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### Processing Plant Requirements – an Overview

The purpose of this document is to provide a basic overview of the requirements and standards that must be met for the production and sale of milk and dairy products in the state of Maine. It is not intended to replace nor supersede the official Department of Agriculture publication (Chapter 329: Rules Governing Maine Milk and Milk Products) from which it is derived, nor should it seem to take precedence over the judgment and advice of the State Dairy Inspectors who oversee the regulatory compliance of each producer and processor. It should be used as a guide only, in combination with on-site consultation and Department of Agriculture recommendations.

This document has been reviewed by the Maine Department of Agriculture.

For further information and with questions about this guide, please contact the coordinator of the MMDC – Keith Morgan-Davie – at the address given above. Further inquiries can be directed to:

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Selected Definitions:

1. Bulk Milk Hauler/sampler – any person who collects official samples and/or transports raw milk from a farm and/or raw milk products to or from a farm, milk plant, receiving station or transfer station and has in their possession a permit from any state to sample such products.
2. Butter – means any food product which is made exclusively from milk or cream or both, with or without common salt, and with or without additional coloring matter, and containing not less than 80% by weight of milk fat.
3. Buttermilk – a fluid product resulting from the manufacture of butter from milk or cream. It contains not less than 8.25% of milk solids not fat.
4. Cheese – the consolidated curd of milk used as an article of food.
5. Cream – the liquid milk product high in fat separated from milk... containing not less than 18% milk fat.
6. HACCP – means Hazard Analysis and Critical Control Point. It is a food safety control system based on technical and scientific principals that assure food safety.
7. Heat Treated – or “heat treatment” means processed by heating every particle of milk to a temperature of 145 degrees F for at least 30 minutes. It differs from “Pasteurized” in that the equipment used may not be certified for pasteurization, and no official record of the time and temperature is produced.  
Note that milk so processed should NOT be considered to be “Raw”, since the temperature of the milk has been elevated to pasteurization levels for the required minimum time.
8. Homogenized – milk or a milk product that has been treated to ensure breakup of the fat globules such that... no visible cream separation occurs on the milk.
9. Milk – the lacteal secretion, practically free of colostrum, obtained by the complete milking of one or more healthy cows, goats, sheep, water buffalo or other hooved mammal.
10. Milk Distributor – any person who offers for sale or sells to another any milk or milk product in its final form.
11. Milk Plant – any place... where milk or milk products are in any way handled or prepared for distribution and subsequent sale.
12. Milk Producer – any person who operates a dairy farm and provides, sells or offers for sale milk or milk products.
13. Multi-use containers – containers used in the storage or transportation of milk and milk products which are intended to be washed and reused regularly (ie milk cans, buckets, etc.)
14. Not Pasteurized – any milk or milk product that has not been subjected to the temperature and time requirements of pasteurization *using equipment designed for pasteurization*. (emphasis added) Does not apply to cheese that has been aged at a temperature above 35 degrees F for at least 60 days prior to sale.  
(NOTE: This definition does include “Heat Treated” products, which are neither “Raw” nor “Pasteurized”)
15. Pasteurization – or “pasteurized”, means the process of heating every particle of milk or milk product *in properly designed and operated equipment*, and holding at that temperature for the required minimum time (for vat pasteurization, 145 degrees F for 30 minutes).

16. Raw Milk – See “Not Pasteurized”.

**Note:** To much of the public, “Raw Milk” is assumed to mean milk which has been subjected to NO heating or other processing except cooling following extraction. For these customers, any process which involves heating, heat-treating, pasteurization or other manipulation would yield a product that is no longer “Raw” for their purposes. We do the public a disservice if we market a product as “Raw” only because the process used did not meet the standards of pasteurization as defined herein.

17. Sanitization – the application of any effective method or substance to a clean surface for the destruction of pathogens and other organisms as far as is practicable.

18. Ultra-Pasteurized – a product thermally processed, under pressure, at or above 280 degrees F for at least 2 seconds, for extended refrigerated shelf-life.

