(9) MILKING. (a) Flanks, bellies and tails of cows shall be free from visible dirt at the time of milking. The udder and teats shall be wiped immediately before milking with a single service towel, or a clean cloth, dipped in an effective sanitizing solution. Washing or spraying may be substituted if udder and teats are wiped dry with a single service towel, or a clean cloth. Milking machine teat cups and inflations shall be dipped in an effective sanitizing solution between the milking of each individual cow. Milkers' hands shall be washed immediately before milking and kept clean during the milking process. Wet-hand milking is prohibited. Milk stools and surcingles shall be kept clean and stored in a clean place.

(b) Abnormal milk shall be kept out of the milk supply. Milk from cows treated with antibiotics shall be excluded for such period of time as necessary to keep the milk supply free from antibiotics. No dusty or objectionably strong-flavored feeds shall be fed to cows just before or during milking.

(10) STRAINING. Milk may be strained only through a clean, single-service filter.

(11) COOLING. Milk and cream shall be cooled immediately after milking or separating to 50° F. or lower, unless it is delivered to the plant within 2 hours after milking or separating.

(12) MILK HOUSE. (a) Producers of milk or cream shall have a milk house or milk room in which the cooling and storing of milk and cream and the cleaning, sanitizing and storing of milk containers and utensils shall be done. Such house or room shall not be used for any purpose likely to result in contamination. It shall be equipped with a cooling tank or cooling equipment and utensil cleaning, sanitizing and storage facilities. Utensils shall be inverted separately (not nested) on a rack. The bottom bars of the rack shall be high enough to avoid contamination from below. Any type or design of tank or equipment for cooling which can be kept clean and sanitary may be used. The milk house or milk room shall be of construction which permits easy cleaning and have adequate drainage. The floor shall be of concrete or other impervious material. It may be a part of the barn or another building, but shall be partitioned, ceiled and screened to prevent the entrance of dust, dirt, flies and other pests or contamination. Outer doors shall open outward and be self-closing, unless other effective means are provided to prevent entrance of flies. There shall be ample light and adequate ventilation.

(b) When a bulk tank is used for holding and cooling milk, it shall be installed in the milk house or milk room. Such house or room shall have a trapped floor drain. The tank shall not be located over the floor drain or under a ventilator. It shall have at least 24 inches clearance at the milk outlet side, at least 18 inches clearance at two other sides, and a clearance at the bottom of at least 6 inches for flat-bottom tanks and 4 inches for round-bottom tanks; provided, that non-conforming tank installations made prior to January 1, 1961 may be approved by the department, in writing, if the tanks can be effectively cleaned and sanitized. A port opening for milk-conducting equipment, not more than 6 inches in diameter, shall be in an outside wall, and an exterior apron of concrete or other impervious material, not less than 4 feet by 4 feet in size, shall be adjacent to the wall and

centered on the opening. The base of the opening shall be at least 6 inches above the apron and the floor of the milk house or room. The opening shall have a tight-fitting cover which is self-closing. The milk house or milk room shall have a pressure water supply and a water heater of not less than 30-gallon capacity. When a cleaned-in-place stationary pipeline is used, the capacity of the water heater shall be at least 50 gallons if the length of the pipeline is not over 100 feet, 60 gallons if over 100 feet but not over 200 feet, and 80 gallons if over 200 feet.

(13) FARM BULK TANKS. Bulk tanks used for holding and cooling milk at farms shall conform to the following sanitary standards of construction and cooling:

(a) *Construction.* The tank shall be self-draining. Its lining and other parts having contact with milk or having surfaces from which milk may drain or drop into the tank shall be made of stainless steel or other material that is smooth, non-toxic, relatively stable, relatively non-absorbent, corrosion-resistant, and capable of withstanding cleaning and bactericidal treatment. Milk contact surfaces shall be visible and easily accessible. Openings shall have covers which are self-draining. Openings and covers shall be constructed and installed so as to prevent drainage into the milk compartment. Each tank shall have an indicating thermometer, with a minimum range of 32° F. to 80° F., and a mechanical agitator which will insure homogeneity of the milk within 5 minutes of operation.

