

## Chapter Ag 30

### MINIMUM STANDARDS FOR MANUFACTURING MILK

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**History:** Chapter Ag 30 entitled "Milk Production, Minimum Standards," (1-2-56, and subsequently amended) was repealed, Register, December, 1960, eff. 1-1-61.

**Note:** Minimum standards for Grade A milk and milk products are issued under the authority of section 97.046, Wis. Stats., and are set forth in chapter Ag 80.

**Ag 30.01 Definitions.** As used herein, unless the context otherwise requires:

- (1) "Department" means the State Department of Agriculture.
- (2) "Plant" means a dairy plant defined in section 97.04, Wis. Stats., but shall not include a Grade A dairy plant.
- (3) "Product" means a dairy product defined in section 97.04, Wis. Stats.
- (4) "Producer" means any person who owns or controls one or more cows from which he sells milk or cream, other than Grade A milk shipped to a Grade A dairy plant.
- (5) "Person" and "operator" include corporations.

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

#### Production

**Ag 30.02 Farm inspection.** Every plant operator, prior to receiving milk or cream from any producer, shall inspect the farm premises of the producer. Thereafter, such inspection shall be made at least once each year and more frequently as necessity is indicated by the results of the tests used to determine the sanitary quality of milk or cream. Inspection of the producer's premises shall include checking to determine compliance with each of the farm sanitary requirements prescribed in section Ag 30.03. After each such inspection a copy of an accurately completed inspection report shall be furnished to the producer and he shall promptly correct conditions which fail to comply with requirements herein. Such reports shall be kept posted in a conspicuous place in the milk house. No producer shall sell or deliver milk or cream to a plant operator after he has refused him access for the purpose of inspecting his farm premises at any reasonable time.

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

**Ag 30.03 Farm sanitary requirements.** (1) (a) Cows. Milk and cream offered for sale shall be from clean, healthy cows.

(b) Milk from a herd infected with mastitis and found to be insanitary and adulterated as provided under Wis. Adm. Code chapter Ag 10 is abnormal milk and shall be rejected as provided in section Ag 30.04.

(2) **PERSONNEL.** Only clean and healthy persons shall be permitted to milk the cows and to handle the milk or milk utensils.

(3) **DAIRY BARNs.** (a) Floors and gutters of dairy barns where cows are milked shall be constructed of concrete or other impervious material. They shall be kept clean and in good repair. Walls and ceilings shall be kept clean and in good repair, and shall be white-washed or painted as often as necessary to keep them in a sanitary condition. The barn where milking cows are kept or milked shall have adequate light and ventilation, and be so arranged as to avoid overcrowding. No swine, sheep, goats or fowl shall be permitted in the milking stable. Manure shall be removed daily from the milking stable and disposed of in such a manner as to be inaccessible to the milking herd.

(b) Loose-cow housing areas shall be so managed that manure, soiled bedding and waste feed are not stored therein or permitted to accumulate so as to cause the soiling of the cows' udders and flanks. The resting area shall be bedded and maintained in such manner that the manure pack is properly drained and that it provides reasonably firm footing for the animals. It shall be of sufficient size to provide at least 75 square feet per cow. The feeding area shall be separate from the bedded area and shall be paved. It shall be kept free from accumulated manure and waste. Accumulated manure shall be completely removed from the resting area before the start of the fly season and it shall be kept free from accumulated manure during the fly season.

(4) **COW YARD.** The cow yard shall be graded so as to be free of standing pools of water. It shall be kept free from accumulations of manure. Swine shall not be permitted in the cow yard.

(5) **TOILETS.** Toilets on every dairy farm shall be of a sanitary type, so constructed and maintained that waste is inaccessible to flies and rodents and does not pollute the surface soil or contaminate the water supply.

(6) **INSECTS AND RODENTS.** The premises shall be maintained and the product and equipment handled so as to prevent contamination by insects or rodents.

(7) **WATER SUPPLY.** An adequate supply of safe, clean water shall be provided for the cleaning of dairy utensils and equipment.

(8) **MILK UTENSILS AND EQUIPMENT.** (a) *Construction.* Milk utensils and equipment used in the handling, storage and transportation of milk or cream shall be made of smooth, relatively non-absorbent material, and seams shall be soldered flush so as to be easily cleaned. They shall be kept in good repair. No galvanized or enamel ware utensils shall be used.

