



OREGON DEPARTMENT OF AGRICULTURE

Protect. Promote. Prosper.

GRADE A DAIRY FARM MANUAL

2021 Revision



Oregon Department of Agriculture Food Safety and Animal Health
635 Capitol St. NE, Salem, OR 97301 (503) 986-4720

TABLE OF CONTENTS

ACKNOWLEDGMENTS	2
INTRODUCTION	2
ADOPTION OF THE PASTUERIZED MILK ORDINANCE OAR 603.24.011	2
DEFINITIONS	3
PERMIT ISSUANCE, SUSPENSION, AND REINSTATEMENT	4
INSPECTION TYPES AND FREQUENCY	5
SUMMARY AND INTERPRETATION OF SANITATION REQUIREMENTS FOR GRADE A RAW MILK: 2017 GRADE A PASTEURIZED MILK ORDINANCE	
Item 1: Abnormal Milk	8
Item 2: Milking Barn, Stable, or Parlor Construction	8
Item 3: Milking Barn, Stable, or Parlor Cleanliness	9
Item 4: Cowyard	9
Item 5: Milkhouse or Room – Construction and Facilities	9
Item 6: Milkhouse or Room – Cleanliness	11
Item 7: Toilet	11
Item 8: Water Supply	12
Item 9: Utensils and Equipment – Construction	13
Item 10: Utensils and Equipment – Cleaning	13
Item 11: Utensils and Equipment – Sanitation	14
Item 12: Utensils and Equipment – Storage	14
Item 13: Milking – Flanks, Udders, and Teats	14
Item 14: Protection from Contamination	14
Item 15: Drug and Chemical Control	15
Item 16: Personnel – Hand Washing Facilities	16
Item 17: Personnel – Cleanliness	16
Item 18: Raw Milk Cooling	17
Item 19: Insect and Rodent Control	17
WATER SYSTEMS REQUIREMENTS	19
PMO APPENDIX B: TABLE OF FARM WATER SUPPLY VIOLATIONS	23
EXAMINATION OF MILK AND MILK PRODUCTS: CHEMICAL, BACTERIOLOGICAL AND TEMPERATURE STANDARDS	30
CONSTRUCTION AND FACILITIES OF MILKHOUSE: OAR 603-024-0613	32
CLEANING AND SANITIZING	32
APPENDIX Q. OPERATION OF AUTOMATIC MILKING INSTALLATIONS	33
RESOURCES	36

ACKNOWLEDGMENTS

The development, preparation, and publication of this handbook was accomplished with supplemental information from:

1. Michigan Department of Agriculture: Summary of Requirements for Grade A Dairy Farm Milk Production in Michigan
2. Washington State Department of Agriculture: Milk Producers Licensing Handbook, August 2005.
3. Indiana State Board of Animal Health: Dairy Farm Inspection Report (FDA2359a)
4. Minnesota Department of Agriculture Drug and Chemical Control Quick Reference Card.

INTRODUCTION

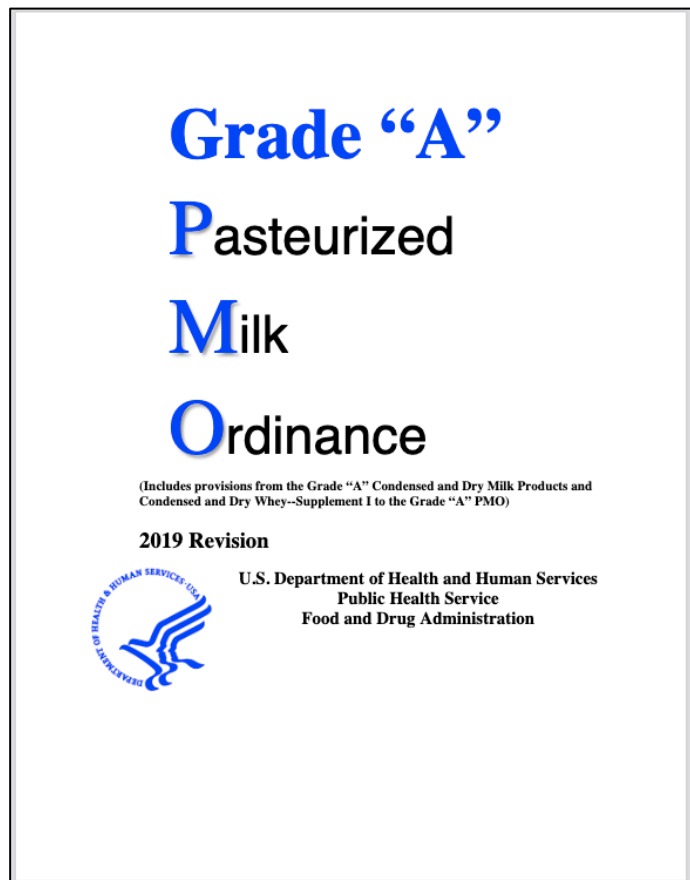
All dairy producers must obtain a permit from the Oregon Department of Agriculture (ODA) Food Safety Program (FSP) prior to selling milk. In addition, before beginning construction on your dairy, please contact the ODA FSP (503-986-4720) for specific instructions pertaining to the construction and licensing requirements of your facility.

This handbook provides a summary of the requirements for licensed dairy farms in the state of Oregon. It also serves as a quick guide to dairy farm violations as outlined in the Grade A Pasteurized Milk Ordinance (PMO).

ADOPTION OF THE PASTUERIZED MILK ORDINANCE OAR 603.24.011

Oregon Administrative Rule (OAR) 603.24.011 states that: On all dairy farms, plants, and transport tankers, the standards for building construction, equipment construction, sanitation, sampling, pasteurization, transportation and handling of milk and dairy products shall be those given in the most current Grade “A” Pasteurized Milk Ordinance (PMO).

The *Grade A PMO*, as with previous editions, was developed with the assistance of Milk Regulatory and Rating Agencies at every level of Federal, State, and Local Government, including both Health and Agriculture Departments; all segments of the dairy industry, including producers, milk plant operators, equipment manufacturers, and associations; many educational and research institutions; and with helpful comments from many individual sanitarians and others.



DEFINITIONS

The following definitions are from: the Oregon Revised Statutes (ORS) Chapter 621, the Oregon Administrative Rules (OAR) Division 24, and the Pasteurized Milk Ordinance (PMO).

Abnormalities of Milk (PMO): The following types of lacteal secretions are not suitable for sale for Grade “A” purposes.

- **Abnormal Milk:** Milk that is visibly changed in color, odor and/or texture.
- **Undesirable Milk:** Milk that, prior to the milking of the animal, is expected to be unsuitable for sale, such as milk containing colostrum.
- **Contaminated Milk:** Milk that is unsaleable or unfit for human consumption following treatment of the animal with veterinary products, i.e. antibiotics, which have withhold requirements, or treatment with medicines or insecticides not approved for use on dairy animals by FDA or the Environmental Protection Agency (EPA).

Automatic Milking Installation (AMI) (PMO): The term Automatic Milking Installation (AMI) covers the entire installation of one (1) or more automatic milking units, including the hardware and software utilized in the operation of individual automatic milking units, the animal selection system, the automatic milking machine, the milk cooling system, the system for cleaning and sanitizing the automatic milking unit, the teat cleaning system

Disease-free herd (ORS 621) means a herd of cows, sheep or goats that is not an infected herd. As used in this subsection, “infected herd” means a herd of cows, sheep or goats in which one or more reactor animals have been discovered by any test authorized by law and that has not regained its disease-free status following the slaughter of the reactor animals and retesting of the herd as prescribed by the department.

Milk (OAR Division 24) means the lacteal secretion of cows, sheep and goats.

Milk Hauler (OAR Division 24) means a person who, in the course of employment, accepts bulk fluid milk and transports that commodity to a dairy products plant or a physical facility of a distributor or producer-distributor.

Producer (ORS 621) means a person who engages in the production of unpasteurized milk on a dairy farm and does not bottle the milk on the premises where production occurs, in pasteurized or unpasteurized form and for human consumption.

Producer-distributor (ORS 621) means a person who bottles milk on the premises where production occurs, in pasteurized or unpasteurized form and for human consumption.

Raw Goat Milk (ORS 621) is unpasteurized milk from goats with a milkfat content of not less than 3.25 percent and a milk-solids-not-fat content of not less than 8.25 percent.

PERMIT: ISSUANCE, SUSPENSION, AND REINSTATEMENT

Permit Issuance:

Only one permit is issued to each farm location. A permit will only be issued when a milk producer's facility has been inspected by an ODA dairy inspector and is found to be in compliance with construction standards. Some exceptions may be made for items that cannot be completed due to the weather, i.e. painting. These items, however, are expected to be in compliance by an agreed upon date.

Summary Suspension of Permit:

A producer's permit to sell Grade A milk may be suspended for any of the following reasons:

1. Evidence of milk from diseased animals being incorporated with milk from healthy animals
2. Any suspected contamination of the milk with any substance deemed as a possible health hazard
3. Milk stored in a container of unapproved construction
4. Milk containing excessive sediment
5. Whenever epidemiological evidence as determined indicates that raw milk from a licensed raw milk producer-distributor is the suspected source of human infection [603-024-0585](tel:603-024-0585)
6. Interference with a regulatory inspection
7. Whenever a producer, ceases to operate under a current license, such license privileges are deemed suspended unless again authorized by an approval inspection. [#4](tel:603-024-0590)
8. If, upon inspection of a dairy farm or milk plant by the Department, a violation of any item of sanitation as contained herein for the licensed grade then held is noted on two successive inspections made not less than three days apart, and notice has been given within six months of the second violation that further violation will be grounds for suspension, the license permitting use of the specified grade designation with milk or milk products may be suspended for a specific period of time which in no case shall exceed ten days.
9. Delinquent test violations, such as:
 - 3 out of 5 bacteria, somatic cell counts (SCC) > 500,000
 - Cooling temperatures above the legal limit (45°F)
 - Milk containing drug residue

When a producer's permit is suspended, any milk present in the bulk tank at the time of the suspension may not be sold for human consumption and any milk produced during the permit suspension may not be sold for human consumption.

Permit Reinstatement:

All suspended producers will be inspected as soon as possible after the producer requests an inspection and the producer declares all violations have been corrected. No producer will be reinstated unless all violations have been corrected. On any reinstatement inspection, the bulk tank must be empty and all of the equipment and facility available for inspection. If the permit is not reinstated within 72 hours, an Administrative Hearing will be scheduled.

INSPECTIONS TYPES AND FREQUENCY

Routine Inspections

Routine inspections of dairy farms are typically conducted not more than every four (4) months and not less than every six (6) months. Farm inspections are normally performed during working daylight hours. Exceptions may include complaint investigations, equipment washing and other potential issues (i.e., evaluation of tanker drivers).

The inspection of a dairy farm includes:

- milkhouse
- milking barn, stable, or parlor
- adjacent storage areas
- cowyard and cattle housing areas
- general surroundings to the milkhouse
- waste disposal areas
- water supply and its distribution system
- dairy animal maternity areas
- animal treatment areas or hospital barns
- replacement heifer areas
- offices, utility rooms, tool sheds
- drug cabinets, refrigerators, etc.