(b) *Cooling.* Tanks shall be capable of cooling milk from the first milking to 50° F. within one hour and of preventing the blend temperature from rising above 50° F. at any time during the addition of subsequent milkings.

(14) MILKING AND MILK HANDLING EQUIPMENT. (a) All milking and milk handling systems and equipment hereafter installed, reconstructed or extensively altered for use in the milking of cows and the transfer of the milk from the cow to containers, in which or from which the milk is removed from the dairy farm, shall conform to the following standards of construction and installation:

1. All product contact surfaces of permanently mounted pipelines shall be of stainless steel or heat resistant glass, except that rubber, rubber-like, or plastic materials may be used for sealing applications. Paper gaskets shall not be used.

2. All joints of permanently mounted pipelines, including solution lines, shall be welded or equipped with CIP (clean-in-place) fittings. Welded joints shall be smooth and free from pits, cracks or other defects. Demountable fittings shall be of such design as to form substantially flush interior joints. Appurtenances, such as milker claws, pumps or receiver jars with product contact surfaces, shall be readily cleanable, either when assembled or disassembled. Removable parts shall be readily demountable. Non-product contact surfaces shall have a smooth finish and be readily cleanable.

3. Permanently mounted pipelines shall be supported so that they remain in constant alignment and position. They shall be self-draining with a minimum slope of one inch per 10 feet. The support system shall be so designed as to preclude electrolytic action between supports and pipeline.

4. Transparent plastic tubing used in conjunction with transfer

stations or systems shall be in one continuous length and be supported off the floor at all times. The opening through which tygon tubing enters the milk room shall be provided with a closure which is to be kept closed when the transfer unit is not in use. Equipment for mechanically air drying the tygon tubing shall be provided. The pouring station receptacle shall be of smooth stainless steel and be equipped with an overlapping self-closing cover. The receptacle shall be mounted off the floor on a readily cleanable stainless steel framework and be washed and stored in the milk room. Wire mesh or materials which are not readily cleanable may not be used as a support for the filter medium.

5. The claw or milk cup shall be designed so that cleaning and sanitizing solutions will drain when the claw or milk cup is in the cleaning and sanitizing position.

6. A bucket type milking machine shall be provided with a check valve or other device which will prevent moisture or any contaminating substance from entering the milk from the vacuum system. The movable portion of the check valve shall be of one piece construction or the parts shall be bonded together.

(b) Department approval is not required prior to the installation, reconstruction or alteration of milking or milk handling systems and equipment, except that upon completion of the installation, the installer shall furnish the purchaser with a signed written statement certifying that the equipment as installed is in full compliance with this subsection.

Note: Tanks which conform to the "3–A Sanitary Standards" and milking and milk handling equipment which conform to the "3–A Accepted Practices for the Design, Fabrication and Installation of Milking and Milk Handling Equipment", published by the International Association of Milk, Food and Environmental Sanitarians, Inc. in the Journal of Milk and Food Technology will meet the requirements of this section.

History: Cr. Register, December, 1960, No. 60, eff. 1–1–61; renum. (1) to be (1) (a); cr. (1) (b); am. (12) (a), Register, July, 1967, No. 139, eff. 8–1–67; renum. (9) to be (9) (a) and am.; cr. (9) (b), Register, May, 1968, No. 149, eff. 6–1–68; am. (11), Register, February, 1971, No. 182, eff. 3–1–71; cr. (14), Register, December, 1972, No. 204, eff. 1–1–73.

Procurement

Ag 30.04 Warning notice. No producer, after receiving written notice from the department specifying insanitary conditions disclosed by an inspection of his farm premises and that the milk or cream therefrom is of undergrade sanitary quality or is otherwise insanitary, shall continue to sell or deliver milk or cream to any plant unless the insanitary conditions have been corrected by such producer and the milk or cream is not of undergrade sanitary quality.

History: Cr. Register, December, 1960, No. 60, eff. 1–1–61.

