have the authority to make inspections at any time said place of business is open for normal business operation and to issue a withhold sale order if said person is found to be handling eggs and/or egg products or poultry and/or poultry products in violation of any portion of said Act.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.07 DEFINITION OF A PLACE OF BUSINESS. For the intent and purpose of the Act, the Commissioner of Agriculture has ruled that a place of business shall be defined as any type of vehicle propelled by any kind of power, and any type of building, any bounded area where a person trades and traffics in eggs.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.08 EGG CANDLER OR GRADER.

- (1) Each place of business shall have an approved egg candler or grader before issuance of an egg license. Said person shall have complete authority over candling and/or grading of all eggs packed in said establishment for sale at retail.
- (2) Persons desiring approval to candle and/or grade eggs shall attend a training school or receive like training set up by the Tennessee Department of Agriculture in cooperation with other agricultural agencies for the purpose of instructing persons desiring to candle and/or grade eggs. Upon completion of the course, applicant will be given an examination to qualify for a certificate to officially candle and/or grade eggs. Certificates shall be issued free of cost. Candler's certificate may be revoked when the Commissioner or his duly appointed representative has evidence that said grader is not candling and/or grading eggs as provided in the Tennessee Egg Law or not properly advising candlers under his supervision.
- (3) Plants having a U.S. bonded grader shall be considered eligible for a Tennessee Egg License.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.09 ISSUANCE OF EGG LICENSES.

- (1) All persons making application for an egg license shall furnish with the application sufficient records and/or information of previous year's transactions of eggs deemed necessary by the Commissioner to establish a basis for issuance of license for which application has been filed.
- (2) Persons failing to submit the above information will be required to make affidavit as to the number of cases of eggs they handled during the previous year.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.10 COPY OF INVOICE TO BE FURNISHED TO DEPARTMENT OF AGRICULTURE. All wholesalers, processors, dealers and retailers shall be required to furnish to the State Department of Agriculture upon request a copy of the invoice of each sale or purchase of eggs, said copy of invoice shall show the name of the person or firm, the quality (kind) and quantity of eggs involved in such sale. Nothing herein contained shall be construed to require the filing of a copy of the invoice of a sale to a consumer.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.11 SANITARY CONDITIONS FOR HANDLING OF EGGS. Sanitary conditions under which eggs and egg products are handled will be adjudged and measured by the provisions of the Tennessee Code Annotated Title 52, Chapter 10.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.12 EGGS OFFERED FOR SALE AT RETAIL. All eggs offered for sale at retail in Tennessee are subject to and must meet all requirements of the Tennessee Egg Law.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.13 OUT-OF-STATE TRADING AND TRAFFICKING. Persons out-of-state trading and trafficking in eggs in Tennessee are subject to the provisions as prescribed in the Tennessee Egg Law.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.14 LABELING. It is ruled by the Commissioner of Agriculture that all labeling, advertising, marking, stamping, or any other term common to the Act shall be in English language.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.15 FALSE OR MISLEADING STATEMENTS ETC. It is unlawful to render any invoice, statement, candling certificate or bill of lading showing the standard of quality, standard of size, representation of freshness, or any other description of eggs, which is false, deceptive, misleading in any particular; or that does not conform with the quality designations and sizes promulgated by the Tennessee Department of Agriculture.

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.16 CANDLING AND GRADING.

- (1) Candling consists of viewing the individual egg before a light, thus making it possible to observe the condition and behavior of (its) the interior contents (yolk, white, and air cell) and soundness and cleanliness of the shell. Thereby making it possible for a person to classify each egg according to quality factors.

(Rule 0080-5-4-.16, continued)

- (2) Eggs are also classified according to weight (or size) expressed in ounces per dozen.
- (3) Egg grading, then, is the grouping of eggs into lots having similar characteristics as to quality and weight.

Authority: T.C.A. §52-206. **Administrative History:** Original Rule certified June 5, 1974.

0080-5-4-.17 GENERAL REQUIREMENTS FOR BUILDING AND PLANT FACILITIES FOR GRADING AND PACKING OF EGGS.

- (1) Each place of business making application for an egg license shall meet the minimum facility and operating requirements for shell egg grading and packing plants as prescribed in this regulation before receiving same.
- (2) Buildings shall be of sound construction so as to prevent, insofar as practicable, the entrance or harboring vermin and shall be of sufficient size to permit installation of necessary equipment and the conduct of grading and packing eggs in a sanitary manner. These rooms shall be kept reasonably clean during grading and packing operations and shall be thoroughly cleaned at the end of each operating day. Adequate lavatory and toilet accommodations shall be provided; and toilet and locker rooms shall be kept in a clean and sanitary condition.
- (3) The egg candling and/or grading rooms shall be thoroughly cleaned prior to closing each day and all eggs found to be inedible during the day shall be destroyed. All cans or containers used for temporary disposal of inedible eggs during the candling day shall be emptied and thoroughly cleaned. Paper or cardboard receptacles used for such disposal must be destroyed each day.
- (4) **CANDLING AND GRADING ROOM.**
 - (a) The candling room should be darkened to the extent necessary to do an adequate and efficient job. The extent of darkness will vary depending on the type of candling light and other equipment used. There should be no cross beams of light between the grader and the candling light. The candling light aperture should be so placed that rays of light coming from it will not shine directly into the grader's eyes when he is in a position for candling.
 - (b) It is desirable that the walls and ceiling of the candling room have smooth, washable surfaces and be painted with a dark-colored flat-finished paint to avoid light reflection.
 - (c) Each person candling and/or grading eggs shall have convenient access to an egg scale. An accurate check weight shall be provided.
- (5) **CANDLING LIGHT.**
 - (a) There are many different styles and types of candling lights commercially available in which the light intensity and the size of the candler opening vary considerably. Most of these candling lights, however, are satisfactory, if they are adjusted to provide comfort and proper illumination for the job. It is merely a matter of becoming accustomed to the type of light in use.
 - (b) *Automation.* The high quality egg now produced under modern, large scale controlled flock system lends itself very well to handling and processing eggs with automatic equipment.
- (6) **COOLER ROOM REQUIREMENTS.**

(Rule 0080-5-4-.17, continued)

- (a) Cooler rooms shall have refrigeration facilities capable of reducing within 24 hours and holding the maximum volume of eggs handled to 60° F. if the eggs are to be held not longer than one week. If eggs are held for longer periods than one week, refrigeration facilities sufficient to hold the eggs at a lower temperature (45° to 55° F.) would be desirable.
- (b) Cooler rooms shall be free from objectionable odors and from mold, and shall be maintained in a sanitary condition.

Authority: T.C.A. §52-206. **Administrative History:** Original Rule certified June 5, 1974.

0080-5-4-.18 TENNESSEE STANDARDS, GRADES AND WEIGHT CLASSES FOR SHELL EGGS.

(Based on U.S.D.A. Standards for Quality of Individual Shell Eggs)

The Tennessee Standards for Quality of Individual Shell Eggs are applicable only to eggs of the domesticated chicken that are in the shell. (See Table 1.)