Oregon Department of Agriculture
Food Safety and Animal Health Program
 635 Capitol St. NE, Salem, OR 97301

NOTICE OF VISIT

RAW MILK SAMPLE

PRODUCT SAMPLE/CONTAINERS SAMPLE

COOLANT SAMPLE

WELL WATER SAMPLE

ROUTINE INSPECTION (See attached report)

Comments: _____

STATE RATING INSPECTION (See attached report)

Comments: _____

Inspected/Collected by: _____
ODA Food Safety Specialist

Date: _____



Rev. 07/2016

The most recent inspection report must be posted in a conspicuous location. This generally will be in the milkhouse or adjacent areas. In some cases, a **“Notice of Visit”** may be posted with the inspection report to draw attention to the dairy farmer if he or she was not present during the time of the visit.

BIOSECURITY MEASURES

Biosecurity refers to protecting the health of livestock by preventing the transmission of disease. It is the Oregon Department of Agriculture’s policy to observe and practice the following biosecurity measures:

- Maintaining a clean vehicle exterior.
- Maintaining vehicle interiors clean and equipped with easily removable, rubber floor mats.
- Arriving with clean outerwear, boots and equipment.
- Park out of the way of farm traffic in the cleanest available area (cement, asphalt, areas without mud or manure).
- Always approach the farm with concern for disease transmission in mind.
- Avoid driving through barnyards, feed lots, manure, and feed storage or holding areas.
- Upon entering and leaving the dairy farm, sanitize boots with an approved disinfectant.
- Avoiding direct contact with livestock or pets.

Reinspection due to a Sanitation Warning:

A Sanitation warning is issued by an ODA Dairy Inspector when:

- If, upon inspection of a dairy farm or milk plant by the Department, a violation of any item of sanitation, as contained herein for the licensed grade then held, is noted on two successive inspections made not less than three days apart, and notice has been given within six months of the second violation that further violation will be grounds for suspension/sanitation warning, the license permitting use of the specified grade designation with milk or milk products may be suspended for a specific period of time which in no case shall exceed ten days. **603-024-0590: Dairy Farm and Milk Plant Inspection.**

Normally, a 30-day period from the receipt of the Sanitation warning is allowed for correction of the violations and for a reinspection. However, the length of time allowed may vary based on the nature of the violation and the circumstances of the violation. The producer can work with the ODA inspector on a reasonable timeframe for corrections to be made.

The reinspection will be conducted after the period of time allowed for corrections has elapsed. Producers are required to have all of the corrections completed at the time of the reinspection. Requests for an extension of correction time must be communicated to the ODA Dairy Inspector.

IMS State Rating and Federal Check Rating Inspections

Oregon participates in a voluntary interstate milk-shipping program called: The Interstate Milk Shippers (IMS) program. The IMS program was established to provide uniform reciprocity between states to prevent unnecessary restrictions of the interstate flow of milk and milk products. IMS State Rating inspections are based on the requirements of the most current PMO.

ODA State Rating Officers (SROs) conduct IMS State Rating inspections every 2 years, which comprise of sanitation compliance inspections of dairy farms including the evaluation of ODA's farm inspection program (i.e. inspection frequency, sample frequency for raw milk and water, if inspections are being posted, if records are properly maintained, and when needed, that enforcement actions are taken against dairies). Farms, which are part of a Bulk Tank Unit (BTU) are randomly selected. The total number selected will vary based on the size of the BTU.

Compliance scores are calculated on a weighted average based on the amount of milk produced at each farm. Scores are based on past site inspections, raw milk sample and water results, and, if applicable, coolant sample results. A State Rating passing score for the whole BTU is 90 points. If a BTU fails to score 90 or above, the raw milk is diverted away from Grade A use until a passing State Rating is completed.

FDA Milk Specialist will conduct a Federal Check Rating every 3 years, which is similar to the State Rating inspections. Check Rating inspections are meant to assess ODA's overall procedures of farm inspection frequency, sample frequency for raw milk and water, inspections posted, records being properly maintained, etc. Passing sanitation scores for these ratings are 80 or above. However, if the sanitation score is between 80 and 84, a State Rating Officer (SRO) must conduct another survey within 90 days of the Federal Check Rating.

SUMMARY AND INTERPRETATION OF SANITATION REQUIREMENTS FOR GRADE A RAW MILK: 2017 GRADE A PASTEURIZED MILK ORDINANCE

Please note that the numbering system used in the left-hand margin below matches the Federal Dairy Farm Inspection form (2359a) which the ODA inspection forms are modeled after. A copy of this form is provided below and corresponds with the information that follows. Debit points are associated with each violation. During FDA Check Ratings (every 3 years) and State Ratings (every 2 years) points are calculated and multiplied by the % the farm contributes to the BTU. A total BTU score of less than 80% on the Federal or 90% on the State Rating can lead to the delisting of the BTU as a whole.

<p>COWS</p> <p>1. Abnormal Milk</p> <p><input type="checkbox"/> 5 (a) Cows secreting abnormal milk, milked last or in separate equipment.</p> <p><input type="checkbox"/> (b) Abnormal milk properly handled and disposed of.</p> <p><input type="checkbox"/> (c) Proper care of abnormal milk handling equipment.</p>	<p>D. Miscellaneous Requirements (continued)</p> <p><input type="checkbox"/> (f) Suitable shelter or direct load for the transport truck as required by this Regulation.</p> <p>E. Cleaning Facilities</p> <p><input type="checkbox"/> 2 (a) Two compartment wash and rinse vat of adequate size.</p> <p><input type="checkbox"/> (b) Suitable water heating facilities.</p> <p><input type="checkbox"/> (c) Water under pressure piped to milkhouse.</p>	<p>TRANSFER AND PROTECTION OF MILK</p> <p>14. Protection from Contamination</p> <p><input type="checkbox"/> 3 (a) No overcrowding.</p> <p><input type="checkbox"/> (b) Product and cleaning circuits separated.</p> <p><input type="checkbox"/> (c) Improperly handled milk discarded.</p> <p><input type="checkbox"/> (d) Immediate removal of milk.</p> <p><input type="checkbox"/> (e) Milk and equipment properly protected.</p> <p><input type="checkbox"/> (f) Sanitized milk surfaces not exposed to contamination.</p> <p><input type="checkbox"/> (g) Air under pressure of proper quality.</p>
<p>MILKBARN, STABLE, OR PARLOR</p> <p>2. Construction</p> <p><input type="checkbox"/> 1 (a) Floors, gutters and feed troughs of concrete or equally impervious materials; in good repair.</p> <p><input type="checkbox"/> 1 (b) Walls and ceilings smooth, painted or finished adequately; in good repair, ceiling dust tight.</p> <p><input type="checkbox"/> 1 (c) Separate stalls or pens for horses, calves, and bulls; no overcrowding.</p> <p><input type="checkbox"/> 1 (d) Adequate natural and/or artificial light; well distributed.</p> <p><input type="checkbox"/> 1 (e) Properly ventilated.</p>	<p>6. Cleanliness</p> <p><input type="checkbox"/> 4 (a) Floors, walls, window, tables, and similar non-product contact surfaces clean.</p> <p><input type="checkbox"/> (b) No trash, unnecessary articles, animals, or fowl.</p> <p>TOILET AND WATER SUPPLY</p> <p>7. Toilet</p> <p><input type="checkbox"/> 4 (a) Provided, conveniently located.</p> <p><input type="checkbox"/> (b) Constructed and operated according to Regulation.</p> <p><input type="checkbox"/> (c) No evidence of human wastes about premises.</p> <p><input type="checkbox"/> (d) Toilet room in compliance with Regulation.</p>	<p>15. Drug and Chemical Control</p> <p><input type="checkbox"/> 2 (a) Cleaners and sanitizers properly identified.</p> <p><input type="checkbox"/> (b) Drug administration equipment properly handled and stored.</p> <p><input type="checkbox"/> (c) Drugs properly labeled (name and address) and stored.</p> <p><input type="checkbox"/> 5 (d) Drugs properly labeled (directions for use, cautionary statements, active ingredients).</p> <p><input type="checkbox"/> (e) Drugs properly used and stored to preclude contamination of milk.</p>
<p>3. Cleanliness</p> <p><input type="checkbox"/> 3 (a) Clean and free of litter.</p> <p><input type="checkbox"/> (b) No swine or fowl.</p> <p>4. Cowyard</p> <p><input type="checkbox"/> 3 (a) Graded to drain; no pooled water or wastes.</p> <p><input type="checkbox"/> (b) Cowyard clean; cattle housing area and manure packs properly maintained.</p> <p><input type="checkbox"/> (c) No swine.</p> <p><input type="checkbox"/> (d) Manure stored inaccessible to cows.</p>	<p>8. Water Supply <input type="checkbox"/> 2 Point <input type="checkbox"/> 5 point</p> <p><input type="checkbox"/> 2/5(a) Constructed and operated according to Regulation.</p> <p><input type="checkbox"/> (b) Complies with bacteriological standards.</p> <p><input type="checkbox"/> (c) No connection between safe and unsafe supplies; no improper submerged inlets.</p>	<p>PERSONNEL</p> <p>16. Hand Washing Facilities</p> <p><input type="checkbox"/> 2 (a) Proper hand-washing facilities convenient to milking operations.</p> <p><input type="checkbox"/> (b) Wash and rinse vats not used as hand-washing facilities.</p>
<p>MILKHOUSE OR ROOM</p> <p>5. Construction and Facilities</p> <p>A. Floors</p> <p><input type="checkbox"/> 1 (a) Smooth; concrete or other impervious material; in good repair.</p> <p><input type="checkbox"/> (b) Graded to drain.</p> <p><input type="checkbox"/> (c) Drains trapped, if connected to sanitary system.</p> <p>B. Walls and Ceilings</p> <p><input type="checkbox"/> 1 (a) Approved material and finish.</p> <p><input type="checkbox"/> (b) Good repair (windows, doors, and hoseport included).</p>	<p>UTENSILS AND EQUIPMENT</p> <p>9. Construction</p> <p><input type="checkbox"/> 4 (a) Smooth; impervious, non-absorbent, safe materials; easily cleanable.</p> <p><input type="checkbox"/> (b) In good repair; accessible for inspection.</p> <p><input type="checkbox"/> (c) Approved single-service articles; not reused.</p> <p><input type="checkbox"/> (d) Utensils and equipment of proper design.</p> <p><input type="checkbox"/> (e) Approved mechanically cleaned milk pipeline system.</p>	<p>17. Personal Cleanliness</p> <p><input type="checkbox"/> 1 (a) Hands washed clean and dried before milking or performing milkhouse functions; rewashed when contaminated.</p> <p><input type="checkbox"/> (b) Clean outer garments worn.</p> <p>Cooling</p> <p>18. Cooling - 5 / 1 points</p> <p><input type="checkbox"/> 5 (a) Milk cooled to 45° F or less within 2 hours after milking, except as permitted by regulation.</p> <p><input type="checkbox"/> (b) Recirculated cooling water from safe source and properly protected; complies with bacteriological standards.</p>
<p>C. Lighting and Ventilation</p> <p><input type="checkbox"/> 2 (a) Adequate natural and/or artificial light; well distributed.</p> <p><input type="checkbox"/> (b) Adequate ventilation.</p> <p><input type="checkbox"/> (c) Doors and windows closed during dusty weather.</p> <p><input type="checkbox"/> (d) Vents and lighting fixtures properly installed.</p> <p>D. Miscellaneous Requirements</p> <p><input type="checkbox"/> 2 (a) Used for milkhouse operations only; sufficient size.</p> <p><input type="checkbox"/> (b) No direct openings into living quarters or barn, except as permitted by Regulation.</p> <p><input type="checkbox"/> (c) Liquid wastes properly disposed of.</p> <p><input type="checkbox"/> (d) Proper hoseport where required.</p> <p><input type="checkbox"/> (e) Acceptable surface under hoseport.</p>	<p>10. Cleaning</p> <p><input type="checkbox"/> 5 (a) Utensils and equipment clean.</p> <p>11. Sanitization</p> <p><input type="checkbox"/> 5 (a) All multi-use containers and equipment subjected to approved sanitization process (see Regulation).</p> <p>12. Storage</p> <p><input type="checkbox"/> 2 (a) All multi-use containers and equipment properly stored.</p> <p><input type="checkbox"/> (b) Stored to assure complete drainage, where applicable.</p> <p><input type="checkbox"/> (c) Single-Service articles properly stored.</p>	<p><input type="checkbox"/> 1 (c) Approved temperature recording device where applicable.</p> <p>PEST CONTROL</p> <p>19. Insect and Rodent Control</p> <p><input type="checkbox"/> 3 (a) Fly breeding minimized by approved manure disposal methods (see Regulation).</p> <p><input type="checkbox"/> (b) Manure packs properly maintained.</p> <p><input type="checkbox"/> 2 (c) All milkhouse openings effectively screened or otherwise protected; doors tight and self-closing, screen doors open outward.</p> <p><input type="checkbox"/> (d) Milkhouse free of insects or rodents.</p> <p><input type="checkbox"/> 2 (e) Approved pesticides; properly used.</p> <p><input type="checkbox"/> (f) Equipment and utensils not exposed to pesticide contamination.</p>
	<p>MILKING</p> <p>13. Flanks, Udders, and Teats</p> <p><input type="checkbox"/> 5 (a) Milking done in barn, stable, or parlor.</p> <p><input type="checkbox"/> (b) Brushing completed before milking begins.</p> <p><input type="checkbox"/> (c) Flanks, udders, bellies, and tail of cows clean at time of milking; dipped when required.</p> <p><input type="checkbox"/> (d) Teats treated with sanitizing solution and dried just prior to milking.</p> <p><input type="checkbox"/> (e) No wet hand milking.</p>	<p><input type="checkbox"/> 2 (g) Surroundings neat and clean; free of harborage and breeding areas.</p> <p><input type="checkbox"/> (h) Feed storage not attraction for birds, rodents, or insects.</p>