Ag 30.05 Identification of adulterated milk. The department will identify any adulterated or insanitary milk or cream by tagging the containers thereof and adding thereto a harmless, red food color to prevent its being used for human food. The plant operator shall identify any adulterated or insanitary milk or cream which it finds by tagging the container thereof.

History: Cr. Register, December, 1960, No. 60, eff. 1–1–61.

Ag 30.06 Transportation. (1) Persons engaged in the business of hauling milk or cream in cans to plants shall use vehicles having attached covered van bodies; except a substitute vehicle, wherein the

product is covered, may be used during the period that a temporary gross weight restriction is imposed for any highway which must be used to obtain the milk or cream. Nothing which may contaminate the milk or cream shall be hauled with the milk, cream or containers therefor. When skim milk, buttermilk or whey is being transported to the producers in the same vehicle used to transport milk or cream, the skim milk, buttermilk or whey shall be contained in a tank outside of the milk enclosure or in a sealed tank within the enclosure. Such sealed tank shall have exterior inlets and outlets. Cans used for the transportation of milk or cream shall not be used for the transportation of skim milk, buttermilk or whey to producers. No person transporting milk or cream shall unload any of the cans of such milk or cream, or any part thereof, at any place other than a plant unless such unloading point is enclosed to protect the milk or cream from extreme heat or cold and from dust or other contamination.

(2) Truck transport tanks, including sanitary piping, fittings and pumps, shall be cleaned and subjected to bactericidal treatment at least once each day. If the tank is not to be used immediately for the pick-up of another load of milk, it shall be washed promptly and given bactericidal treatment prior to use. The outside of the tank truck shall be maintained in a clean condition. Outside fittings and openings shall have metal dust covers. Effective January 1, 1963, tanks shall be cleaned in an enclosed heated room having an impervious, drained floor, equipped with warm water under pressure.

History: Cr. Register, December, 1960, No. 60, eff. 1–1–61.

Ag 30.07 Bacteriological and sediment testing. (1) Every plant operator shall examine by sight and smell all milk and cream received by him. Bacteriological and sediment tests to determine the sanitary quality of such milk or cream shall be conducted at least once each month. Test results of all tests made of a producer's milk or cream shall be furnished the producer within 30 days after the test is completed. Prior to receiving a producer's first delivery the plant operator shall conduct bacteriological and sediment tests of his milk or cream, unless such producer has furnished a copy of his test records for the past 90 days from another plant, as required by section Ag 30.10 (2), showing that his milk or cream was not of undergrade sanitary quality during such 90-day period. Screening tests for the detection of mastitis may be conducted at any time and results reported to the producer if evidence of abnormal milk is found.

(2) Bacteriological tests may be the resazurin, bacterial plate count or direct microscopic clump count tests. The milk or cream is of undergrade sanitary quality:

(a) If the resazurin test discloses any samples which are pink or white at the end of 1 hour's incubation; or

(b) If the bacterial plate count or direct microscopic clump count tests disclose any sample having a bacterial count in excess of 2,000,000 per milliliter.

(3) (a) Sediment tests to determine the sanitary quality of milk or cream in cans shall be conducted by drawing the head of the tester across the bottom of the can, simultaneously with the upstroke of the plunger. The tester shall be an off-bottom type of one pint capacity. If any can of milk or cream is found to be of undergrade sanitary quality, every can of the producer's milk or cream shall be

tested. Farm bulk tank milk shall be tested by the mixed sample method.

(b) The milk or cream is of undergrade sanitary quality whenever the wet sediment disc shows sediment in excess of that in a number 3 disc on a sediment grading chart which shows the following standard sediment discs:

A number 1 disc with no sediment.
A number 2 disc with 0.5 milligram of sediment.
A number 3 disc with 2.5 milligrams of sediment.

When one-pint samples from farm bulk tanks are used for testing by the mixed sample method, the number 2 and 3 standard sediment discs shown on the chart shall contain ⅛ of the sediment prescribed above.