(b) *Cleaning.* Milk utensils and milk contact surfaces of equipment shall be rinsed with lukewarm water immediately after usage, then brushwashed with hot water containing an effective detergent and thoroughly rinsed. Before use they shall be sanitized with a safe, effective bactericide. Farm bulk tanks shall be similarly cleaned and sanitized. Other equally effective cleaning and sanitizing methods may be used.

(9) **MILKING.** 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 clean cloth or other absorbent material dipped in an effective sanitizing solution. Washing or spraying may be substituted if udder and teats are wiped dry. 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 is necessary to make the milk free from antibiotics. Milkers' hands shall be washed clean. Wet-hand milking is prohibited. No dusty or objectionably strong-flavored feeds shall be fed to cows just before or during milking. Milk stools and surcingles shall be kept clean and stored in a clean place.

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

(11) **COOLING.** Milk shall be cooled immediately after milking to 60° F. or lower, unless it is delivered to the plant within 2 hours after milking. The temperature of the milk shall not exceed 70° F. when delivered to the plant, unless it is delivered within 2 hours after milking.

(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 a 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.

*Note:* Tanks which conform to the "3-A Sanitary Standards" published by the International Association of Milk and Food 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.

### 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 pickup 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. 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 latest test records at another plant, showing that his milk or cream was not of undergrade sanitary quality.

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

(a) If the methylene blue test discloses any samples which are decolorized within 2½ hours;

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

(c) 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  $\frac{1}{8}$  of the sediment prescribed above.

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

**Ag 30.08 Notice and rejection.** (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 methylene blue test discloses any samples which are decolorized in  $5\frac{1}{2}$  hours but not decolorized in  $2\frac{1}{2}$  hours.

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

(c) 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.

(d) 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.

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

**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", Eleventh Edition (1960), copies of which are on file at the offices of the State Department of Agriculture, Secretary of State and Revisor of Statutes, and which may be obtained from American Public Health Association, Inc., 1790 Broadway, New York 19, N. Y.

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

**Ag 30.10 Records, reports.** 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 a producer or his authorized agent with a copy of such record upon his request.

**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.

### 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 the 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 on all working surfaces; at least 30 foot-candles of light intensity in areas where products are examined for condition and quality; and at least 5 foot-candles of light in other rooms, when measured from a distance of 30 inches above the floor. Light bulbs and fluorescent tubing near processing or packaging operations shall have protective covers or shields.

(5) ROOMS. Dairy plants which are constructed after January 1, 1961 shall have a separate room for receiving milk or cream. Cooling and freezing rooms shall be equipped with facilities for maintaining any temperature and humidity conditions prescribed for products held therein. Boiler and tool rooms shall be separated from rooms where products are processed, manufactured, packaged or handled. Not later than January 1, 1963 each plant shall have a toilet and dressing room conveniently located therein. Such room shall be equipped with a flush-type toilet and shall be ventilated by openings to the outer air. Doors of toilet rooms shall be self-closing and shall not open directly into any room in which products or ingredients are processed, packaged or stored. Hand-washing facilities, including warm running water, soap or other detergents, and clean towels or air driers, shall be located in or adjacent to the toilet and dressing room, and at other places in the plant if essential to the cleanliness of personnel handling products. Containers shall be provided for used towels and other wastes. A legible sign shall be posted conspicuously in each toilet and dressing room directing employees to wash their hands before returning to work.

**History:** Cr. Register, December, 1960, No. 60, eff. 1-1-61; am. (5), Register, March, 1962, No. 75, eff. 4-1-62.

**Ag 30.13 Facilities.** (1) WATER SUPPLY. (a) There shall be an ample supply of warm water of safe quality with adequate facilities for its distribution throughout the plant. Water from other sources may be used for boiler feed water and condensing water, provided such water lines are completely separated from the water lines carrying the sanitary water supply and the equipment is so constructed and controlled as to prevent contamination of any product or product contact surface. There shall be no cross-connection between potable water lines and other water lines. Bacteriological examination shall be made of the potable water supply at least once a year to determine potability. Tests for potability shall be made by a laboratory certified by the State Board of Health. The results of water tests shall be kept on file and readily accessible for at least 12 months. The location, construction and operation of any well shall comply with the Wisconsin