TABLE I - SUMMARY OF TENNESSEE STANDARDS FOR QUALITY OF INDIVIDUAL SHELL EGGS
Specifications for Each Quality Factor

Quality Factor	AA Quality	A Quality	B Quality	C Quality
Shell	Clean. Unbroken. Practically normal.	Clean. Unbroken. Practically normal.	Clean; to very slightly stained. Unbroken. May be slightly abnormal.	Clean; to moderately stained. Unbroken. May be abnormal.
Air	1/8 inch or less in depth.	3/16 inch or less in depth.	3/8 inch or less in depth.	May be 3/8 inch in depth.
Cell	Practically regular.	Practically regular.	May be free or bubbly	May be free or bubbly.
White	Clean. Firm. (72 Haugh units or higher.)	Clean. May be reasonably firm. (60 to 72 Haugh units.)	Clean. May be slightly weak. (31 to 60 Haugh units.)	May be weak and watery Small blood clots or spots may be present.* (less than 31 Haugh units)
Yolk	Outline slightly defined. Practically free from defects.	Outline may be fairly well defined. Practically free from defects.	Outline may be well defined. May be slightly enlarged and flattened May show definite but not serious defects.	Outline may be plainly visible. May be enlarged and flattened. May show clearly visible germ development but no blood. May show other serious defects.

(Rule 0080-5-4-.18, continued)

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

For eggs with dirty or broken shells, the standard of quality provided three additional qualities. These are:

Dirty	Check	Leaker
Unbroken. May be dirty.	Checked or cracked but not leaking.	Broken so contents are leaking.

(1) TENNESSEE STANDARDS FOR QUALITY OF INDIVIDUAL SHELL EGGS

Based on Candied Appearance

- (a) *AA Quality.* The shell must be clean, unbroken, and practically normal. The air cell must not exceed 1/8 inch in depth and be practically regular. The white must be clear and firm so that the yolk is only slightly defined when the egg is twirled before or passed over the candling light. The yolk must be practically free from apparent defects.
- (b) *A Quality.* The shell must be clean, unbroken and practically normal. The air cell must not exceed 3/16 inch in depth and must be practically regular. The white must be clear and at least reasonably firm so that the yolk outline is only fairly well defined when the egg is twirled before or passed over the candling light. The yolk must be practically free from apparent defects.
- (c) *B Quality.* The shell must be unbroken and may be slightly abnormal and may show slight stains but no adhering dirt: Provided, That they do not appreciably detract from the appearance of the egg. When the stain is localized, approximately 1/32 of the shell surface may be slightly stained, and when the slightly stained areas are scattered, approximately 1/16 of the shell surface may be slightly stained.

The air cell must not exceed 3/8 inch in depth, may show unlimited movement, and may be free or bubbly. The white must be clear and may be slightly weak so that the yolk outline is well defined when the egg is twirled before or passed over the candling light. The yolk may appear slightly emerged or slightly flattened and may show other definite, but not serious, defects.

- (d) *C Quality.* The shell must be unbroken, may be abnormal and may have slightly stained areas. Moderately stained areas are permitted if they do not cover more than 1/4 of the shell surface. Eggs having shells with prominent stains or adhering dirt are not permitted. The air cell may be over N inch in depth and may be free or bubbly.

The white may be weak or watery so that the yolk outline is plainly visible when the egg is twirled before or passed over the candling light. The yolk may appear dark, enlarged, and flattened, and may show clearly visible germ development but no blood due to such development. It may show other serious defects that do not render the egg inedible. Small blood clots or spots (aggregating not more than 1/8 inch in diameter) may be present.

- (e) *Dirty.* The shell must be unbroken and it has adhering dirt, prominent stains, or moderate stains covering more than 1/4 of the shell surface.
- (f) *Check.* An individual egg that has a broken shell or crack in the shell but with its shell membranes intact and its contents do not leak.

(Rule 0080-5-4-.18, continued)

- (g) *Leaker.* An individual egg that has a crack or break in the shell and shell membranes to the extent that the egg contents are exuding or free to exude through the shell. An egg which has a portion of the shell missing (in excess of an area 1/4 inch square) is considered a leaker even though the shell membrane is intact.

(2) TENNESSEE CONSUMER GRADES AND WEIGHT CLASSES FOR SHELL EGGS

- (a) *“Fancy Fresh Quality”* shall consist of eggs meeting the requirements of the Quality Control program as outlined in Regulation XX.
- (b) *“Tennessee Consumer Grade AA”* shall consist of eggs of which at least 80 percent are AA quality. Within the maximum tolerance of 20 percent, which may be below AA quality, not more than 5 percent may be of the qualities below A, in any combination, but not including Dirties and Leakers. This grade name is also applicable when the lot consists of eggs meeting the requirements of the Quality Control program as outlined in 0080-5-5-.20.
- (c) *“Tennessee Consumer Grade A”* shall consist of eggs of which at least 80 Percent are A quality or better. Within the maximum tolerance of 20 percent which may be below A quality, not more than 5 percent may be of the qualities below B, in any combination but not including Dirties and Leakers.
- (d) *“Tennessee Consumer Grade B”* shall consist of eggs which at least 80 percent are B Quality or better. Within the maximum tolerance of 20 percent which may be below B Quality, 10 percent may be of C Quality, and not over 10 percent may be Dirties or Checks in any combination.
- (e) *Additional tolerances.* Within the maximum tolerances permitted, an allowance will be made at receiving points or shipping destination for 1/2 percent Leakers in Fancy Fresh Quality and Tennessee Consumer Grades AA, A, and B.

In lots of two or more cases, no individual case may fall below 70 percent of the specified quality and no individual case may contain less than 90 percent (80 percent for Grade B) of the specified quality and the next lower quality. The remaining 10 percent (20 percent for Grade B) may consist of a combination of qualities below the next lower quality (i.e., in lots of Grade A, not more than 10 percent of the qualities in individual cases within the sample may be C or Check, provided the average is not over 5 percent). In lots of two or more cartons, no individual carton may contain less than 8 eggs of the specified quality and no individual carton may contain less than 10 eggs of the specified quality and next lower quality. The remaining two eggs may consist of a combination of qualities below the next lower quality (i.e., in lots of Grade A, not more than two eggs of the qualities in individual cartons within the sample may be C or Check). (See Table 2 for Summary of the Tennessee Consumer Grades for Shell Eggs. See Table 3 for Tolerance for Individual Case or Carton Within a Lot.)

(Rule 0080-5-4-.18, continued)

TABLE 2 -SUMMARY OF TENNESSEE CONSUMER GRADES FOR SHELL EGGS.

Tennessee Consumer Grade	At least 80 per-cent (lot average) ¹ must be-	Tolerance permitted ²	
		Percent	Quality
Grade AA or Fancy Fresh Quality	AA quality	15 to 20 not over 5 ³	A. B, C or Check
Grade A.....	A Quality or better.	15 to 20 not over 5 ³	B. C or Check
Grade B.....	B Quality or better.	10 to 20 not over 10 ³	C. Dirty or Check

¹In lots of two or more cases or cartons, see Table 3 of this section for tolerances for individual case or carton within a lot.