History: Cr. Register, December, 1960, No. 60, **eff. 1–1–61**; am. **(1)** Register, May, 1968, No. 149, eff. 6–1–68; am. (2) (intro. par.), r. (2) (a) and renum. (2) (b) and (c) to be (2) (a) and (b), Register, December, 1972, No. 204, eff. 1–1–73.

Ag 30.08 Notice and rejection; test samples. (1) Milk or cream which is found to be watery, flaky, stringy, bloody, thick, gargety or otherwise adulterated or insanitary shall be rejected by the plant operator.

(2) (a) Whenever the milk or cream of any producer has been subjected to a bacteriological test and is of undergrade sanitary quality, the plant operator shall promptly notify the producer and within 5 days shall conduct another such test on milk or cream received from the producer. If the milk or cream of any producer is found to be of undergrade sanitary quality on 3 consecutive bacteriological tests, conducted at intervals of not more than 5 days, the plant operator shall reject further deliveries of milk or cream from such producer until a bacteriological test discloses that his milk or cream is of sanitary quality; provided, if an inspection of his farm by the plant operator discloses no insanitary conditions, the next delivery may be accepted before such producer's milk or cream is rejected as required herein.

(b) When the milk or cream of any producer has been tested for sediment and found of undergrade sanitary quality, the plant operator shall promptly notify the producer and shall reject such milk or cream and any further deliveries from such producer until a sediment test discloses that his milk or cream is of sanitary quality; provided, if the producer's milk or cream is delivered in bulk commingled with that of other producers, the next delivery may be accepted before his milk or cream is rejected as required herein.

(3) Every plant operator shall warn each producer by notice in writing as to the sanitary quality of his milk or cream if:

(a) The resazurin test discloses any samples which are mauve (lavender) to purplish pink at the end of 1 hour's incubation.

(b) The bacterial plate count or direct microscopic clump count tests disclose any sample having a bacterial count of more than 200,000 per milliliter but not more than 2,000,000 per milliliter.

(c) The sediment test discloses sediment in excess of the number 2 standard sediment disc.

(4) Upon written notice from the department that the milk or cream of a producer is of undergrade sanitary quality, the plant operator shall reject milk or cream received from such producer until bacteriological and sediment tests disclose that it is not of undergrade sanitary quality.

(5) Dairy plants, on reasonable notice from the department, shall collect and furnish to the department fresh milk samples of milk received from individual producers. Samples may be requested once every 4 months or more often as the department considers necessary for animal health and milk quality testing and examination. All samples shall be identified with the patron number and date of collection and shall be kept under refrigeration or ice at a temperature below 40° F. until they are transferred to department inspectors.

History: Cr. Register, December, 1960, No. 60, eff. 1–1–61; cr. (5), Register, May, 1968, No. 149, eff. 6–1–68; r. (3) (a), and renum. (b) (c) (d) to be (3) (a), (b) and (c), Register, December, 1972, No. 204, eff. 1–1–73.

Ag 30.09 Test methods, standard. The procedures for performing sanitary tests, except where otherwise prescribed, shall be those in the book "Standard Methods for the Examination of Dairy Products", Twelfth Edition (1967), copies of which are on file at the offices of the department of agriculture, secretary of state and revisor of statutes, and may be obtained from American Public Health Association, Inc., 1790 Broadway, New York, N. Y. 10019.

History: Cr. Register, December, 1960, No. 60, eff. 1–1–61; am. Register, December, 1972, No. 204, eff. 1–1–73.

Ag 30.10 Records, reports. (1) Every plant operator shall keep for at least one year a record for each producer showing the results of farm inspections, the dates and results of all bacteriological and sediment tests, and the date and quantity of any insanitary or adulterated milk received from such producer. The plant operator shall furnish or forward a copy of such record to the producer or his authorized agent within 24 hours after receipt of his written request. Such record may be used by the producer as evidence of his 90-day milk quality and farm inspection record for purposes of milk transfer as provided in subsection (2).