19. Yogurt – the food produced by culturing milk with lactic-acid producing bacteria. Approved sweeteners and flavors may be added.

**NOTE:** Most yogurt processes require that the milk be heated prior to culturing to assure proper curd formation, therefore most yogurts are not “raw foods” as discussed in item 15 under “Note”.

### Section III – Licensing and Permits

- A. Licensing – required for all Bulk Milk Haulers (see Definitions) and milk plants (processors) producing milk or milk products for sale.
- C. Permits – Every milk producer (dairy farm)... shall hold a valid permit in accordance with... this rule. Permits are issued at no cost, and are not transferable. A permit authorizes a milk producer (farmer) to ship, sell and/or receive milk, and authorizes a Bulk Milk Hauler to transport raw milk and/or raw milk products to or from a farm or milk plant.

### Section IV – Inspection

Each dairy farm and milk plant whose milk or milk products are intended for consumption, and each bulk milk hauler/sampler shall be inspected by the department. The Department shall:

- C. Inspect each milk plant (processor) at least once every three months.
- E. Inspect each Dairy Farm at least once every 6 months.
- F. Inspect each portable/temporary milking parlor whenever it changes location.
- H. In the event of a violation, a second inspection shall be required, but not sooner than 3 days after the violation.
- M. Every milk producer, hauler or plant operator shall permit access of officially designated persons to all parts of the establishment to ensure compliance with the rules. A plant operator shall furnish the Department, on request, a true statement of the actual quantities of milk and milk products purchased and sold, a list of all sources of such milk and milk products, and records of inspections, tests, and pasteurization time and temperature records.

### Section V - Standards for Milk and Milk Products

All Grade A raw milk for pasteurization shall be produced, processed and pasteurized to conform with the following chemical, bacteriological and temperature standards, and the sanitation requirements of Section VI.

Milk and milk products not pasteurized shall be produced and processed to conform with the following chemical, bacteriological and temperature standards, and the sanitation requirements of Section VI.

All cheese products, except for aged cheese, shall be made from milk that has been heat-treated (or pasteurized, ed.).

## Chemical, Bacteriological and Temperature Standards

### Raw milk and milk products *for pasteurization*:

Temperature	Cool to 7 degrees C (45 degrees F) or less within 2 hours after milking. The blend temperature after the first and subsequent milkings may not exceed 10 degrees C (50 degrees F).
Bacterial limits	Individual producer milk not to exceed 100,000 per ml prior To co-mingling with other producer's milk.  Not to exceed 300,000 per ml as co-mingled milk prior to pasteurization.
Drugs	No positive results on drug residue test. (see Section XII)
Somatic Cell Count	Individual Producer milk, not to exceed: Cow - 750,000/ml Sheep – 750,000/ml Goat - 1,000,000/ml

### *Pasteurized* milk and milk products:

Temperature	Cooled to 7 degrees C (45 degrees F) or less and maintained there.
Bacterial limits	20,000/ml
Coliform	Not to exceed 10/ml
Phosphatase	< 350 milliunits/l. (indicates proper pasteurization)
Drugs	No positive results on drug residue test. (see Section XII)

### *Not Pasteurized* milk and milk products sold to consumers:

Temperature	Cooled to 7 degrees C (45 degrees F) or less and maintained there.
Bacterial limits	50,000/ml
Coliform	Not to exceed 10/ml
Drugs	No positive results on drug residue test. (see Section XII)

**Aged Cheese:**

Temperature                      Aged cheese shall be aged at a temperature above 35 degrees F.

**Water:**

Source water (well, etc.)

Coliform                              < 1 (Presence/absence method)

Recirculating water (cooling systems, etc.)