Item 1: Abnormal Milk (Max 5 pt)

- 1a. Cows secreting abnormal milk or cows which have been treated with drugs requiring a milk withholding time shall be milked last or in separate equipment. The separate equipment requirement can only be met by using units, buckets, and vacuum sources that are completely separated from the milk line. Rinsing of units between use on normal and abnormal cows is not considered complete separation. Using the milk line as a vacuum source runs the risk of overfilled buckets or foam being drawn into the milk line thus contaminating the milk offered for sale.
- 1b. Abnormal milk is handled and disposed of in a manner that precludes the infection of other cows or the contamination of milking equipment.
- 1c. Abnormal milking equipment is maintained clean and in good condition to reduce the possibility of re-infecting or cross infecting cows. **Abnormal milking equipment and inflations are to be cleaned immediately after use. The milker claw and inflations may be CIP cleaned by connecting them to the milk pipeline.**

Item 2: Milking Barn, Stable, or Parlor Construction (Max 5 pts)

- 2a. Floors, gutter covers, bottoms of feed troughs, and parlor steps are made of concrete or other equally impervious material and maintained in good repair to prevent pooling wastes.
- 2b. Walls and ceilings are smooth, light colored, painted or adequately finished and in good repair. Ceilings are dust-tight. Hay chute doors are dust-tight and closed during milking.
- 2c. Bull, maternity, calf, and horse pens are removed from the milking area of the barn by sufficient space to prevent the splash of wastes into the milking area or are separated by tight partitions. Calves, cows, or other animals are not housed on walks or in feed alleys.
- 2d. The milking barn, stable, or parlor is provided with enough light to ensure that all work surfaces and areas are plainly visible.
- 2e. Milking barns, stables, and parlors must be adequately ventilated to minimize odors and prevent condensation on the walls and ceilings.

Item 3: Milking Barn, Stable, or Parlor Cleanliness (Max 3)

- 3a. The interior of the milking barn, stable, or parlor is maintained clean. Old feed is discarded. Bedding material, when used, does not contain more manure than has accumulated since the last milking. The outside of pipelines and vacuum lines are maintained clean. Gutters are cleaned routinely to avoid an accumulation of waste. All pens are maintained clean. Waste is not allowed to accumulate on the walks or floors.

- 3b. Neither swine nor fowl of any kind are to be housed or allowed access to the milking area. Swine and birds carry many disease-causing organisms, including *Salmonella* and *Listeria*, that may infect people.

Item 4: Cowyard (Max 3)

- 4a. The cowyard is any area adjacent to the milking barn/parlor in which cows may congregate. It includes cattle housing areas and feed lots. These areas are to be graded and drained and maintained reasonably dry with no pooled water or waste.
- 4b. The cowyard, cattle housing, and any manure packs shall be properly maintained.
- 4c. No swine shall be housed with the cattle nor close enough that swine waste finds its way into the cowyard or cattle housing.
- 4d. No accumulated manure is to be stored in the cowyard or cattle housing area. Manure must be stored in such a way that it is inaccessible to cattle. This may be accomplished by fencing, gates, or immediate removal after cleaning.

Item 5: Milkhouse or Room – Construction and Facilities (Max 8 pts)

A. Floors (1 pt.)

- 5Aa. Floors shall be smooth and constructed of either concrete or other impervious material and maintained in good repair with no cracks, breaks, or pitting.
- 5Ab. Floors are graded to drain.
- 5Ac. Drains are trapped if connected to a sanitary drain.

B. Walls and Ceilings (1 pt.)

- 5Ba. Walls shall be constructed of an approved, easily cleanable material and maintained in good repair. They must be light colored. Surfaces and joints shall be tight and smooth.
- 5Bb. Windows, hose port, and doors are maintained in good repair.

C. Lighting and Ventilation (2 pt.)

- 5Ca. Adequate lighting is provided in all work areas, especially over the wash vats. Lighting must be provided for viewing the interior of the bulk tank. Bulk tank lighting is especially important to the milk hauler who is responsible for measuring and sampling the milk as well as looking at the milk to determine if it is contaminated with insects or other adulterants.
- 5Cb. The milkhouse is provided with adequate ventilation to minimize odors and condensation. Gas water heaters and other appliances using gas shall be properly vented.

- 5Cc. All doors and windows are to be closed during dusty conditions.
- 5Cd. Lights and vents shall be installed to preclude the contamination of bulk milk tanks or clean utensil storage areas. Light fixtures should not be located directly over the bulk milk tank opening.

D. Miscellaneous Requirements (2 pt)

- 5Da. The milkhouse is of sufficient size to accommodate the storage of milk and the washing, sanitizing and storing of equipment. There shall be room enough that all areas of the milkhouse can be cleaned. The milkhouse must be used only for operations directly related to milking. The size of the milkhouse may need to be increased if a larger bulk tank is installed and not bulkheaded. The milkhouse must be large enough that all areas around the bulk tank can be reached for cleaning.
- 5Db. There shall be no direct opening from the milkhouse into the parlor, barn, or living quarters. All doors and windows between the milkhouse, parlor, barn, or living quarter shall be tight. Doors shall be self-closing.
- 5Dc. There shall be no pooled water in the milkhouse.
- 5Dd. A proper hoseport is installed where required and kept closed when not in use.
- 5De. A solid impervious surface is provided under the hoseport. A minimum 4ft. x 4 ft. area is recommended as an appropriate size to preclude contamination during the bulk milk hauler's pickup procedure.
- 5Df. A suitable shelter is provided for a transportation truck used for cooling and storing milk. Such shelter shall comply with the requirements of the milkroom with respect to construction, light, drainage, insect and rodent control, and general maintenance.

E. Cleaning Facilities (2 pt.)

- 5Ea. The milkhouse is equipped with a wash-and-rinse vat having at least two (2) compartments. Each compartment shall be of sufficient size to accommodate the largest utensil or container used. The upright wash vat for milk pipelines and milk machines may be accepted as one (1) part of the two (2) compartment vat. Provided, that the stationary wash rack, in or on the vat, and the milking machines inflations and appurtenances are completely removed from the vat during the washing, rinsing and/or sanitizing of other utensils and equipment. Where CIP cleaning/recirculated systems eliminate the need for handwashing of equipment, the presence of the second wash vat compartment may be optional, if so determined by the Regulatory Agency, on an individual farm basis.

5Eb. Each milkhouse shall be equipped with facilities for heating water in sufficient quantity and to such temperatures as needed for the effective cleaning of all milking equipment and utensils.

5Ec. Water under pressure is piped into the milkhouse.

Item 6: Milkhouse – Cleanliness (Max 4 pts)

6a. The milkhouse shall be maintained clean at all times. This includes the walls, floor, ceiling, and the outside of equipment piping and fixtures. Rooms adjacent to the milkhouse that are left open to the milkhouse must meet all milkhouse standards. This includes utility rooms, drug storage rooms, compressor rooms, etc.

6b. No trash, unnecessary items, animals, or fowl are allowed in the milkhouse. Items related to the milking operation such as desks, storage cabinets, and refrigerators are allowed as long as they do not overcrowd the milkhouse, do not cause contamination of the milk, and are maintained clean. No animal feed shall be stored in the milkhouse. This includes cat and dog food, milk replacer, etc. Storage of feed in the milkhouse encourages cats, dogs, rodents, and flies to seek entry into the milkhouse by providing them a food source.

Item 7: Toilet (Max 4 pts)

7a. Every dairy farm shall be provided with one or more toilets, conveniently located to the milking barn and milkhouse. In many instances, the producer's home toilet will meet this requirement.

7b. The toilet room shall be constructed and operated in accordance with the plans and instructions of the state agency responsible. There is no mixing of animal and human waste. The walls and ceiling shall be tight. Windows to the outside shall be provided with screens and must open to the outside. Doors must be self-closing.

7c. There shall be no evidence of human waste about the premises.

7d. The toilet room must be maintained clean. There shall be no direct opening into the milkhouse or parlor from the toilet room other than a self-closing door. Toilet rooms shall not vent into the milkhouse or parlor.