²Within tolerance permitted, an allowance will be made at receiving points or shipping destination for 1/2 percent leakers in Grades AA, A and B.

³Substitution of higher qualities for the lower qualities specified is permitted.

TABLE 3 -TOLERANCE FOR INDIVIDUAL CASE OR CARTON WITHIN A LOT.

Tennessee Consumer Grade	Case-minimum quality-percent ¹	Carton-minimum quality-number eggs. ¹
Grade AA or Fancy Fresh Quality.	70% AA.....	8 eggs AA.
	20% A.....	2 eggs A.
	10% B, C or Check.....	2 eggs B, C or Check.
Grade A	70% A.....	8 eggs A
	20% B.....	2 eggs B.
	10% C or Check.....	2 eggs C or Check.
Grade B	70% B.....	8 eggs B.
	10% C.....	2 eggs C.
	20% Check or Dirty.....	2 eggs Check or Dirty.

¹Substitution of higher qualities for lower qualities specified is permitted.

- (f) *Weight classes.* The weight classes for Tennessee Consumer Grades for Shell Eggs shall be as indicated in Table 4 and shall apply to all consumer grades.

Minimum weights listed for individual eggs at the rate per dozen are permitted in the various size classes only to the extent that they will not reduce the net weight per dozen below the required minimum.

(Rule 0080-5-4-.18, continued)

TABLE 4 -TENNESSEE WEIGHT CLASSES FOR CONSUMER GRADES FOR SHELL EGGS.

Size or Weight class	Minimum Net Dozen		Minimum Weight for individual eggs at rate per dozen
	Ounces	Pounds	Ounces
Jumbo.....	30	56	29
Extra Large.....	27	50 1/2	26
Large.....	24	45	23
Medium	21	39 1/2	20
Small	18	34	17
Peewee	15	28

Authority: T.C.A. §52-206. *Administrative History:* Original Rule certified June 5, 1974.

0080-5-4-.19 GENERAL QUALITY FACTORS.

- (1) **QUALITY** may be defined as the inherent properties of a product which determine its degree of excellence.
- (2) **QUALITY FACTORS** may be divided into two general groups: Exterior quality factors, apparent from external observation; and interior quality factors, which involve the contents of the shell.
- (3) **INTERIOR QUALITY FACTORS** may be determined by candling or by a flock selection method based on breaking out a small number of eggs from each flock.
- (4) **EXTERIOR QUALITY FACTORS.** The external factors of the egg - color, shape, soundness and cleanliness of the shell - can be determined without using the candling light, but soundness of shell should be verified by candling.
- (5) **SHELL SHAPE AND TEXTURE.**
 - (a) The normal egg has an oval shape with one end larger than the other, and it tapers toward the smaller end. These ends of an egg are commonly called the large end (air cell end) and the small end.
 - (b) Eggs that are unusual in shape or contain some degree of abnormality, such as those having ridges, rough areas, or thin spots, are placed in the lower grades.
 - (c) The specifications of the Tennessee standards provide three degrees of variation for shell shape and texture:
- (6) **PRACTICALLY NORMAL.** - A shell that approximates the usual shape and that is of good even texture and strength and free from rough areas or thin spots. Slight ridges and rough areas that do not materially affect the shape, texture, and strength of the shell are permitted. (AA and A Quality.)
- (7) **SLIGHTLY ABNORMAL.** - A shell that may be somewhat unusual in shape or that may be slightly faulty in texture or strength. It may show definite ridges but no pronounced thin spots or rough areas. (B Quality.)
- (8) **ABNORMAL.** - A shell that may be decidedly misshapen or faulty in texture or strength or that may show pronounced ridges, thin spots, or rough areas. (C Quality.)

(Rule 0080-5-4-.19, continued)

(9) SOUNDNESS OF SHELL.

- (a) The shell of an egg may be sound, checked, or cracked, leaking, or smashed.

Following are definitions of these shell factors:

1. A sound egg is one whose shell is unbroken.
2. Check - An individual egg that has a broken shell or crack in the shell but with its shell membranes intact and its contents do not leak.
3. Leaker - An individual egg that has a crack or break in the shell and shell membranes to the extent that the egg contents are exuding or free to exude through the shell. An egg which has a portion of the shell missing (in excess of an area 1/4 inch square) is considered a leaker even though the shell membrane is intact.
4. A smashed egg is one whose shell is crushed or shattered.
5. Leakers or smashed eggs are considered as loss in the Tennessee Regulations.
6. Checks may range from a very fine, hairlike check (blind check) that is discernible only before the candling light or by "belling," to plainly visible dented in rapid candling. Such eggs will not keep well or stand even moderately rough handling, hence they should be diverted to immediate use.
7. "Belling" is the practice of tapping two eggs together gently to assist in the detection of "blind checks" by sound.

(10) SHELL CLEANLINESS.

- (a) Freedom from stains and foreign material on the shell of eggs must be considered in assigning a quality designation to an individual egg.

Following are the classifications and terms descriptive of shell cleanliness:

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 or stains, if such specks or stains 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. (AA and A Quality.)
2. Slightly stained. -A shell that is free from adhering dirt, but which has slight stains which do not appreciably detract from the appearance of the egg. When the stain is localized, approximately 1/32 of the shell surface may be slightly stained, and when the slightly stained areas are scattered, approximately 1/16 of the shell surface may be slightly stained. (B Quality.)

Eggs having more than 1/16 of the shell surface slightly stained may be classified as C
3. Moderate stains. - A shell that is free from adhering dirt, but which has stains of moderate degree covering not more than 1/4 of the shell surface. (C Quality.)

(Rule 0080-5-4-.19, continued)

4. Dirty. - The shell must be unbroken and it has adhering dirt, prominent stains, or moderate stains covering more than 1/4 of the shell surface.

Shell Color. - Shell color does not affect the quality of the egg and is not considered in the Tennessee standards of quality or grades.

(11) INTERIOR QUALITY FACTORS.

- (a) *Air Cell.* There are two measurements of the air cell to be considered, namely, the depth and the amount of movement.

The depth of the air cell is measured at the point of greatest distance between the top of the cell and an imaginary plane passing through the egg at the lower edge of the air cell where it touches the shell. Air cell movement is the distance the air cell moves away from its normal position when the egg, with the air cell uppermost, is twirled.

- (b) *The following terms are descriptive of the air cell:*

1. Practically regular. - An air cell that maintains a practically fixed position in the egg and shows a fairly even outline with not more than 2/8 inch movement in any direction as the egg is rotated. (AA and A Quality.)
2. Free air cell. - An air cell that moves freely toward the uppermost point in the egg as the egg is rotated slowly. The shell membranes are intact but the air cell moves freely in any direction between them. (B Quality.)
3. Bubbly air cell. - A ruptured air cell resulting in one or more small separate air bubbles usually floating beneath the main air cell. (B or C Quality.)