Coliform                              < 1.1 (Most Probable Number Method)

## Section VI – Sanitation requirements for production and processing

### B. Sanitation requirements for Pasteurized Product Dairy Processing Plants:

1.     Floors-Construction -  
       The floors of all rooms in which milk or milk products are processed, handled or stored, or in which milk containers, equipment and utensils are washed, shall be constructed of concrete or other equally impervious and easily cleanable material, and shall be smooth, properly sloped, provided with trapped drains and kept in good repair.  
       (Exceptions: Cold storage rooms need no drain if the floor is sloped to drain to the exit(s), and dry storage rooms need no drains and floors may be constructed of tightly joined wood.)
2.     Walls and Ceilings – Construction -  
       Walls and ceilings of rooms in which milk or milk products are processed, handled or stored, or in which milk containers, equipment and utensils are washed, shall have a smooth, washable, light-colored surface and be in good repair.
3.     Doors and windows -  
       Designed to exclude flies and rodents. All openings to the outside shall have solid doors or glazed windows which shall be closed during dusty conditions.
4.     Lighting and Ventilation -  
       All rooms in which milk or milk products are processed, handled or stored, or in which milk containers, equipment and utensils are washed shall be well lighted and ventilated.

5. Separate Rooms

(a) There shall be separate rooms **or areas** for:

- (i.) Pasteurizing, processing, cooling and packaging of milk and milk products.
- (ii) The cleaning of milk cans, bottles and cases.
- (iv) Receiving cans of milk and milk products in plants receiving such cans.

Such rooms or areas will not open directly into any stable or place where animals are kept. All rooms shall be of sufficient size for their intended purpose.

6. Toilet facilities -

Every milk plant shall be provided with completely enclosed toilet facilities, not opening directly into any processing area, and shall have self-closing, tight-fitting doors. Wastes shall be disposed of in a sanitary manner.

7. Water for milk plant purposes shall be properly located, protected and operated, and shall be easily accessible, adequate and of a safe, sanitary quality.

8. Hand-washing facilities -

Convenient hand-washing facilities, including sink with hot and cold or warm running water, soap or detergent and individual sanitary towels or other hand-drying devices shall be provided, clean and in good repair.

9. Milk Plant Cleanliness -

All rooms in which milk or milk products are processed, handled or stored, and/or in which milk containers, equipment and utensils are washed shall be kept clean, neat and free of evidence of insects and rodents. Only equipment directly related to the processing operations shall be permitted in processing areas.

10. Sanitary Piping -

All sanitary piping, fittings and connections in contact with milk or from which liquids (ie condensation) may drip, drain or be drawn into milk shall be constructed of smooth, impervious, corrosion-resistant, nontoxic easily cleanable materials. (Stainless steel, glass, food-grade plastic) Pasteurized products shall be conducted from one piece of equipment only through sanitary piping.

11. Construction and repair of containers and equipment -

All multi-use product containers and equipment shall be constructed of smooth, impervious, corrosion-resistant, nontoxic materials; shall be constructed for ease of cleaning, and shall be kept in good repair. All single-service (disposable) items shall be nontoxic and shall have been manufactured, packaged, transported and handled in a sanitary manner. Articles intended for single-use service shall not be reused.

12. Cleaning and Sanitizing of Containers and Equipment -  
The product contact surfaces of all multi-use containers, utensils and equipment shall be effectively cleaned and sanitized before each use.
13. Storage of Cleaned Containers and Equipment -  
After cleaning, all multi-use containers, utensils and equipment shall be transported and stored to assure complete drainage and protection from contamination before use.
14. Storage of Single-service Containers, Utensils and Materials -  
Caps, lids, parchment paper, containers, gaskets and other single-service articles for use in contact with milk products shall be purchased and stored in sanitary tubes, wrappings or cartons, shall be kept therein in a clean, dry place until used, and shall be handled in a sanitary manner.
15. Protection from Contamination -  
Milk plant operations, equipment and facilities shall be located and conducted to prevent any contamination of milk or milk products, ingredients, equipment, surfaces, containers and utensils. Any spillage of any product shall be discarded.
16. Pasteurization -  
Pasteurization shall be performed as defined in Section I.
17. Cooling of Milk -
  - a) All raw milk and milk products shall be maintained at 7 degrees C (45 degrees F) or less until processed.
  - b) All pasteurized products, except those to be cultured, shall be cooled immediately prior to filling or packaging as in a) above.
  - c) All pasteurized products shall be maintained at a temperature as in a) above.
  - d) All product on delivery vehicles shall not exceed 7 degrees C (45 degrees F)
  - e) Every room or tank in which products are stored shall be equipped with an accurate thermometer.
18. Bottling and Packaging -  
Bottling or packaging of products shall be done at the place of processing in approved mechanical equipment.
19. Capping -  
Capping or closing of milk and milk product containers shall be done in a sanitary manner by approved mechanical capping and/or closing equipment.