Item 8: Water Supply (Max 7 pts) There are major and minor violations based on the hazard

8a. Constructed and operated according to Appendix D Standards for Water Sources Pg 168 PMO

1. Well, Spring and Cistern: Construction and Location	Location of Water Sources Pg 168-171 PMO Construction Details for Water Sources Pg. 171-175 Pg. 192-208 PMO
2. Disinfection Systems <ul style="list-style-type: none"> • UV Light • Chlorination 	Pg 176-182 PMO

8b. Complies with bacteriological standards – Pg. 48 and Appendix G. Pg. 222 PMO

When to test	<ol style="list-style-type: none"> 1. New water supplies before use 2. Contaminated or repaired supplies after thorough disinfection, before use 3. Change in source 4. Prior to use and at least once every 3 years (every 6 months for buried well)
What to test	All sources that are used

8c. No connection between safe and unsafe supplies, no improper submerged inlets. See pg 30 – 38 this book

1. Submerged inlets protected by:	Air gap or appropriate anti-siphon devices or eliminated.
2. <u>High- pressure pump</u> (both permanently mounted and portable) shall be provided with protection to prevent the possibility of suction being created on pressurized lines	Low pressure cut off valve Separate reservoir or Other acceptable protection
3. Chemical injectors in chemical containers greater than 1 gallon	Appropriate protection
4. Backflow prevention devices not working properly or not appropriate for situation	Atmospheric vent plugged up Troughs with bottom fed inlet

Item 9: Utensils and Equipment – Construction (Max 4 pts)

- 9a. All multi-use containers, equipment, and utensils used in the handling, storage or transportation of milk shall be made of smooth, nonabsorbent, corrosion-resistant, nontoxic materials including but not limited to the following: stainless steel, heat resistant glass, and approved plastic, rubber or rubber-like materials. This equipment shall be easily cleanable. Worn or cracked inflations, gaskets, air hoses, milk hoses, milk conveyor and vacuum trap balls, or floats or similar equipment is not allowed. Equipment made of unapproved materials must be replaced with easily cleanable, approved materials.
- 9b. All multi-use milking containers, equipment, and utensils are maintained in good repair. Milking units, milk tubing, and other milk contact surfaces shall be easily accessible for inspection. If tools are required to make items accessible for inspection, those tools must be provided by the producer and be available at all times.
- 9c. Single service articles must be specifically manufactured for that use. They must be handled in a sanitary manner. Single service articles are not to be reused.
- 9d. Utensils and equipment are of sanitary design. CIP pipeline and return solution lines are self-draining. Strainers are of perforated metal design. Gaskets, if used, are self-positioning. If no gaskets are used, all fittings shall have self-positioning faces designed to form a smooth, flush, interior surface. All interior surfaces of welded joints shall be smooth and free of pits, cracks, and inclusions.
- 9e. Detailed plans for CIP pipeline systems shall be submitted to the Oregon Department of Agriculture (ODA) for approval **prior** to installation. No alteration or addition shall be made to any milk pipeline system without the **prior** approval of ODA. Vacuum traps connected to milk receivers and bulk tanks where the tank acts as a receiver must be designed so the connector pipe does not rise over 12” above the receiver, and that it slopes to the trap. Vacuum traps must have balls or floats in them that prevent liquids in the trap from overflowing into the milk receiver and contaminating the milk.

APPENDIX F CLEANING AND SANITIZATION PMO 211

Item 10: Utensils and Equipment – Cleaning (5 pts) Appendix F Cleaning and Sanitation

- 10a-m There shall be a separate wash manifold for all CIP cleaned milk pipelines in all new or extensively remodeled facilities.
- 10a-m The product-contact surfaces of all multi-use containers, equipment, and utensils used in the handling, storage, and transportation of milk shall be cleaned after each use. Items used in milking which are not normally considered product-contact surfaces such as vacuum traps on bulk tanks and receivers, air hoses and pulsators are maintained clean.
- 10n. Milking equipment must be dismantled where appropriate and cleaned after each milking or at least once every 24 hours for continuous operations.

- 10o. Appropriate cleaner, brushes, and other equipment used for cleaning shall be available and in good repair.

Item 11: Utensils and Equipment – Sanitization (5 pts)

11. The product-contact surfaces of all multi-use containers, equipment, and utensils used in the handling, storage, and transportation of milk shall be sanitized with an approved sanitizer before each use. **In order for a sanitizer to be approved, it must have a label affixed to the container, it must have a Federal Environmental Protection Agency registration number, and it must have directions for dairy use. A mechanical method shall be provided to sanitize the bulk tank. This may be the sanitizing cycle on an automatic bulk tank washer or a sprayer unit that attaches to a hose and applies sanitizer using water pressure.**

Item 12: Utensils and Equipment – Storage (Max 2 pts)

- 12a. All milk containers, utensils, and equipment, including vacuum hoses, are stored in the milkhouse on racks until used. Pipeline milking equipment such as milking units, weigh jars, and receivers which are CIP cleaned and are properly protected from contamination at all times may be stored in the milking barn or parlor. In such instances, the milking barn or parlor will be used for milking only and no animals shall be housed there. When manual cleaning of product contact surfaces is necessary, the cleaning shall be done in the milkhouse.
- 12b. Equipment is stored to drain completely or means provided to affect the complete drainage of equipment when such equipment cannot be stored to drain freely.
- 12c. Strainer pads, air filters, and other single service articles are stored in a suitable container or dust tight cabinet and protected from contamination. Single service articles stored in a cabinet are placed higher than, and on a separate shelf from, any contaminant.

Item 13: Milking – Flanks, Udders, and Teats (Max 5 pts)

- 13a. Milking is done in a milking barn, stable, or parlor.
- 13b. Brushing, grooming, or clipping of cows is completed prior to milking.
- 13c. Flanks, bellies, tails, and udders are free from dirt or accumulated manure and clipped as often as necessary to facilitate cleaning of these areas.
- 13d. Udders and teats of all milking cows are clean and dry before milking. Teats shall be cleaned, treated with a sanitizing solution and dried just prior to milking.
- 13e. Wet hand milking is prohibited. **Hands must be clean and dry prior to milking.**

Item 14: Protection from Contamination (Max 3)

- 14a. Equipment and operations are so located within the milking barn, parlor and milkhouse as to prevent overcrowding and contamination of cleaned and sanitized containers, equipment, and utensils by splash, condensation, or manual contact.
- 14b. During milking, pipelines shall be effectively separated from wash vats, tanks, or circuits that could possibly contain cleaning and/or sanitizing solutions. **The only effective protection that is currently acceptable is a complete physical break between the milk line and any possible source of cleaning and/or sanitizing solution. Any milk storage vessel shall be as effectively protected as above whenever milk is being stored in it.**
- 14c. All milk that has overflowed, leaked, been spilled, or improperly handled is discarded.
- 14d. Each pail or container of milk shall be transferred immediately from the milking barn, stable, or parlor to the milkhouse.
- 14e. All product-contact surfaces of containers, equipment, and utensils are covered or otherwise protected to prevent the access of insects, dust, condensation, and other contamination. All openings, including valves and piping attached to milk storage and transport tanks, pumps, or vats shall be capped or otherwise properly protected. Gravity-type strainers used in the milkhouse do not need to be covered. Milk pipelines used to convey milk from pre-coolers to the farm bulk tank must be fitted with effective drip deflectors. Pails, cans, and other equipment containing milk are properly covered during transfer and storage.
- 14f. Sanitized product-contact surfaces, including farm cooling/holding tank openings and outlets, are protected against contact with unsanitized equipment and utensils, hands, clothing, splash, condensation, and other sources of contamination.
- 14g. Whenever air under pressure is used for the agitation or movement of milk, or is directed at a milk-contact surface, it is free of oil, dust, rust, excessive moisture, extraneous materials, and odor, and shall otherwise comply with applicable standards. **Hose dryers must be provided with air filters. Air injectors on CIP systems must have filters when located in areas other than the milkhouse. Not all air injectors can be provided with the proper filters and must therefore be located in the milkhouse or a place with equivalent air quality.**

Item 15: Drug and Chemical Control

- 15a. Cleaners and sanitizers, used on dairy farms, shall be purchased in containers that properly identify the contents by the manufacturer or distributor. If bulk cleaners and sanitizers are transferred from the manufacturer's or distributor's container, the transfer must be into a dedicated end-use container that is specifically designed and maintained according to the manufacturer's specifications for that specific product. The label on the

dedicated end-use container shall include the product name, chemical description use, directions, precautionary and warning statements, first aid instructions, container storage, and maintenance instructions and the name and address of the manufacturer or distributor. **Provide and post directions for dairy use for retail bleach products such as Clorox if they are used to sanitize milking equipment.**

- 15b. Equipment used to administer medicinals or drugs is not cleaned in the wash vat and is stored so as not to contaminate the milk or milk contact surfaces of equipment or single service articles. **Do not store drug administration equipment in the hand sink or wash vats.**
- 15c. Drugs must be properly labeled and properly stored. Medicinals or drugs for non-lactating dairy animals are kept separate from medicinals or drugs for lactating dairy animals. Separate shelves in cabinets, refrigerators, or other storage facilities are acceptable. All drugs and medicinals, whether over the counter or prescription, shall be properly labeled with the name and address of the manufacturer or distributor, directions for use, meat and milk withhold times where required, cautionary statements when needed and active ingredients. In addition, prescription drugs require the name and address of the prescribing veterinarian. Topical antiseptics, wound dressings (unless intended for direct injection into the udder), vaccines, and other biologicals, vitamins, and/or mineral products are exempt from labeling and storage requirements as long as they are stored in such a manner as to prevent the contamination of milk and milk product-contact surfaces.
- 15d. Unapproved and/or improperly labeled medicinal/drugs may not be used to treat dairy animals and may not be stored in the milkhouse, milking barn/stable parlor, or adjacent areas.
- 15e. Drugs and medicinal are stored in such a manner that they cannot contaminate the milk or milk contact surfaces of the equipment, containers, or utensils.

Item 16: Personnel – Handwashing Facilities

- 16a. Hand-washing facilities are located convenient to the milkhouse, milking barn, stable, parlor, and flush toilet. The hand-wash facility shall include hot and cold running water, soap or detergent, individual sanitary towels, and a lavatory fixture. **A hand-wash facility is not considered convenient if its location prevents its ready use or the sink is contains extra items.**
- 16b. Utensil wash and rinse vats shall not be used as hand-washing facilities. This is to avoid the possibility of contaminating the milking equipment with dirt, manure, grease, or other substances that the producer may be washing from his hands. A separate wash vat with a separate faucet may be used as a hand-wash sink as long as other milking equipment wash and rinse vats are provided

Item 17: Personnel – Cleanliness

- 17a. Hands are washed clean and dried with an individual sanitary towel immediately before milking or handling clean and/or sanitized milking equipment. Hands are rewashed any time there is occasion to contaminate them during milking or handling of equipment.
- 17b. Milkers and milk hauler/samplers shall wear clean outer garments while milking, or handling milk, milk containers, utensils or equipment.