The size and movement of the air cell which are permitted in the various qualities are as follows:

Quality	Depth	Movement
AA	1/8 inch	2/8 inch
A	3/16 inch	2/8 inch
B	3/8 inch	May be free or bubbly
C	No limit	No limit

- (c) *Yolk.* The appearance of the yolk as the egg is twirled before or passed over the candling light is one of the best indicators of the interior quality of shell eggs.

There are three factors considered in judging egg quality by the yolk shadow and behavior when candling. These are:

1. Distinctness of Yolk Shadow Outline.
 - (i) Outline slightly defined. - A yolk outline that is indistinctly indicated and appears to blend into the surrounding white as the egg is twirled. (AA Quality.)
 - (ii) Outline fairly well defined. - A yolk outline that is discernible but not clearly outlined as the egg is twirled. (A Quality.)

(Rule 0080-5-4-.19, continued)

- (iii) Outline well defined. - A yolk outline that is quite definite and distinct as the egg is twirled. (B Quality.)
 - (iv) Outline plainly visible. - A yolk outline that is clearly visible as a dark shadow as the egg is twirled. (C Quality.)
2. Size and Shape of Yolk.
- (i) Slightly enlarged and slightly flattened. -A yolk in which the yolk membranes and tissues have weakened somewhat causing it to appear slightly enlarged and slightly flattened. (B Quality.)
 - (ii) Enlarged and flattened. -A yolk in which the yolk membranes and tissues have weakened and moisture has been absorbed from the white to such an extent that it appears definitely enlarged and flat. (C Quality.)
3. Defects and Germ Development.
- (i) Practically free from defects. - A yolk that shows no germ development but may show other very slight defects on its surface. (AA and A Quality.)

Definite but not serious defects. - A yolk that may show definite spots or areas on its surface but with only slight indications of germ development or other pronounced or serious defects. (B Quality.)
 - (ii) Other serious defects. - A yolk that shows well-developed spots or area and other serious defects, such as an olive yolk, which do not render the egg inedible. (C Quality.)
 - (iii) Clearly visible germ development. - Development of the germ spot on the yolk of a fertile egg that has progressed to the point where it is plainly visible as a circular area or spot with no blood in evidence. (C Quality.)
 - (iv) Blood due to germ development. - Blood caused by development of the germ in a fertile egg to a point where it is visible as definite lines or as a blood ring. Such an egg is classified as inedible.
- (d) *White.* The appearance of the egg before the candling light is governed largely by the relative proportions of the thick and outer thin layers of albumen. Thick whites permit only limited movement of the yolk and an indistinct shadow results.

The reverse is true of thin whites which permit free movement of the yolk and a distinct shadow results.

The following terms are descriptive of the white:

- 1. Clear. -A white that is free from discolorations or from any foreign bodies floating in it. (Prominently chalazas should not be confused with foreign bodies such as spots or blood clots. (AA, A, B Quality.)
- 2. Firm. - 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

(Rule 0080-5-4-.19, continued)

respect to a broken-out egg, a firm white has a Haugh unit value of 72 or higher when measured at a temperature between 45° and 60° F.

3. Reasonably firm. - 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 60 to 72 when measured at a temperature between 45° and 60° F.
4. Slightly weak. - A white that is lacking in thickness or viscosity to an extent that causes the yolk outline to appear well defined when the egg is twirled or passed over the candling light. With respect to a broken-out egg, a slightly weak white has a Haugh unit value of 31 to 60 when measured at a temperature between 45° and 60° F.
5. Weak and watery. - A white that is 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 31 when measured at a temperature between 45° and 60° F.
6. Blood clots and spots (not due to germ developments.) - Blood spots or clots commonly called meat spots may be found on the surface of the yolk or floating in the white. If they are small (aggregating not more than 1/8 inch in diameter) the egg may be classed as "C Quality." If larger, or showing diffusion of blood in the white surrounding them the egg shall be classified as loss.
7. Bloody white. - An egg, the white of which has blood diffused through it. Such a condition may be present in new-laid eggs. Eggs with bloody whites are classed as loss.

(e) *Loss Eggs.*

The Tennessee Standards of Quality also define certain eggs as "loss."

1. LOSS. An egg that is inedible, smashed, or broken so that the contents are leaking, cooked, frozen, contaminated, or containing bloody whites, large blood spots, large unsightly meat spots, or other foreign material.
2. Inedible eggs. Inedible eggs are described in the Tennessee standards to include black rots, white rots, sour eggs, eggs with green whites, musty eggs, moldy eggs, mixed rots, and eggs with stuck yolks.

Authority: T.C.A. §52-206. **Administrative History:** Original Rule certified June 5, 1974.

0080-5-4-.20 DETERMINING THE INTERIOR QUALITY BY THE BREAKOUT METHOD.

- (1) Through increased production of high quality eggs in Tennessee, there was created a quality egg marketing program namely, "The Fancy Fresh Egg Marketing Program." This program makes possible the marketing of high quality eggs from controlled flocks in Tennessee under the Fancy Fresh, Grade AA, Tennessee Produce label.
- (2) Requirements: For Certification to Market Eggs Under the Tennessee Fancy Fresh Egg Marketing Program.

(Rule 0080-5-4-.20, continued)

- (a) Packing plant must have a satisfactory procurement and distribution program, which shall include, but not being limited to the following requirements at the farm and retail store level as applicable:
 1. Eggs from each flock (a flock shall consist of birds not varying in age by more than 60 days located on the same farm and cared for under the same supervision) shall be packed separately and labeled so as to facilitate segregation at the farm and packing plant.
 2. A flock shall be segregated according to hatch date of birds and the eggs from each age of birds inspected separately at any time the Commissioner of Agriculture, or his duly appointed agent deems such procedure is necessary for the improvement and progress of the Tennessee Fancy Fresh Egg Marketing Program.
 3. Eggs which require cleaning shall be cleaned by approved methods. Eggs may be oil, or shell treated by approved sanitary methods.
 4. Eggs shall be gathered from the nest at least twice and preferably three, or more times a day.
 5. Eggs shall be cooled immediately after gathering to 60° F., or below and held at a reasonably constant temperature not to exceed 60° F., and a relative humidity of approximately 70 per cent.
 6. Eggs shall be transported and handled under such conditions as will prevent sweating and so as to reach the packing plant, or store with an internal temperature of 60° F., or below.
 7. The temperature at which the eggs are held and displayed at the retail store shall not exceed 60° F.
- (3) Requirements at Time of Packing.
 - (a)
 1. Quality of eggs shall be determined by the broken-out score, measured in Haugh Units and the condition of the yolk. The break-out test shall be accomplished at the assembly plant, in the retail market, or at the farm.
 2. The internal temperature of the eggs at the time of packing shall not exceed 60° F.
 3. A flock may be eligible for entry under the program when a sample of 25 eggs drawn at random averages 76 Haugh Units, or higher, provided that not more than one egg of the sample measures less than 60 Haugh Units. The yolk of all eggs in the sample shall have a well rounded appearance with a reasonably uniform color. Re-instatement of a flock on the program shall be the same as for original entrance.
 4. A flock may remain on the program provided that (1) no individual weekly breakout average is below 76 Haugh Units at the time of packing for delivery to retail market; (2) the yolks of all eggs have a well rounded appearance with a reasonable uniform color; (3) not more than one (1) egg in any sample of ten (10) eggs measure less than 60 Haugh Units.