- 20 Personnel – Cleanliness -
- a) Hands shall be thoroughly washed before commencing plant functions and as often as required to remove soil and contamination.
  - b) Hands must be washed after using the toilet room.
  - c) All persons engaged in any processing activity must wear clean outer garments.
  - d) All persons engaged in any processing activity shall wear adequate hair coverings and shall not use tobacco.
21. Vehicles –  
All vehicles used for the transportation of products shall be constructed and operated so that the products are maintained at 7 degrees C (45 degrees F) or less, and are protected from sun, freezing and contamination.
22. Surroundings –  
Plant surroundings shall be kept neat, clean, and free of conditions that might attract or harbor flies, other insects, rodents or milk plant inspectors.

C. Sanitation requirements for Not-Pasteurized Product Dairy Processing Plants:

A milk distributor who sells not-pasteurized products in Maine shall comply with: Section VI, B(1,2,3,4,6,7,8,9,11,12,13,14,15,17,20 and 22, AND:

1. Separate Rooms –
  - a) There shall be separate rooms **or areas** for:
    - i) The processing, packaging and cooling of not-pasteurized products
    - ii) The cleaning of milk cans, bottles and cases
  - b) Rooms or areas as described in a) above shall not open directly into any stable or into any place where livestock are kept, and shall have a self-closing door. All rooms shall be of sufficient size for their intended purpose.
2. Milk Plant Cleanliness –  
All rooms in which products are handled, processed or stored, and/or where containers, utensils or equipment are washed, or stored shall be kept clean, neat and free of evidence of insects and rodents. Only equipment directly related to plant operations shall be permitted in the processing, cooling, packaging and bulk milk storage areas.
3. Cleaning and Sanitizing of containers and Equipment –  
The product-contact surfaces of all multi-use containers used in processing operations shall be effectively cleaned and shall be sanitized before each use.

4. Protection from Contamination -  
Milk plant operations, equipment and facilities shall be located and conducted to prevent any contamination of milk or milk products, ingredients, equipment, surfaces, containers and utensils. Any spillage of any product shall be discarded.
5. Cooling of Milk -  
All not-pasteurized milk and milk products shall be maintained at 7 degrees C (45 degrees F) or less until processed or sold.
6. Bottling and Packaging –  
Bottling and packaging of not-pasteurized products shall be done at the place of processing in a manner approved by the department. (**Note:** There is no requirement for mechanical capping for not-pasteurized products)
7. Vehicles –  
All vehicles used for the transportation of not-pasteurized products shall be constructed and operated so that the products are maintained at 7 degrees C (45 degrees F) or less, and are protected from sun, freezing and contamination.

Section VI (E), Pages 59 – 61 Sanitation Requirements for Single Service Container Manufacturers, while not directly applicable to processors, contains recommendations for the cleaning, handling and storage of equipment and supplies that can be useful guidelines in processing operations.

#### Section VIII – Transferring; Delivery containers; Cooling

No transfer of milk or milk products is allowed in any location except a milkhouse, milk plant, receiving station or transfer station. Dipping or ladling of milk or milk products is not allowed.

Milk or milk products may only be sold in their original retail container. (There are exceptions for certain restaurant operations, etc. See p. 63)

Milk or milk products may not be sold if they have not been maintained at the required temperature. If stored in ice, the storage container must be properly drained.

#### Section X – Personnel Health

Persons infected with any disease capable of being transmitted to others through the contamination of food shall not work in a milk plant (or milk house, if directly marketing raw milk - Ed.) in any capacity that brings them into direct contact with finished products or product contact surfaces.