Item 18: Raw Milk Cooling

- 18a. Milk shall be cooled to 10°C (50°F) or less within 4 hours or less of the commencement of the first milking and to 7°C (45°F) or less within 2 hours after the completion of milking. Provided that the blend temperature after the first milking and subsequent milkings does not exceed 10°C (50°F).
- 18b. Recirculated cooling water shall be from a safe source. Recirculated water shall not receive any unapproved treatments. Glycol shall be of a food grade. Recirculated cooling water storage tanks shall be protected from contamination with tight overlapping covers and downturned screened vents. Recirculated cooling water shall be tested and comply with the standards of the PMO upon initial use and shall be tested semiannually thereafter. **All farm bulk milk tanks manufactured after January 1, 2000 shall be equipped with an approved temperature recording device.**

Item 19: Insect and Rodent Control

- 19a. Fly breeding is minimized by using approved methods of manure disposal. During fly season, manure shall be spread directly on the fields; or stored for not more than 4 days in a pile on the ground surface and then spread on the fields, or stored for not more than 7 days in an impervious-floored bin, or on an impervious curbed platform and then spread; or stored in a tight-screened and trapped manure shed; or effectively treated with larvicides; or disposed of in any other manner which controls insect breeding.
- 19b. Manure packs in loafing areas, pen barns, resting barns, wandering sheds, and free-stall housing are properly bedded and managed to prevent fly breeding.
- 19c. All milkhouse openings are effectively screened or otherwise protected from the entrance of insects, birds, and animals. All milkhouse doors leading to the outside are tight-fitting and self-closing. Screened doors open outward. **Provide a screen for the compressor opening if it is in the milkhouse or in an open adjoining room.**
- 19d. The milkhouse is kept free of insects and rodents. Rodent droppings and excessive fly specks are an indication of a failure to meet this requirement.

- 19e. Only insecticides and rodenticides approved for use in dairy operations by the regulatory agency and/or the U.S. Environmental Protection Agency are used for insect and rodent control.
- 19f. Insecticides and rodenticides are used only in accordance with manufacturer's specifications and are used so as to prevent the contamination of milk, milk containers, equipment, utensils, feed, and water.
- 19g. Surroundings are kept neat, clean, and free of conditions that might harbor or be conducive to the breeding of insects and rodents. Keeping grass around the buildings cut, manure from accumulating, and trash picked up will diminish the environment which flies and rodents find inviting.
- 19h. Feed may be stored in the milking portion of the barn only in a manner that will not attract birds, flies, or rodents. Covered boxes, bins, carts, or separate storage facilities are required for the storage of ground, chopped, or concentrated feeds. A storage facility is considered to be separate if a closed door exists between the milking barn and the storage facility. Silo rooms opening into milking barns must have a door. Mechanized feed dollies or carts do not require covers when in use.

WATER SYSTEMS REQUIREMENTS

Water used for milkhouse and other milking operations shall be from a source that is properly located, protected, and operated. This water source shall be easily accessible, adequate, and of a safe quality. A polluted water supply, used in the cleaning of dairy utensils and containers is dangerous because bacteria grow much faster in milk than in water.

The dairy water system shall be constructed and maintained to prevent contamination. This is a constant challenge due to the continual changes, such as repairs and additions that are made to these systems. To avoid violations, frequent evaluations of the water system should be made. A walk through with an ODA dairy inspector is highly recommended to identify all fundamental components of the system with the mutual goal of preventing potential cross connections of unsafe sources to the water supply. The following are key areas that should be routinely reviewed by the dairy producer to identify possible violations:

- **Cross contamination**

Cross contamination can occur regardless of whether the system receives water from a groundwater source or a spring. Sources of cross contamination include the following:

- underground water leaks
- submerged supply lines
- gutters
- feces
- unsafe water in water troughs
- sanitizer injection pumps

- **Plumbing cross-connections.**

Plumbing cross-connections are actual or potential connections between a potable (drinkable) and non-potable water supply. It is the responsibility of every dairy producer to be familiar with the dangers of cross-connections and to remove them from their dairy farm's water distribution system.

Water Sampling

Samples for bacteriological examination of water systems and reclaimed water from heat exchangers or compressors are taken upon the initial approval of the dairy and thereafter at a specific frequency (see table below). Samples are also taken when any repair, modification, or alteration of the water supply system has been made. Whenever such samples indicate either the presence of Total- and Fecal Coliform bacteria, the source of contamination must be determined and fixed. An ODA inspector will then resample the water within 30 days of the positive test result.

Sampling Frequency of Water Sources

Type of Water System	Sampling Frequency
Drilled wells, dug wells, and springs	Every three years
Recirculating and Reclaim	Every six months
Sandpoint, driven point and buried well seal	Every six months
City water and Community water systems	Not needed

Types of Disinfection

REQUIREMENTS FOR UV LIGHT TREATMENT

1. UV light shall be applied so that the entire volume of water receives at least the following dose: UV at 2,537 Angstrom (254 nanometers) at 186,000 microwatt-seconds per square centimeter or equivalent to achieve an EPA log virus reduction equivalent dose
2. A flow or time delay mechanism shall be provided so that all water moving past the flow stop or divert valve receives the minimum dose required above.
3. The unit shall be designed to permit the frequent cleaning of the system without disassembly and shall be cleaned often enough to ensure that the system will provide the required dose at all times.
4. An accurately calibrated UV intensity sensor, properly filtered to restrict its sensitivity to the 2,500 – 2,800 (250-280 nanometers) germicidal spectrum, shall measure the UV energy.
5. A flow-diversion valve or automatic shut-off valve shall be installed which will permit flow into the potable water line only when at least the minimum required UV dosage is applied. When power is not being supplied to the unit, the valve shall be in closed (fail-safe) position which shall prevent the flow of water into the potable water line
6. An automatic flow control valve, accurate within the expected pressure range, shall be installed to restrict flow to the maximum design flow of the treatment unit so that the entire volume of water receives the minimum dose required above.
7. The materials of construction shall not impart toxic materials into the water either as a result of the presence of toxic constituents in the materials of construction or as a result of physical or chemical changes resulting from exposure to UV energy
 - For flow rates of less than twenty (20) gallons per minute see page 182 PMO

Chlorination of Contaminated Wells*

CAUTION:

Until your water supply is certified as safe, boil all water for at least ten minutes before drinking or cooking. (Ask the health Department about other methods of emergency water treatment.)

FOLLOW THESE STEPS TO CHLORINATE YOUR WELL:

1. Use any household liquid bleach containing 5% chlorine. Use one pint of bleach for every 128 gallons of water. Larger doses are not normally harmful but could cause damage to some types of piping material and are not recommended.

2. To figure the volume of water in your system:

x Multiply the estimated depth of water standing in the well casing by the number of gallons per foot under the appropriate casing size. Use the table below:

Casing size (diameter in inches)	<u>4"</u>	<u>6"</u>	<u>8"</u>	<u>12"</u>	<u>24"</u>	<u>36"</u>	<u>48"</u>
Gallons per ft. of water depth	.65	1.5	2.6	6	24	53	94

+ Add the capacity of your storage tank.

÷ Divide total gallons by 18 to get pints of bleach needed.

EXAMPLE:

Casing diameter = 6"

Depth of water in well = 100 feet

Gallon capacity of storage tank = 40 gallons

Volume of water = $100 \times 1.5 = 150 \text{ gal.} + 40 \text{ gal.} = 190 \text{ gallons total}$

Amount of bleach = $190 \div 128 = 1.48 = 1 \frac{1}{2} \text{ pints bleach}$

3. Dilute the bleach in 3 to 5 gallons of water and pour into the well. Circulate this mixture through the well and pressure tank until thoroughly mixed. We recommend placing a hose into the well casing and recirculating the water for a minimum of 30 to 40 minutes. Make certain the walls of the casing are washed down with the mixture.

4. Open each faucet and let the water flow until you can smell the chlorinated water. Shut off faucets.

5. The following morning open all faucets and allow the chlorinated water to be pumped out of the well. Pump until free of chlorine smell.

6. After 7-10 days have another water sample tested to see if the contamination is still present.

*Remember - It is advisable to chlorinate your system after replacing or repairing the water pump, piping or sanitary well seal. A bad water system may occur after well work, unless you thoroughly chlorinate your water system.

BASIC TYPES OF BACKFLOW PREVENTION DEVICES

Device Type & Use	Description	Installed	Examples	Illustration
AIR GAP High or low health hazard, back-siphon protection.	Physical separation of potable and non-potable water systems - gap equal to 2 times diameter of supply line.	End of supply pipe.	Pesticide spray tanks, sinks, any non-pressurized receiver.	
HOSE CONNECTION VACUUM BREAKERS Hose outlets, non-continuous pressure.	Single check valve with atmospheric vacuum breaker vent. Typical size: 3/4 inch hose thread.	On hose bibbs and service sinks (no downstream valves).	Hose bibbs, service sinks, hydrants.	
ATMOSPHERIC VACUUM BREAKER High hazard, non-continuous pressure or backpressure.	Single float and disk with large atmospheric port. Typical sizes: 1/2 inch to 3 inches.	6 inches above fixture rim, not subject to back-pressure or continuous pressure (Back-siphon protection only.)	Pesticide spray tanks, single-zone lawn sprinklers, washing machines, dishwashers, processing tanks.	
PRESSURE-TYPE VACUUM BREAKER High hazard continuous pressure.	Spring-loaded single float with independent first check valve. Shut-off valves and test cocks. Typical sizes: 1/2 inch to 2 inches.	12 inches above overflow level of system being supplied and for continuous supply pressure. (Back-siphon protection only.)	Lawn sprinklers, livestock water systems, pesticide spray tanks and filling systems, swimming pools, laboratory equipment.	
DOUBLE-CHECK WITH INTERMEDIATE VENT Low hazard, continuous pressure, small pipes.	Two independent check valves with intermediate vacuum breaker and relief valve. Typical sizes: 1/4 inch to 3/4 inch.	Cross-connections with low health hazards, subject to back-pressure, back-siphonage, backflow and continuous pressure.	Small boilers, dairy equipment, residential small cooling towers.	
DOUBLE-CHECK VALVE Low health hazard, continuous pressure.	Two independent check valves with various arrangements. Typical sizes: 3/4 inch to 10 inches.	Cross-connections with low health hazards, subject to continuous pressure.	Fire protection sprinklers, tanks and vats, cookers, supply lines.	
REDUCED-PRESSURE ZONE High hazard, continuous pressure and back pressure back-siphon protection.	Two independent check valves with intermediate relief valve. Shut-off valves and test cocks. Typical sizes: 3/4 inch to 10 inches.	All cross-connections subject to back pressure or back-siphon and high health hazards; continuous pressure.	Main supply lines, commercial boilers, hospitals, process tanks, sewage treatment, pesticide handling.	

**PMO APPENDIX B.
TABLE OF FARM WATER SUPPLY VIOLATIONS**

The following Table was accepted by the NCIMS Executive Board for use as guidance in evaluating farm water supplies. The Table provides guidance, which may be used to differentiate between two (2) point (minor) and five (5) point (major) violations of Section 7, Item 8r of the *Grade “A” PMO* during State Ratings and FDA Check Ratings.

Primary Violation Areas as Defined by the *Grade “A” PMO*

1. Water supply is safe and complies with Appendix D.;
2. No cross-connections between safe and unsafe supplies;
3. No submerged inlets;
4. Well location and construction;
5. New individual water supplies disinfected prior to use;
6. All containers/tanks used to transport and protect water are protected from contamination;
7. Periodic sampling; and
8. Water testing records current.