(Rule 0080-5-4-.20, continued)

5. The weekly average shall be computed by averaging the results obtained by testing ten (10) eggs per flock per week. Samples shall be drawn at random once a week per flock from a single shipment.
6. A sample of only five (5) eggs per week shall be tested when the break-out average is 80 Haugh Units, or higher and no egg in the sample measures less than 60 Haugh Units.
7. One month after admittance to the program a licensed egg grader in each plant, or on each farm shall break out eggs weekly, except when a service breakout is made by a State egg service man.
8. Eggs from flocks that meet these requirements may be packed into cartons after the blood spots, meat spots, checks, loss and eggs with shells failing to meet the requirements for AA quality have been removed. The cartons shall be identified with the proper date, grade and size, and packed in accordance with the Tennessee Egg Law.
9. All tests and maintenance of records pertaining to quality of eggs shall be the responsibility of a State service man and a licensed egg grader designated by the plant manager.
10. The expiration date is ten (10) days. At the end of the ten (10) days eggs shall be removed from the retail store and be relabeled if offered for sale at retail. Eggs shall not be offered or exposed for sale at retail as Fancy Fresh Grade AA when the break-out-average of twelve (12) eggs taken from the retail store is below 72 Haugh Units; not more than one (1) egg in the sample of twelve (12) eggs shall measure less than 60 Haugh Units.
11. The size of the sample may vary as deemed necessary by the State service man to secure a sample representative of any lot of eggs.
12. Periodic checks to determine the adequacy of the production and distribution program shall be made by State egg grading personnel.
13. Programs shall be originated through State agencies, including egg law enforcement officials.
14. Eggs packed and offered for sale under this program in Tennessee shall be Tennessee produced.
15. The Tennessee state seal of approval for eggs produced and marketed under this program shall be the outline of the State of Tennessee with the words Fancy Fresh Tennessee Produced and Quality Controlled. This seal shall be on each carton of eggs produced and packed for market under the Tennessee Fancy Fresh Egg Marketing Program. The outline of the State shall be not less than 1 inch wide and 5 inches long. Only eggs produced and marketed under this program shall bear this seal.
16. Limitations and conditions under which a person may participate on the Tennessee Fancy Fresh Egg Marketing Program are as follows:
 - (i) A person handling only Tennessee produced eggs.
 - (ii) A person may handle eggs other than Tennessee produced, provided such eggs are not more than 7 days of age at date of delivery to packing plant and shall be

(Rule 0080-5-4-.20, continued)

identified as to individual producer. Individual producer shall mean the individual caring for the birds at the production level.

- (iii) A person may handle Tennessee Produced Fancy Fresh Grade AA cartoned eggs packed by a person participating under the Tennessee Fancy Fresh Egg Marketing Program.
17. In order to comply with the Tennessee Egg Law all eggs packed under the Tennessee Fancy Fresh Egg Marketing Program must be labeled as to grade and size, therefore, eggs shall be labeled as Fancy Fresh Grade AA, Jumbo, Extra Large, Large, Medium, Small, or Peewee.
 18. The terms "Fancy Fresh", "Fresh Fancy", or "Fancy" shall be used only in the labeling and advertising of eggs which meet the standards set forth in the Tennessee Fancy Fresh Egg Marketing Program.

Authority: T.C.A. §52-206. **Administrative History:** Original Rule certified June 5, 1974.

0080-5-4-.21 SANITARY REQUIREMENTS FOR EGG PRODUCTS OPERATION.

(1) PLANT REQUIREMENTS.

- (a) The plant shall be free from strong foul odors, dust, and smoke-laden air.
- (b) The premises shall be free from refuse, rubbish, waste and other materials and conditions which constitute a source of odors or a harbor for insects, rodents, and other vermin.
- (c) The buildings shall be of sound construction and kept in good repair, such as to prevent the entrance or harboring of vermin.
- (d) Rooms shall be kept free from refuse, rubbish, waste materials, odors, insects, rodents, and from any conditions which may constitute a source of odors or engender insects and rodents. Materials and equipment not currently needed shall be handled or stored in a manner so as not to constitute a sanitary hazard.
- (e) Doors and windows that open to the outside shall be protected against the entrance of flies and other insects. Doors and windows serving rooms where edible product is exposed shall be adequately protected against the entrance of dust and dirt. All doors leading into rooms where edible product is processed shall be of solid construction and such doors, other than freezer and cooler doors, shall be fitted with self-closing devices.
- (f) Doors and other openings which are accessible to rodents shall be of rodent-proof construction.
- (g) There shall be an efficient drainage and plumbing system for the plant and premises. All drains and gutters shall be properly installed and approved traps and vents. The sewerage system shall have adequate slope and capacity to remove readily all waste from the various processing operations. All floor drains shall be equipped with traps, and constructed so as to minimize clogging.
- (h) Shell egg storage rooms, either on or off the premises, shall be capable of precooling all shell eggs to a temperature of 55° to 60° F.

(Rule 0080-5-4-.21, continued)

- (i) The water supply (both hot and cold) shall be ample, clean, and potable, with adequate facilities for its distribution throughout the plant, or portion thereof utilized for egg processing and handling operations, and for protection against contamination and pollution.
 - (j) The floors, walls, ceiling, partitions, posts, doors and other parts of all structures shall be of such materials, construction, and finish to permit their ready and thorough cleaning. The floors and curbing shall be watertight.
 - (k) Each room and each compartment in which any shell eggs or egg product are handled or processed shall be so designed and constructed as to insure processing and operating conditions of a clean and orderly character, free from objectionable odors and vapors, and maintained in a clean and sanitary condition.
 - (l) Every practicable precaution shall be taken to exclude dogs, cats, and vermin (including, but not being limited to, rodents and insects) from the plant, or portion thereof utilized, as aforesaid, in which shell eggs or egg products are handled or stored.
 - (m) There shall be a sufficient number of adequately lighted dressing rooms and toilet rooms, ample in size, conveniently located and separated from the rooms and compartments in which shell eggs or egg products are handled, processed, or stored. The dressing rooms and toilet rooms shall be separately ventilated, and shall meet all requirements as to sanitary construction and equipment.
 - (n) Lavatory accommodations (including, but not being limited to hot and cold running water, towels, and soap which does not impart an odor which interferes with accurate evaluation of the product) shall be placed at such locations in the plant as may be essential to assure cleanliness of each person handling any shell eggs or egg products.
 - (o) Suitable facilities for cleaning and sanitizing utensils and equipment shall be provided at convenient locations throughout the plant.
- (2) EQUIPMENT AND UTENSILS.
- (a) Equipment and utensils used in processing shell eggs and egg products shall be of such design, material, and construction as will (a) enable the examination, segregation, and processing of such products in an efficient, clean, and satisfactory manner, and (b) permit easy access to all parts to insure thorough cleaning and sanitizing. So far as is practicable all such equipment shall be made of metal or other impervious material, if the metal or other impervious material will not affect the product by chemical action or physical contact. Receptacles and packages used for shell eggs or egg products which are not fit for human food shall bear some conspicuous and distinctive identification.
- (3) GENERAL OPERATING PROCEDURES.
- (a) All operations involving processing, storing, and handling of shell eggs, ingredients to be added, and egg products shall be strictly in accord with clean and sanitary methods. Temperatures in all operations shall be such as will prevent a material increase in bacterial growth and deterioration or breakdown in the egg meat.
 - (b) All shell eggs and egg products shall be subjected to constant and continuous inspection throughout each and every processing operation. Any shell egg or egg product which was not processed in accordance with the regulations in this part or is not fit for human food shall be