(2) Before a producer transfers his milk or cream from one plant to another, he shall first furnish the operator of the plant to which the milk is being transferred with a copy of all farm inspection and milk quality records received by him for milk produced during the past 90 days, or if such records are not available, with a copy of records obtained from the plant last receiving his milk as provided in subsection (1). No milk may be transferred without such records unless the producer certifies in writing that he received no records within the past 90 days or is unable to furnish them, and that he has made a request for such records as provided in subsection (1) and the plant operator has failed or refused to furnish or forward them within the time allowed. Any failure or refusal of the plant operator to furnish or forward such records within the time allowed shall be reported to the department by the operator of the plant to which the milk is being transferred. The 90-day farm inspection and milk quality record, along with other tests and inspections conducted prior to receiving a producer's milk, shall be used in determining acceptability of a producer's milk for transfer.

(3) No plant operator shall accept the milk or cream of a producer transferring from another plant until he has: (a) received a copy of his 90-day farm inspection and milk quality record or a statement of non-availability as provided in subsection (2); (b) completed a

farm inspection as required by section Ag 30.02; and (c) completed bacteriological and sediment tests, as required by section Ag 30.07 (1). Bacteriological and sediment tests shall be conducted whenever milk quality and farm inspection records are not available, or the 90-day record discloses that the milk or cream was of undergrade sanitary quality at any time during the preceding 90-day period.

(4) If unsatisfactory farm conditions are disclosed on the initial farm inspection, no milk or cream may be accepted until a re-inspection discloses the producer is in compliance with farm sanitary requirements of section Ag 30.03. If initial milk quality tests disclose that the milk is of undergrade sanitary quality, no milk or cream may be accepted until a subsequent test discloses that the milk is of acceptable sanitary quality.

History: Cr. Register, December, 1960, No. 60 eff. 1–1–61; cr. (c) and (d), Register, March, 1962, No. 75, eff. 4–1–62; renum. (1) to be Ag 30.10; r. (2), Register, July, 1967, No. 139, eff. 8–1–67; renum. to be (1) and am.; cr. (2), (3) and (4), Register, May, 1968, No. 149, eff. 6–1–68.

Processing

Ag 30.11 Premises. Plant premises shall be kept in a clean and orderly condition, free from foul odors, smoke, excessive air pollution, and waste materials. Driveways and dirt surfaces in the immediate plant area shall be surfaced or otherwise treated to minimize dust. A drainage system shall be provided to allow rapid drainage of all water from plant buildings, including surface water around the plant or on the premises, in such manner as to prevent a nuisance or health hazard.

History: Cr. Register, December, 1960, No. 60, eff. 1–1–61.

Ag 30.12 Buildings. (1) GENERAL. Plant buildings shall be of sound, tight construction and shall be kept clean and in good repair. Construction and maintenance shall be such that insects, rodents, vermin, or other animals are excluded.

(2) OUTSIDE OPENINGS. Outside openings of plants, including doors, windows, skylights and transoms, shall be effectively protected or screened against the entrance of insects, birds, rodents and dirt. Outside doors shall be self-closing. Outside conveyor openings and other special-type outside openings shall be effectively protected at all times against the entrance of insects and rodents, by use of doors, screens, flaps, fans or tunnels. Outside openings for sanitary pipelines shall be covered when not in use. Service pipe openings shall be completely cemented or have tight metal collars.

(3) INTERIOR SURFACES. Exposed interior surfaces of rooms in which products are processed or packaged, or in which utensils are washed and stored, shall be smoothly finished with material which is substantially impervious to moisture. Floors of such rooms, when constructed after January 1, 1961, shall be of concrete or other impervious material. They shall be smooth, kept in good repair, and sloped so that there will be no pools of standing water after flushing. Drains shall be equipped with traps and shall be so installed as to prevent any back-up of sewage.

(4) LIGHTING AND VENTILATION. Light and ventilation in the plant shall be adequate to permit maintenance of sanitary conditions. Rooms where products are processed or packaged, or where utensils or equipment are washed, shall have at least 20 foot-candles of light intensity