WELLS, SPRINGS AND CISTERNS: CONSTRUCTION AND LOCATION (Items A, D and F)	
Major (5 point)	Minor (2 point)
1. Any openings that allow direct contamination of the well water, such as:	1. Any openings that allow <i>indirect</i> contamination of the well water:
a. Well cap/cover not in proper position on top of casing to protect against contamination (i.e., missing, lying on ground, hanging off edge of casing, etc.);	a. Well cap/cover not tight or overlapping (i.e., set screws, etc. not tightened) but in proper position to protect against contamination;
b. Well cap/cover not impervious;	b. Proper vent (turned down pipe) but unscreened or damaged screen; and
c. Opening in top of casing (i.e., vent hole, opening around electrical wires, etc.);	c. Loose wires running from the outside of the well into the well casing from the side or underside of the well cap.
d. Well casing or top cracked/perforated with openings to interior of well;	
e. Well seal not watertight; and	
f. Frost-free style water hydrant out of the top of the well casing.	

2. Large hole/depression, indication of erosion around well casing or standing water around well casing.	2. Slight depression around well with no evidence of standing water.
3. Well pit does not meet the following requirements:	3. Well pit does not meet the following requirements:
a. Watertight construction (protected from ground water/rain water);	a. Concrete base for pump/machinery at least 12 inches (30.5 centimeters) above the pit floor; and
b. Watertight impervious cover;	b. Cover of the overlapping (shoe box) type.
c. Watertight impervious (concrete) floor sloped to drain;	
d. Operational sump pump or traceable drain to the surface;	
e. Dry floor in pit; and	
f. Well in bottom of pit protected from contamination using cover, seals, etc.	
4. Spring box not properly constructed or protected:	4. Spring box not properly constructed or protected:
a. Spring box and cover do not protect spring from direct contamination, (i.e., uncovered, openings in top, cracks in sides, etc.);	a. Overflow piping not screened;
b. Surface drainage not diverted away from spring; and	b. Spring box cover not overlapping; and
c. Spring located in open pasture/field with livestock concentrating within 50 feet (15 meters) as evidenced by trampling of ground, accumulation of manure, or stock tank or cattle feeding area within 50 feet (15 meters) of spring.	c. Minor construction deficiencies.
5. Water reservoir/cistern/tank construction and use:	5. Water: reservoir/cistern/tank construction:
a. Constructed to allow contamination of the potable water; and b. Transfer/distribution system constructed to allow contamination of the water supply or distribution system.	Minor construction problems.

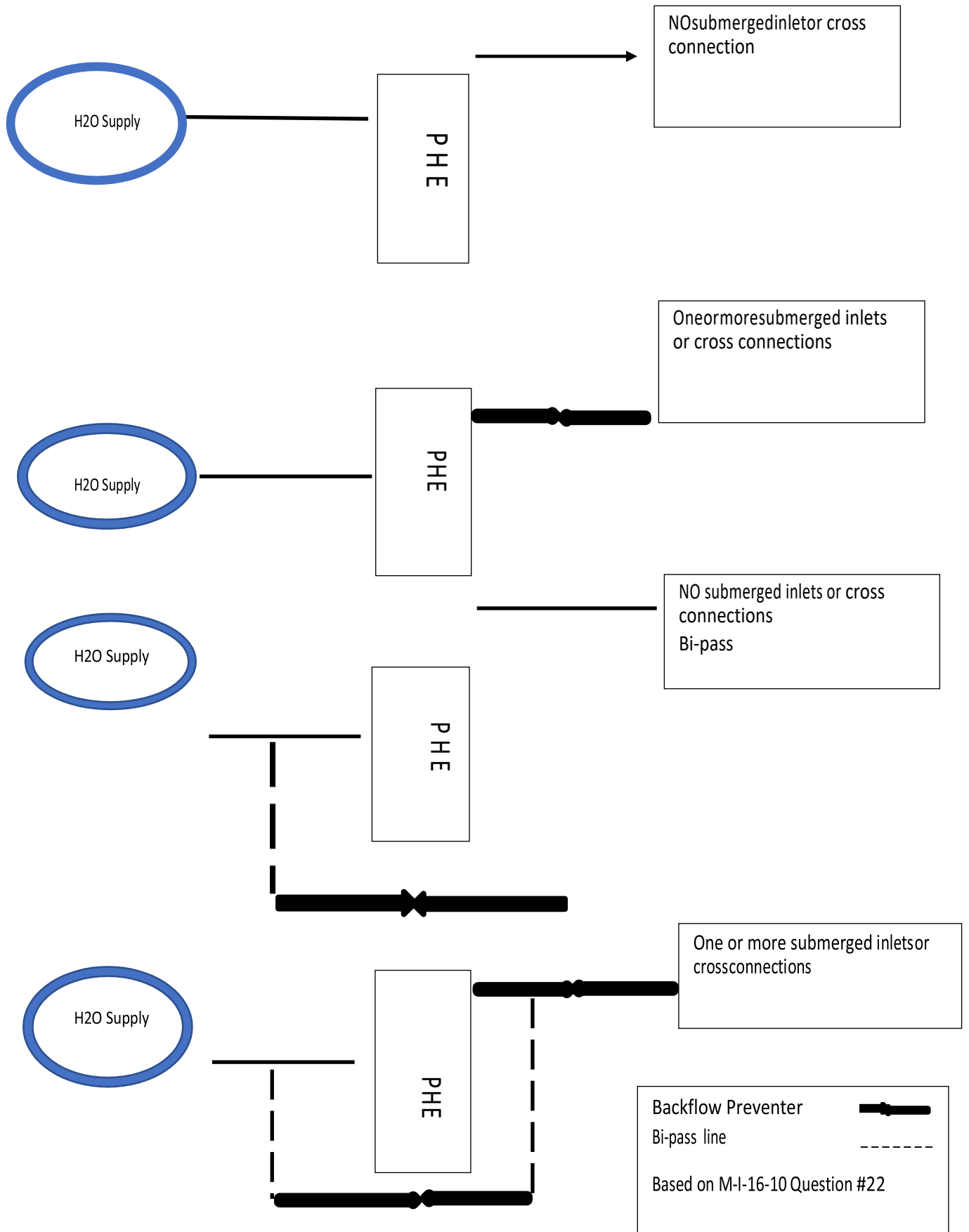
<p>6. Buried well seal: With a bad water sample not brought into compliance.</p>	<p>6. Inaccessibility: Except for seasonal conditions like snow and insulation wrap during winter months, the following water sources/supplies must be accessible for routine inspection and survey evaluation:</p>
	<ul style="list-style-type: none"> a. Above ground wells and well pits b. Cisterns, reservoirs and springs c. Stock waters
<p>7. Well within 50 feet (15 meters) of contamination source (i.e., sewer lines, septic tank, drain field, cowyard, cattle housing areas without impervious floors, calf pens, waste disposal lagoons, buried gasoline tanks, herbicide/pesticide storage, etc.).</p>	<p>7. Frost-free style water hydrant located within 10 feet (3 meters) of the well without an approved atmospheric vacuum breaker or with the hose connection threads not cut off.</p>
<p>8. Well casing terminating below or at ground level. (Does not include well pits or buried well seals complying with Item 8r of the <i>Grade "A" PMO</i>).</p>	<p>8. Any pit not meeting the construction standards of the <i>Grade "A" PMO</i>, which is located within 10 feet (3 meters) of the well.</p>
<p>9. Well located in a known flood plain with well casing terminating less than 2 feet (0.6 meters) above the highest known flood level.</p>	
<p>10. Well located in open pasture/field with livestock concentrating within 50 feet (15 meters) of well as evidenced by trampling of the ground, accumulation of manure, or stock tank or cattle feeding area within 50 feet (15 meters) of the well*</p>	
<p>11. Improperly constructed abandoned well(s) located within 10 feet (3 meters) of well(s) used as source of potable water for the dairy.</p>	
<p>* If there is no evidence of livestock concentration around a well casing that is located in a pasture, then this Item should not be debited.</p>	

WATER SAMPLING (Items E, G and H)	
Major (5 point)	Minor (2 point)
1. Last water sample unsatisfactory.	1. Last sample on record tested safe, but the next sample was not collected/ analyzed within the required time frames:
	a. New Permit: Then once every three (3) years;
	b. Buried Well Seal: Every six (6) months;
	c. Hauled Water: At least four (4) times in separate months during any consecutive six (6) months; and
	d. After Any Well Repair: Within thirty (30) days.
2. No record of an initial bacteriological sample on file prior to the issuance of a permit for new farms, without any additional sample results on file for the rating period.	
3. Continuous disinfection system, required by the Regulatory Agency, is not operational.	
4. On farms with interconnected wells, if the system is constructed and operated so that a single sample will represent all sources, then a single sample is sufficient. If a single sample does not represent all sources, then each individual well must be sampled at the required frequency (M-I-86-9).	

CROSS-CONNECTIONS AND SUBMERGED INLETS: (Items B and C)	
Major (5 point)	Minor (2 point)
1. Submerged inlets: Into non-potable water, (i.e.):	1. Potential submerged inlets:
a. Submerged line in a stock tank(s)/stock fountain(s);	a. Single-cased pipe in a stock tank or fountain;
b. 2-compartment wash vat(s) containing water or with the drain plugged;	b. Properly working stock tank float located below the overflow rim of the tank; and
c. Drinking cups;	
d. Pre-cooler outlet;	c. Water inlet (equipped with an automatic shut-off) to a CIP/wash vat terminates below the rim of the vat, but is not submerged in water or solution.
e. Flush down tanks;	(NOTE: If the float has stuck and it is submerged at the time of the inspection it is a five (5) point debit.)
f. Water inlet to a CIP/wash vat is	
submerged in water or solution in the vat; and g. Chill water tank (sweet water, glycol, etc.).	
2. Permanent in-line high pressure pump (power washer): Without acceptable protection, such as:	2. Portable high-pressure water pump (power washer): Without acceptable protection, such as:
a. Properly functioning low-pressure cut-off switch with a properly located test valve; and b. Other methods acceptable to the State Water Control Authority.	a. Separate water supply or reservoir;
	b. Properly functioning low- pressure cut-off switch with a properly located test valve; and
	c. Other methods acceptable to the State Water Control Authority.
	(NOTE: Lack of a valve or improperly located valve, used to test the low-pressure cut-off switch is a two (2) point debit.)

<p>3. Cleaner, sanitizer and udder wash injectors (pumps) with water supply connection not properly protected and supply container of greater than one (1) gallon size. Submerged inlet(s) in other chemical containers (i.e., bottles and/or containers of Roundup, 2-4D, etc.), regardless of the size of the chemical container.</p>	
<p>4. Anti-siphon vent-type backflow preventer with vent plugged.</p>	
<p>5. Use of non-functional or improper devices to protect against submerged inlets and/or cross-connections.</p>	
<p>6. Stock tank(s) utilizing center ground pipe as an overflow, where the overflow is flooded and not draining.</p>	
<p>7. Discharge hose connecting potable water system directly to the sewer system or manure handling system (i.e., water line terminating below the flood rim of a floor drain).</p>	
<p>RECLAIMED WATER NOT MEETING THE FOLLOWING CRITERIA: (Appendix D., IV. - Water Reclaimed from Heat Exchanger Processes)</p>	
<p>Major (5 points)</p>	
<p>1. Sampled before initial approval;</p>	
<p>2. Sampled at least once in each six (6) month period;</p>	
<p>3. Proper construction of the storage tank (i.e., protected from contamination);</p>	
<p>4. No cross-connections between reclaimed water and non-potable water; and</p>	
<p>5. Approved chemicals used if water is treated.</p>	

DAIRY FARM PLATE HEAT EXCHANGER BACKFLOW PREVENTER DIAGRAM



EXAMINATION OF MILK AND MILK PRODUCTS: CHEMICAL, BACTERIOLOGICAL AND TEMPERATURE STANDARDS

During any consecutive six months, at least four samples of raw milk is collected from each producer and tested at a certified laboratory for:

- Drug Residue
- Bacterial Counts
- Somatic Cell Counts
- Cooling Temperature

Grade A Raw Milk Standards

Drugs	No positive results on drug residue detection methods on either routine individual samples or screening samples.
Bacterial limits	Individual producer's milk not to exceed 80,000 per ml prior to commingling with other producer milk.
Somatic Cell Count*	Individual producer milk not to exceed 500,000 per ml *Goat Milk not to exceed 1,000,000 per ml
Temperature	Cooled to 7°C (45°F) or less within two hours after milking: provided that the blend temperature after the first milking does not exceed 10°C (50°F).