(Rule 0080-5-4-.21, continued)

removed and segregated prior to any further processing operation and in connection with the production of egg products.

- (c) Shell eggs or egg products which are not fit for human food shall be placed in a conspicuously marked container which contains a denaturant of such character as will prevent such products from being used as human food or in the case of shell eggs they shall be treated in such manner as will preclude their use as human food.
 - (d) Eggs containing diffuse blood in the albumen or on the yolk shall not be used in the preparation of egg products and such eggs shall be denatured.
 - (e) Each person who is to handle any exposed or unpacked egg product shall wash his hands immediately prior to handling any such products, or any utensils which contain, or are to contain, such products and shall maintain clean hands while handling exposed or unpacked egg products.
 - (f) No product or material which creates an objectionable condition shall be processed, stored, or handled in any room, compartment, or place where any shell eggs or egg products are processed, stored, or handled.
 - (g) Only germicides, insecticides, rodenticides, detergents, or wetting agents or other similar compounds which will not deleteriously affect the egg products and which have been approved by the Administrator may be used in an official plant. The use of such compounds shall be in a manner satisfactory to the Administrator.
 - (h) All utensils and equipment which are contaminated during the course of processing any shell eggs or egg products shall be removed from use immediately and shall not be used again until cleaned and sanitized.
 - (i) Any substance or ingredient added to the processing of any egg product shall be clean and fit for human food.
 - (j) Packages or containers for egg products shall be clean when being filled with any egg products; and all reasonable precautions shall be taken to avoid soiling or contaminating the surface of any package or container liner which is, or will be, in direct contact with such egg products.
 - (k) All egg products shall, at the completion of the processing operation, be inspected by an inspector to ascertain the condition of the finished product.
 - (l) Egg meat which is examined and passed by an inspector shall be processed in such manner as to insure the removal of meat spots, shell particles, and foreign materials.
 - (m) All utensils and equipment, except the drying units, the powder conveyors, mechanical powder coolers, and blenders shall be cleaned and sanitized at the start of each day's processing operations. All equipment and utensils shall be kept clean and sanitary during all processing operations.
- (4) CANDLEING AND TRANSFER-ROOM FACILITIES.
- (a) The room shall be so constructed that it can be adequately darkened to assured accuracy in removal of inedible or loss eggs by candling. Equipment shall be arranged so as to facilitate cleaning and the removal of refuse and excess packing material.

(Rule 0080-5-4-.21, continued)

- (b) The construction of the floor shall allow thorough cleaning. In new construction the floors shall be of water-resistant composition and provided with proper drainage.
 - (c) Ventilation shall be such as to provide for the rapid removal of objectionable odors and dust, preferably by means of an exhaust fan.
 - (d) Candling devices of an approved type shall be provided to enable candlers to detect inedible, dirty, or checked eggs, and eggs other than chicken eggs.
 - (e) Containers made of a material and such design that is conducive to easy cleaning and sanitizing shall be provided for inedible eggs. All such containers shall be conspicuously marked.
 - (f) Containers made of material and such design that is conducive to easy cleaning and sanitizing shall be provided for trash unless clean disposable containers are furnished daily.
 - (g) Shell egg conveyors shall be constructed so that, they can be thoroughly cleaned.
- (5) CANDLING AND TRANSFER-ROOM OPERATIONS.
- (a) Candling and transfer room shall be kept clean, free from cobwebs, dust, objectionable odors, and excess packing materials.
 - (b) Floors and benches shall be thoroughly cleaned daily.
 - (c) Mechanical candling machines shall be maintained in a clean condition during operations.
 - (d) Containers for trash and inedible eggs shall be removed from the candling room as often as necessary but at least once daily; and shall be cleaned and treated in such a manner as will avoid off odors or create objectionable conditions in the plant.
 - (e) Shell eggs received in cases having strong odors such as kerosene, gasoline, or other odors of a volatile nature, shall be candled and broken separately to determine their acceptability for egg meat purposes and each container of the resultant frozen product shall be drilled and examined organoleptically.
 - (f) The shell eggs shall be sorted and classified as edible, dirty, and loss.
 - 1. All edible eggs shall be carefully placed on conveyors or into containers handled in a manner which will minimize breakage.
 - 2. Eggs shall be handled in such a manner to minimize sweating prior to breaking.
 - 3. All loss or inedible eggs shall be placed in a designated container and be denatured. Inedible and loss eggs are enumerated to include black rots, white rots, mixed rots, green whites, eggs with diffused blood in the albumen or on the yolk, crusted yolks, stuck yolks, developed embryos at or beyond the blood-ring state, moldy eggs, sour or musty eggs, and any other filthy and decomposed eggs including the following:
 - 4. Any egg with visible foreign matter, other than removable blood and meat spots, in the egg meat.

(Rule 0080-5-4-.21, continued)

5. Any egg with a sizable portion of the shell and shell membrane missing with egg meat adhering to the outside of the shell.
6. Any dirty egg with cracks in the shell and shell membrane and with contents exuding freely.
7. Any egg with a large portion of the membrane and shell missing so that the egg, in effect, is a smashed egg.
8. Any egg with conditions which make washing or breaking without contaminating the contents impossible.
9. Open leakers made in the washing operation.
10. Edible eggs include all eggs which are fit for human food and which are not defined as inedible or loss in subparagraph (3) of this paragraph. Edible eggs include eggs from which blood spots (localized clots of blood which can be removed steadily) have been removed.
11. Incubator reject eggs and ova from slaughtered birds of any species shall be rejected.

(6) EGG WASHING AREA.

- (a) The egg washing room or area shall be separated from the breaking, drying and sanitizing rooms.

(7) EGG CLEANING OPERATIONS.