## Section XI – Procedure when infection or high risk of infection is discovered

This lengthy section deals with what to do if there is possible contamination or risk of contamination by someone infected with a disease such as described in Section X. See the regs p. 64-66 and the Dept. of Agriculture for more information.

## Section XIII – Drug Residue Monitoring and Farm Surveillance

This section is established to reference safe levels and/or establish tolerances and to assure that milk supplies are in compliance with these safe levels or established tolerances for drug residues in milk. It is unlikely that most processors in Maine will fall under this rule, since it applies to Bulk Milk Shipments only (tank trucks), but is included in much condensed form for reference. Note that Section XII does state the rules for the testing of farm bulk milk supplies for drug residue. See pages 71 – 75 for details if needed.

### A. Industry Responsibilities –

- 1) Monitoring and surveillance  
Milk plants shall screen all bulk milk pickup tankers, regardless of final use, for beta lactam (antibiotic) drug residues.
- 2) Reporting and trace-back
  - i) When a bulk milk pickup tanker is found to be positive for drug residues, the Department shall be immediately notified of the results and the ultimate disposition of the raw milk.
  - ii) The producer shall be notified by telephone and in writing by the milk plant.

## Section XIV – Labeling

All bottles, containers and packages enclosing milk and milk products shall be labeled in accordance with the applicable requirements of the Federal Food, Drug and Cosmetic act, the Nutrition Labeling and Education act of 1990 (which see), and **in addition**, shall comply with the applicable requirements of this section as follows:

- A. All bottles, containers and packages, except tank trucks, storage tanks and cans of raw milk from individual farms shall be conspicuously marked with:
  - 1) The words “Grade ‘A’”, as applicable.
  - 2) The identity of the plant where packaged or processed.
  - 3) – 7) omitted as not commonly applicable, see page 75

- 8) The common name of the hooved mammal producing the milk shall precede the name of the product **if other than cattle's milk**. (ie. "Sheep's milk Yogurt")
- 9) A list of ingredients in descending order of predominance *by weight*. (emphasis added)
- 10) The words "not pasteurized" if the product has not been pasteurized. This does not apply to cheese that has been aged at a temperature above 35 degrees F for at least 60 days prior to sale.
- 11)
  - a) The full name of the food shall appear on the principal display panel of the label in type of uniform size, style, and color.
  - b) The name shall be accompanied by a declaration of any characterizing flavoring. (ie. "Maple")
  - c) The name may be accompanied by a declaration of the traditional name of the food, or the generic name of the organisms used (ie. yogurt cultures) to indicate the presence of those organisms when used.
- 12) The following term(s) shall accompany the name of the food... in letters not less than one-half the height of the letters used in such name:
  - a) omitted
  - b) The word "sweetened" if nutritive carbohydrate sweetener (sugar) is added without the addition of flavoring.
- 13) The term "homogenized" **may** appear on the label if the dairy ingredients used are homogenized.
- 14) The term "pasteurized" **may** appear on the label if the dairy ingredients used are pasteurized.
- 15) The net weight (not including packaging) **or** volume.
- 16) The word "aged" when the product has been aged for more than 60 days.
- 17) The lot number. The lot number shall correspond to accurate production records to allow for identifying the product batch.  
These records will be kept for at least 12 months from the date produced.
- 18) The use of the term "Organic" shall comply with the Organic Foods Production Act of the National Organic Program.

#### C. Identity Labeling

- 1) Identity is defined as the name and address of the plant where packaging or processing takes place.
- 2) The identity labeling requirement does allow for the purchase and distribution, under your own label, products packaged and processed at another plant, provided

that the label reads “Processed at...” (name and address), or the processing or packaging plant is identified by a proper code.

D. Misleading Labels

The department shall not permit the use of any misleading marks, words, or endorsements on the label. Trademarks and logo’s are acceptable if they don’t obscure the required information or mislead.

Descriptive labeling terms must not be used in conjunction with the “Grade A” designation, (such as “Grade AA”, Selected Grade A”, Special Grade A” etc.) nor the name of the product, and must not be false or misleading.