Whenever two of the last four consecutive bacterial counts, somatic cell counts, or cooling temperatures, exceed the limit of the standards for milk and milk products, ODA will send a written warning notice to the dairy farm. This warning notice will be in effect so long as two of the last four consecutive samples exceed the limit of the standard. Meanwhile, an additional sample is collected within 21 days of the sending of such notice, but not before the lapse of 3 days. Immediate suspension of permit will occur whenever the standard is violated by three of the last five bacterial counts, cooling temperatures, or somatic cell counts.

Drug Residue

Every load of milk produced is sampled for Beta Lactam drugs. Whenever a sample tests positive for drug residue, the producer's permit **shall** be suspended. An investigation shall be made to determine the cause of the positive drug residue and the cause shall be corrected. The permit suspension will continue to be in effect and no milk or milk products will be offered for sale until it is shown by a subsequent sample to be free of drug residues.

Bacterial counts

Whenever two of the last four consecutive bacteria counts exceed the limit of 80,000 bacteria count per milliliter as defined in OAR 603-024-0041, the producer shall be given a warning letter which shall be in effect so long as two of the last four samples exceed the limit. This letter will be in effect as long as two (2) of the last four (4) consecutive samples exceed the bacteria standard. Meanwhile, an additional sample is collected within 21 days of the sending of such notice, but not before the lapse of 3 days. Immediate suspension of permit will occur whenever the standard is violated by three of the last five bacterial counts.

Somatic Cell Count (SCC)

The abnormal milk standards for milk for manufacturing purposes is determined by the testing for total somatic cells (leukocyte count) of at least four samples of milk from each producer during every six-month period. A milk sample having a Somatic Cell Count (SCC) of 500,000 or more per milliliter shall be deemed to be violative.

Whenever two of the last four consecutive leukocyte counts exceed the limit of the standards as defined in OAR 603-024-0589, the producer shall be given a warning letter which shall be in effect so long as two of the last four samples exceed the limit. This letter will be in effect as long as two (2) of the last four (4) consecutive samples exceed the SCC standard. An additional sample shall be taken but not before the lapse of four weeks. Milk shall be unlawful grade whenever the standard is violated by three of the last five leukocyte counts. No action is taken if the additional sample is within the standard (less than 500,000 cells per ml.). Release from unlawful grade is made with the first satisfactory sample.

Accelerated sampling shall then be taken at the rate of not more than two (2) per week on separate days within a three (3) week period.

Cooling Temperature

Cooling requirements covered in OAR 603-024-0211. Cooled to 10°C (50°F) or less within four (4) hours or less, of the commencement of the first milking, and to 7°C (45°F) or less within two (2) hours after the completion of milking. Provided, that the blend temperature after the first milking and subsequent milkings does not exceed 10°C (50°F).

NOTE: FOR MORE INFORMATION SEE PMO APPENDIX G CHEMICAL AND BACTERIOLOGICAL TEST

CONSTRUCTION AND FACILITIES OF MILKHOUSE: OAR 603-024-0613

According to AOR 603-024-0613: A milk house shall be constructed and maintained in accordance with the following: The milk house used by retail raw milk dairies (producer distributor) shall consist of two rooms separating the handling of milk and storage of cleaned utensils from the cleaning and other operations which shall be so located as to prevent any contamination of milk or of cleaned equipment. The facility shall comply with the requirements of OAR 603-024-0211. The milk house rooms shall be of adequate size subject to approval by the Department to satisfactorily handle the volume of milk to be cooled, bottled, capped, and the washing of utensils, containers, and equipment.

SECTION 12. PLANS FOR CONSTRUCTION AND RECONSTRUCTION

pg. 131

Properly prepared plans for all milkhouses, milking barns, stables and parlors, milk tank truck cleaning facilities, milk plants, receiving stations and transfer stations regulated under this *Ordinance*, which are hereafter constructed, reconstructed or extensively altered shall be submitted to the Regulatory Agency for written approval before work is begun.

APPENDIX D. STANDARDS FOR WATER SOURCES

pg. 168

- All newly constructed or newly repaired wells shall be disinfected and then flushed prior to bacteriological testing.
- Construction of wells and springs
- Requirements for Acceptability of a UV Disinfection Unit

pg. 168

pg. 171

pg. 182

CLEANING AND SANITIZING UTENSILS AND EQUIPMENT

pg. 49

- Shall be cleaned after each use
- Shall be sanitized before each use
 - Complete immersion in hot water (170°F or more) for at least 5 minutes
 - Effective chemical sanitation by approved chemicals 40 CFR 180.940
 - Bulk tanks shall be cleaned and sanitized when emptied (at least every 72 hours)
- Detailed plans for CIP cleaned pipeline systems are submitted to the Regulatory Agency for written approval prior to installation. No alteration or addition shall be made to any milk pipeline system without prior written approval of the Regulatory Agency.

Each installer shall provide the producer and the Regulatory Agency with a copy of the approved teat dip protocol. Each producer shall keep a copy on file at the farm. All other requirements listed should be followed

NOTE: FOR MORE INFORMATION SEE PMO APPENDIX C. DAIRY FARM CONSTRUCTION STANDARDS AND MILK PRODUCTION

APPENDIX Q. OPERATION OF AUTOMATIC MILKING INSTALLATIONS FOR THE PRODUCTION OF GRADE “A” RAW MILK FOR PASTEURIZATION, ULTRA-PASTEURIZATION, ASEPTIC PROCESSING AND PACKAGING OR RETORT PROCESSED AFTER PACKAGING

This Appendix is intended to clarify how AMIs are to be constructed, installed, perform, monitored, maintained, etc. to be considered in compliance with this *Ordinance*. It is formatted to follow the Items as outlined in Section 7. of this *Ordinance*. Both requirements and recommendations are provided.

GENERAL REQUIREMENTS FOR AMI COMPUTER SYSTEMS

AMIs have computer systems that are programmed for monitoring and/or controlling various sensors, instrumentation and the operational state of various devices such as pumps and valves; have data collection, storage and reporting systems; and have communication network capabilities for multiple uses and locations. While electronic and computer systems can furnish a wide range of process verification and anomaly reporting, these are criteria only for compliance with Items 1r, 13r and 14r of this Appendix.

The dairy farm shall have an identified representative(s) that has been trained by the AMI manufacturer or AMI manufacturer’s designated representative to make program changes to the AMI system.

A manufacturer’s written or electronic documentation addressing the computer system’s monitoring and controlling functions related to Items 1r, 13r, and 14r of this Appendix shall explain the devices controlled, the sensors or instruments monitored, and testing procedures. A document shall bear the name of the identified representative of the dairy farm and shall be available for review at the dairy farm upon request by the Regulatory Agency, Rating Agency and/or FDA. This documentation shall address Items 1r, 13r, and 14r of this Appendix:

1. The software version used, the devices controlled or monitored and their locations, and the sensors or instruments monitored and their locations;
2. The testing procedures for all of the computer system’s controlled and monitoring devices;

3. The procedure for any changes or maintenance to the computers, devices, instrumentation, sensors hardware, etc. and
4. Instructions on how to access the information available on the computer system.

NOTE: Controls for the devices are verified as directed by the Regulatory Agency. The data supporting the electronic reports shall be stored in a database or data archival system. Written or electronic record(s) shall be maintained at the dairy farm identifying changes and verifying compliance with this *Ordinance*. This record shall contain the name of the identified dairy farm representative assigned to administer the computer system and these record(s) shall be available for review at the dairy farm upon request by the Regulatory Agency, Rating Agency and/or FDA. A verification of all computer system's controlled functions shall be conducted and documented at the commissioning of the computer system and at additional frequencies as deemed necessary by the Regulatory Agency. Computer system-controlled functions should be reviewed and verified by the Regulatory Agency during routine dairy farm inspections and by the Rating Agency and FDA.

ITEM 1r. ABNORMAL MILK

AMIs shall have the capability to identify and discard milk from animals that are producing milk with abnormalities. Odor is currently evaluated on a farm bulk milk tank/silo basis and shall not be any different for a herd using AMI technology. The dairy farm shall have a documented procedure in place describing how abnormal milk is properly detected and diverted; and that equipment used for the milking of healthy animals has not become contaminated. The procedure shall also document that a physical change to the AMI system has occurred.

A verification of all computer system's-controlled functions responsible for properly detecting and diverting abnormal milk, shall be conducted and documented at the commissioning of the computer system. This verification means the visual observation by Regulatory Agency personnel; or documentation indicating the testing that was completed by an AMI manufacturer's designated representative; or other means accepted by the Regulatory Agency. Written or electronic information for all required actions shall be maintained at the dairy farm and shall be made available upon request to the Regulatory Agency, Rating Agency and/or FDA.

Animals producing milk with abnormalities shall be diverted to a holding pen to be milked immediately prior to the milking system being cleaned and sanitized, or the animal(s) are identified through an appropriate identification system so that their milk will be automatically excluded from the milk offered for sale, provided that the parts of the milking system that came into contact with the milk with abnormalities are immediately cleaned and sanitized.

ITEM 2r. MILKING BARN, STABLE OR PARLOR – CONSTRUCTION

The AMI milker box shall be treated the same as any other milking parlor. The goal is a clean environment in which to milk animals. All ventilation air shall come from outside the cattle housing area. The AMI should be located to provide a clean access for all personnel.

ITEM 3r. MILKING BARN, STABLE OR PARLOR– CLEANLINESS

The AMI milker box shall be kept as clean as any milking and equipment cleaning area. It is recommended that the milking platform be regularly flushed with water to remove any manure that may have accumulated.

ITEM 9r. UTENSILS AND EQUIPMENT– CONSTRUCTION

AMIs are the same as any other milking system from a sanitary construction and installation standpoint and shall meet the same standards as a conventional milking system in respect to construction, installation, inspectability, the fit and finish of the milk product-contact surfaces, etc.

ITEM 10r. UTENSILS AND EQUIPMENT– CLEANING

AMIs are a continuous milking system and shall be shut down to clean at an interval sufficient to prevent the milking system from building up with soils. It is recommended that this interval not to exceed eight (8) hours.

ITEM 11r. UTENSILS AND EQUIPMENT – SANITIZATION

AMIs shall be sanitized after each cleaning and/or before each use, as is the case with any other milking system.