- (a) All shell eggs with adhering dirt shall be cleaned prior to breaking. If eggs are cleaned by washing, the washing process shall be continuous and eggs shall not be allowed to stand or soak in water or washing solution. Eggs may be washed in immersion type washers in a continuous and controlled operation provided such operations are approved by the state supervisor. Washed eggs shall be spray rinsed. Sanitizing agents used in all egg washing and rinsing operations shall be approved by the state supervisor. The washing and rinsing solution shall contain 200 ppm of chlorine or its equivalent and shall be changed when the solution drops to 100 ppm of available chlorine or its equivalent. The wash or spray solution shall also be changed with sufficient frequency to maintain it in reasonably clean condition. Eggs not requiring cleaning may be immersed or sprayed with water containing a sanitizing agent. Eggs shall be dried prior to breaking sufficiently to prevent contamination or adulteration of the liquid eggs.
- (b) Test kits and testing methods used for determining the bacterial strength of the wash or spray solution shall be approved by the State supervisor.
- (c) Temperature of the wash water shall be at least 20° F. higher than the temperature of the eggs to be washed.
- (d) Shell eggs shall not be washed in the breaking or sanitizing rooms or any room where edible products are processed.
- (e) Washed eggs, if not broken after they are dried, shall be held at a temperature of 55° to 60° F.

(Rule 0080-5-4-.21, continued)

(8) BREAKING ROOM FACILITIES.

- (a) The breaking room shall have at least 30 foot candles of light on all working surfaces except that light intensity shall be at least 50 foot candles at breaking tables and inspection tables. Lights shall be protected with adequate safety devices.
- (b) The surface of the ceiling and walls shall be smooth and made of a tile, plaster, or other water-resistant material.
- (c) The floor shall be of water-proof composition and reasonably free from cracks or rough surfaces, and intersections with walls and curbing shall be impervious to water with ample drainage provided.
- (d) Ventilation shall provide for:
 - 1. A positive flow of outside filtered air through the room;
 - 2. Sufficient "exhaust" to cause a prompt and continuous removal of objectionable odors; and
 - 3. Warm room air of suitable working temperature when rooms are operated during cold weather.
- (e) There shall be provided adequate hand washing facilities which are easily accessible to all breaking personnel, an adequate supply of warm water, clean towels or other facilities for drying hands, odorless soap, and containers for used towels. Hand washing facilities shall be operated by other than hand operated controls.
- (f) Tables and receiving shelves shall be of approved metal construction and surfaces thereof shall be smooth and without open seams. Metal covered wooden tables are not acceptable.
- (g) Conveyors for liquid-egg containers shall be so constructed as will prevent entrance of grease, dust, or other contaminants into the liquid eggs.
- (h) Conveyors for shell eggs shall be so constructed as will permit them to be operated in a clean and sanitary manner.
- (i) Conveyors which are used for carrying shell eggs shall be so installed as will prevent contamination of the egg products.
- (j) All liquid-egg containers, including cups, buckets, pipes, pumps and other equipment which come in contact with liquid eggs, shall be made of approved materials and shall be free from leaks, excessive dents, rust spots and those seams which make cleaning difficult.
- (k) Frozen egg containers are not acceptable as liquid-egg buckets.
- (l) A suitable container bearing an identifying mark shall be provided for disposal of rejected liquid.
- (m) Strainers, settling tanks, or centrifugal clarifiers of approved construction shall be provided for the effective removal of shell particles, and foreign material, unless specific approval is obtained from the State Supervisor for other mechanical devices.

(Rule 0080-5-4-.21, continued)

- (n) Liquid eggs recovered from shell eggs containers shall be rejected and treated as inedible egg liquid.
 - (o) In the processing of whole eggs or albumen, hashers may be used when preceded by an approved settling tank or strainer, or followed by a centrifugal clarifier.
- (9) BREAKING ROOM OPERATIONS.
- (a) The breaking room shall be kept in a dustfree clean condition and free from flies, insects and rodents. The floor shall be kept clean and reasonably dry during the breaking operations and free of egg meat and shells.
 - (b) Shell egg containers coming into the breaking room shall be so handled that they do not pass directly over or come in contact with liquid egg, liquid-egg containers, or drip trays. Such containers shall be made of a material and of such design that is conducive to easy cleaning and sanitizing.
 - (c) Shell egg conveyors shall be maintained in a sanitary condition while in operation.
 - (d) All breaking room personnel shall wash their hands thoroughly with odorless soap and water each time they enter the breaking room and prior to receiving clean equipment after breaking an inedible egg. Perfumes and nail polish shall not be used by breakers.
 - (e) Paper towels or tissues shall be used at breaking tables, and shall not be reused. Cloth towels are not permitted.
 - (f) Breakers shall use a complete set of clean equipment when starting work and after lunch periods. All table equipment shall be rotated with clean equipment every 2 1/2 hours.
 - (g) Cups shall not be filled to overflowing.
 - (h) Each shell egg must be broken in a satisfactory and sanitary manner and inspected for wholesomeness by smelling the shell or the egg meat and by visual examination at the time of breaking. All egg meat shall be re-examined by a limited licensed inspector before being emptied into the tank or churn except as otherwise approved by the State supervisor.
 - (i) Shell particles, meat and blood spots, and other foreign material accidentally falling into the cups or trays shall be removed with a spoon or other approved instrument.
 - (j) Whenever an inedible egg is broken, the affected breaking equipment shall be replaced with a complete set of clean equipment, except that only the cup or Canadian tray need be exchanged when bloody whites or blood rings are encountered.
 - (k) The contents of any cup or other egg-liquid receptacle containing one or more inedible or loss egg shall be rejected.
 - (l) All inedible egg liquid must be placed in a clearly identified container containing a denaturant. This container shall be kept adjacent to, or in the sanitizing room, or near the inspection table and shall be removed from the breaking or sanitizing room as often as is necessary to maintain satisfactory operating conditions, but at least once daily. Notwithstanding the foregoing and upon written permission of the Administrator, the applicant may temporarily hold inedible liquid in conspicuously marked containers which do not contain a denaturant if such inedible

(Rule 0080-5-4-.21, continued)

liquid is conspicuously marked containers which do not contain a denaturant if such inedible liquid or inedible product produced therefrom is denatured prior to shipment from the plant.