ITEM 12r. UTENSILS AND EQUIPMENT – STORAGE

AMIs shall have positive air ventilation systems in operation whenever the milking system is being cleaned and/or sanitized. The air for this ventilation system shall come from outside the cattle housing area and shall be as clean and dry as practical. This positive air ventilation system shall also run during milking if needed to minimize odors, moisture and/or for pest control.

ITEM 13r. MILKING – FLANKS, UDDERS AND TEATS

AMI manufacturers shall submit data to FDA to show that the teat prepping system employed in their milking system is equivalent to Item 13r., **ADMINISTRATIVE PROCEDURES #4** of this *Ordinance*: “Teats shall be treated with a sanitizing solution just prior to the time of milking and shall be dry before milking.” Each AMI installer shall provide the dairy producer and the Regulatory Agency with a copy of this FDA acceptance, including a detailed description of the accepted equivalent procedure. Each dairy producer shall keep a copy of the accepted teat prep protocol along with the appropriate AMI manufacturer’s teat prep protocol verification procedures on file at the dairy farm.

A verification of all computer system’s-controlled functions responsible for proper teat preparation shall be conducted and documented at the commissioning of the computer system. This verification means the visual observation by Regulatory Agency personnel; or documentation indicating the testing that was completed by an AMI manufacturer’s designated representative; or other means accepted by the Regulatory Agency. Written or electronic information for all required actions shall be maintained at the dairy farm and shall be made available upon request to the Regulatory Agency, Rating Agency and/or FDA.

ITEM 14r. PROTECTION FROM CONTAMINATION

The teat cups (inflations) of the milking cluster shall be adequately shielded, or variations may be individually evaluated and found to also be acceptable by FDA and the Regulatory Agency, during the teat prepping process to assure that contaminants shall not enter through the teat cups and get into the milk.

AMIs are designed to automatically shift from milking to cleaning/sanitizing positions; therefore, adequate separation of milk and CIP solution shall be provided to minimize the risk of cross-contamination of milk with cleaning and/or sanitizing solutions. A fail-safe valve system providing protection equivalent to an inter-wired block-and-bleed valve arrangement, as referenced in Item 14r of this *Ordinance*, shall be located as needed to prevent cross-contamination. Separation shall be provided between milk with abnormalities and milk intended for sale, and between cleaning/sanitizing solutions and milk intended for sale.

Each dairy producer shall keep a copy of the AMI manufacturer's testing verification procedures for the fail-safe valve systems on file at the dairy farm.

AMIs, which have a wash line extending into the wash vat that is continuously connected to the milking system, shall have a valving arrangement that provides for an air break equal to the diameter of the wash line.

ITEM 18r. RAW MILK COOLING

For AMIs the raw milk for pasteurization, ultra-pasteurization, aseptic processing and packaging or retort processed after packaging shall be cooled to 10°C (50°F) within four (4) hours or less after starting the milking operation and the milk shall be cooled within two (2) more hours to 7°C (45°F). The milk in the farm bulk milk tank/silo shall not exceed 7°C (45°F) after that time. Farm bulk milk tank/silo recording thermometers are recommended if not already required by this *Ordinance*.

RESOURCES

- DAIRY LAW: ORS 621
https://www.oregonlegislature.gov/bills_laws/ors/ors621.html
- DAIRY REGULATION: OAR 603-024
<https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=2713>
- 2017 GRADE A PASTEURIZED MILK ORDINANCE
<https://www.oregon.gov/ODA/shared/Documents/Publications/FoodSafety/PMOFinal.pdf>
- 1999 DAIRY FARM WATER PROTECTION HANDBOOK, Stanislaus County Department of Environmental Resources In cooperation with California Department of Food & Agriculture Milk and Dairy Foods Control Sacramento Region
<http://www.stancounty.com/er/milkdairy/pdf/mdbook.pdf>

PMO Item 15r. Drug and Chemical Control Quick Reference Card
 Minnesota Department of Agriculture — Dairy Inspection Program

General Guidelines:

- Drug administration equipment cannot be cleaned in wash vats
- Drug administration equipment must be stored so as not to contaminate milk or milk contact surfaces
- Non-lactating drugs must be separated from lactating drugs using separate shelves or cabinets
- Non-lactating drugs NOT needing refrigeration cannot be stored in milkroom
- All drugs must be stored so as not to contaminate milk or milk contact surfaces
- Drugs must be labeled properly (see label requirements below)
- Locked drug cabinets must be made accessible to inspection
- Drugs for other animal species than cattle cannot be stored in dairy facility
- All bottles or packages in case lots must be properly labeled
- Any non-lactating drugs found in a working milkhouse refrigerator must require refrigeration

Drug Labeling Requirements:

OTC Drugs:

- Name of Drug
- Active ingredients
- Directions for use
- Withholding/withdrawal times (even if zero)
- Name of manufacturer or distributor

Prescription (Rx) drugs:

- “Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian”
- Name of the drug
- Active ingredients
- Directions for use
- Withholding/withdrawal times (even if zero)
- Name of manufacturer or distributor
- Any special cautionary statements
- Name and address of dispensing veterinarian (clinic name alone is NOT ENOUGH)

Extra-labeled drugs:

- Name and address of prescribing veterinarian
- Name of the drug
- * Active ingredients
- Class/species ID or animal

Prohibited Drugs and Substances:

These drugs and substances are not to be used or stored on dairy farms. The drugs are not eligible for extra label privileges by veterinarians.

- * Chloramphenicol
- * Clenbuterol
- * Diethylstilbestrol (DES)
- * Dimetridazole
- * Iprnidazole
- * Other Nitroimidazoles
- * Furazolidone, Nitrofurazone, other Nitrofurans
- * Sulfonamide drugs in lactating dairy cattle (except approved use of sulfadimethoxine, sulfabromomethazine, and sulfaethoxyypyridazine)
- * Fluoroquinolones
- * Glycopeptides
- * Phenylbutazone (in dairy animals 20 months of age or older) - effective 5/29/2003

Other Substances:

- * Dimethylsulfoxide (DMSO)
- * Ionophores (Lasalocid) in lactating dairy cattle rations
- * Dipyrone
- * Colloidal Silver
- * Estradiol Cypionate (ECP)

Other Drug Notes:

- * A180 (danofloxacin mesylate) – fluoroquinolone drug prohibited from extra-label use in lactating dairy cattle (including breeding bulls) CANNOT BE STORED IN DAIRY FACILITY!
- * Baytril 100 (enrofloxacin) – fluoroquinolone drug prohibited for use in female dairy cattle 20 months of age or older. Cannot be extra-labeled
- * NuFlor Injectable Solution (florfenicol) – an approved prescription drug that is not labeled for use in cattle 20 months of age or older or veal calves. May be extra-labeled for use in lactating dairy cattle.
- * Gentamicin—prescription drug that must be extra-labeled for use in lactating or non-lactating dairy cattle.
- * Sulfamethazine—cannot be used in dairy cattle 20 months of age or older and cannot be extra-labeled.
- * Estradiol Cypionate (ECP) – Is not considered to be an animal drug and cannot be used in animals in any form.
- * Ceftiofur Sodium (Naxcel) – intramammary infusion is an extra-label use of this drug. Spectramast LC is form of this drug approved for intramammary infusion in lactating cows

<ul style="list-style-type: none"> • Directions for use including dosage, frequency, route of administration and duration of therapy • Veterinarian specified withholding/withdrawal or discard time for meat or milk (even if zero) * Cautionary Statements <p>Note: Withhold must be in hours or days Bulk inter mammary tubes – label box ok, if not available 15c. Only Vet can repack or ext label OTC drugs</p>	<ul style="list-style-type: none"> * Excede – Another ceftiofur containing drug that is approved for use in lactating cows; approved only for injection subcutaneously at the base of the ear
<p>Other Drug Notes, cont’d: *Aloe Vera—if no directions for animal use on label, consider product misbranded and violation of Item 15r. *Homeopathic drugs—no FDA approval for these drugs *Drugs packaged for injection or udder infusion but labeled for oral or topical use — violation of Item 15r.</p> <p>Prostaglandins and Pituitary Hormones: These are prescription drugs; however, they are exempt from PMO labeling enforcement. Evidence of misuse should be reported to CVM.</p> <p>Prostaglandins: *Cloprosternol (Estrumate) *Dinoprost (Lutalyse) *Generic forms of these drugs (Prostamate, etc.)</p> <p>Pituitary hormones: *Oxytocin *Luteinizing Hormones (P.L.H.) *Chorionic Gonadotropin (CG, HCG) *Corticotropin (ACTH) *Follicle Stimulating Hormones (FSH, LH)</p> <p>Dosage form vitamins and/or mineral products: Exempt from labeling requirements; must be stored properly.</p> <p>Topical antiseptics and wound dressings: Exempt from labeling requirements unless intended for direct injection into teat. Must meet proper storage requirements of Item 15r. (iodine, alcohol, hydrogen peroxide, teat dips, Clorox, blue oat, granule spray Kopertox)</p> <p>NOTE: Furazolidone aerosol powder (Topazone, Furox) and Nitrofurazone topical powder for pinkeye and wounds (NFZ Puffer, P.E. 7) ARE NO LONGER EXEMPTED FROM THE PROHIBITED DRUG LIST. As a result, they are no longer eligible for extra-label use in food-producing animals.</p>	<p>Footbath concerns: Locate on exit side of milking area so cattle walk through AFTER milking. Any antibiotics used in footbath must be extra-labeled by prescribing veterinarian.</p> <p>Debiting PMO Section 15r violations: 15(a) end use cleaner/sanitizers properly identified 15r(b) - Drug administration equipment properly handled and stored (2 points)</p> <ul style="list-style-type: none"> • Calf bolus administration gun stored in or above hand wash sink • Drug syringes stored in or above wash vat or hand wash sink • Drug syringes stored on top of filter cabinet • Producer found washing drug administration equipment in wash vat or hand sink <p>Item 15r(c)- Drugs properly labeled (name and address) and stored (2 points)</p> <ul style="list-style-type: none"> • Boxes or bottles of Rx drugs not labeled with vet’s name and address • Improper segregation of lactating/non-lactating drugs • Box of dry cow treatment stored in with lactating drugs or in milk house <p>Item 15r(d) - Drugs properly labeled (directions for use, cautionary statements, active ingredients) (5 points)</p> <ul style="list-style-type: none"> • Extra-labeled drug label lacking -- a withhold time, species, indication or treatment duration • Extra-labeled drug label lacking active ingredient • Extra-labeled drug lacs vet name and address • Extra-labeled drugs lacks label <p>Item 15r(e) -Drugs properly used and stored to preclude contamination of milk (5 points)</p> <ul style="list-style-type: none"> • Properly labeled drug used improperly (I.e., Naxcel injected into teat) • Properly labeled drug stored on top of bulk tank or over wash vat • Drugs stored above milk filters (Revised June 2007)

<p>Topically applied systemic acting drugs: Not exempt from labeling requirements in the PMO Item 15r footnote. Check label to determine if they are for lactating or non-lactating cattle to determine proper storage requirements.</p> <p>Vaccines and other biologics: Exempt from PMO labeling requirements. Storage requirements do apply.</p> <p>Medicated cattle feed and blocks: If labeled for non-lactating cattle they must be stored so they are inaccessible to lactating dairy cattle.</p>	<p>Prohibited Drugs on-site NFZ Puffer or DMSO</p>
---	--