- (m) Contents of drip trays shall be emptied into a cup and smelled carefully before pouring into egg-liquid bucket. Drip trays shall be emptied at least once for each fifteen dozen eggs or every 15 minutes.
- (n) Liquid eggs recovered from shell egg containers shall be rejected and treated as inedible egg liquid.
- (o) All egg liquid and ingredient containers and additives such as salt, sugar, and syrups shall be handled in a clean and sanitary manner.
- (p) Shell egg containers whenever dirty shall be cleaned and drained; and shall be cleaned, sanitized, and drained at the end of each shift.
- (q) Belt type shell egg conveyors shall be cleaned and sanitized approximately every 4 hours in addition to continuous cleaning during operation. When not in use, belts shall be raised to permit air drying.
- (r) Cups, knives, racks, separators, trays, spoons, liquid-egg pails, and other breaking equipment shall be cleaned and sanitized at least every 2 1/2 hours. This equipment shall also be cleaned and sanitized at the end of each shift and shall be sanitized again immediately prior to use unless operations are resumed within one hour. All washing and sanitizing is to be conducted in the area provided for this purpose.
- (s) Sanitized utensils shall be drained on aerated drain racks and shall not be nested. Sanitizing shall be accomplished by subjecting, for not less than one minute, the equipment surfaces to a hypochlorite or other approved sanitizing solution carrying a maximum initial strength of 200 ppm of chlorine or its equivalent. The solution shall be changed whenever the strength of the solution drops to 100 ppm of available chlorine or its equivalent.
- (t) Dump tanks, draw-off tanks and low pressure liquid egg lines shall be flushed at least every 4 hours. All such equipment and all other liquid handling equipments, unless cleaned by acceptable in-place cleaning methods, shall be dismantled, cleaned and sanitized after each shift and shall not be reassembled more than 2 hours prior to use. Such equipment shall be thoroughly flushed with a sanitizing solution and thoroughly drained prior to placing in use.
- (u) Strainers, clarifiers, and other devices used for removal of shell particles and other foreign material shall be cleaned and sanitized each time it is necessary to change such equipment, but at least once each 4 hours of operation and unless gauges are installed which indicate satisfactory operation, pressure strainers shall be cleaned and sanitized at least once each 2 hours of operation.
 - 1. Breaking room processing equipment shall not be stored on the floor.
 - 2. Metal containers and lids for other than dried products shall be thoroughly washed and drained immediately prior to filling, except that if equally effective measures approved by the state supervisor in writing are followed to assure clean and sanitary containers at the time of filling, the foregoing washing sequence shall not be required.

(Rule 0080-5-4-.21, continued)

3. Liquid eggs holding, vats and containers (including tank trucks) used for transporting liquid eggs shall be cleaned after each use. Such equipment shall be clean and shall be sanitized immediately prior to placing in use.
4. Tables, shell conveyors and containers, and containers for inedible egg liquid shall be cleaned and sanitized at the end of each shift.
5. All frozen egg products prepared under the Tennessee Egg Law may be examined by organoleptic examination after freezing to determine their fitness for human food. Any such products which are found to be unfit for human food shall be denatured and any official identification mark which appears on any containers thereof shall be removed or completely obliterated.

(10) LIQUID EGG COOLING FACILITIES.

- (a) Liquid egg cooling units shall be of approved construction and shall have sufficient capacity to cool all liquid eggs to meet the temperature requirements specified in K Section (c) for liquid eggs prior to drying or freezing.
- (b) Surface type coolers shall be fitted with covers unless located in a separate room maintained under sanitary condition.

(11) LIQUID COOLING OPERATIONS.

- (a) Liquid-egg storage rooms, including surface cooler and holding tank rooms, shall be kept clean, free from objectionable odors and condensation.
- (b) All shell eggs shall be precooled to temperatures which will produce liquid eggs at a temperature so that the liquid egg at no time during processing, other than while stabilizing or pasteurizing, will exceed 70° F.
- (c) All egg products shall be cooled and held at 45° F. or less within one and one-half (1 1/2) hours from time of draw-off of the liquid.
- (d) All liquid eggs not frozen must be held at a temperature of 45° F. or lower and must be delivered within 24 hours after breaking.

(12) FREEZING OPERATIONS.

- (a) Freezing rooms shall be kept clean and free from objectionable odors.
- (b) All egg products which are to be frozen shall be solidly frozen or reduced to a temperature of 10° F. within 60 hours from time of draw-off. The temperature of products not solidly frozen shall be taken at the center of the package to determine compliance with this section.
- (c) Containers shall be stacked so as to permit circulation of air around each individual container.
- (d) The outside of liquid-egg containers shall be clean and free from evidence of liquid egg.

(13) HEALTH AND HYGIENE OF PERSONNEL.

- (a) Personnel facilities, including toilets, lavatories, lockers and dressing rooms shall be adequate and meet State and local requirements for food processing plants.

(Rule 0080-5-4-.21, continued)

- (b) Toilets and dressing rooms shall be kept clean and adequately ventilated to eliminate odors and kept adequately supplied with soap, towels, and tissues. Toilet rooms shall be ventilated to the outside of the building.
- (c) No person affected with any communicable disease (including, but not being limited to tuberculosis) in a transmissible stage, or with open sores, or cloth bandages on hands shall be permitted to come in contact with eggs in any form or with equipment used to process such eggs.
- (d) All workers coming into contact with liquid or dried eggs, containers or equipment, shall wear clean outer uniforms.
- (e) All plant personnel handling exposed edible product shall wash their hands before beginning work, and upon returning to work after leaving the work room.
- (f) Expectoring, or other unsanitary practices shall not be permitted in rooms where edible products are exposed.
- (g) Use of tobacco in any form by workers shall not be permitted in rooms where edible products are exposed.
- (h) Hair nets or caps shall be properly worn by all persons employed in breaking and packaging rooms.

(14) PASTEURIZATION OF LIQUID EGGS.

When liquid whole eggs, whites and yolks and yolks are pasteurized the provisions of this section shall apply. .

- (a) *Pasteurizing facilities.* Adequate pasteurizing equipment of approved construction shall be approved so that all of the liquid egg will be processed as provided in paragraph (b) of this section. The pasteurizing equipment shall be provided with a holding tube, an automatic flow diversion valve with attached thermal controls, and recording devices which will control the flow of egg liquid in such a manner as will accomplish pasteurization as set forth in paragraph (b) of this section and will record temperatures of the heated egg liquid at the flow diversion valve continuously and automatically during the process. Refrigeration holding vats of sufficient capacity shall be provided to hold liquid eggs prior to and after pasteurization.
- (b) *Pasteurizing Operations.* The strained or filtered liquid egg shall be flash heated to not less than 140° F. and held at this temperature for not less than 3 1/2 minutes and not more than 4 minutes. The flow diversion valve shall be adjusted so that all liquid not meeting the temperature requirements shall be diverted to a receiving tank. The sanitary pipe leading from the flow diversion valve shall be dismantled, cleaned, and sanitized and the flow diversion valve flushed with cold water whenever a 30 minute time interval has elapsed between use and reuse. The pasteurizing equipment shall be dismantled, cleaned, and sanitized at the end of each day's operation. If the eggs are pasteurized within 30 minutes after time of breaking, they need not be chilled to 45° F. prior to pasteurization. Immediately after pasteurization, the liquid eggs shall be cooled to 45° F., or lower unless they are dried immediately. Any other procedure for pasteurization must be submitted in writing and approved by the state supervisor prior to use.

This regulation shall take effect November 15, 1965. This 1st day of November, 1965.

(Rule 0080-5-4-.21, continued)

Authority: T.C.A. §52-206. ***Administrative History:*** *Original Rule certified June 5, 1974.*