

Chapter Ag 107

SAMPLING AND TESTING MILK AND CREAM

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History: Chapter Ag 107 as it existed on March 31, 1976 was repealed and a new chapter Ag 107 was created effective April 1, 1976.

Ag 107.01 Definitions. As used in this chapter:

(1) "Calibration sample" means one of a set of 12 or more samples which conform to the requirements of s. Ag 107.06 (1) (c), and are used to calibrate a testing device under s. Ag 107.06 (1).

(2) "Composite sample" means a milk sample preserved with potassium dichromate or another approved chemical preservative and compiled as prescribed in this chapter for use in the testing of milk for a given pay period as prescribed in s. 98.13, Stats.

(3) "Daily performance check" means the daily procedure under s. Ag 107.06 (2) which is used to determine the accuracy of a testing device.

(4) "Daily performance check sample" means one of a set of 5 or more samples which conform to the requirements of s. Ag 107.06 (2) (c), and are used in conducting a daily performance check on a testing device under s. Ag 107.06 (2).

(5) "Department" means the state of Wisconsin department of agriculture, trade and consumer protection.

(6) "Fresh milk sample" means an unpreserved sample of producer milk collected aseptically.

(7) "Mean difference" means the algebraic sum of the performance errors for the individual samples in a set of calibration samples or daily performance check samples, divided by the number of samples in the set.

(8) "Milk component" means milkfat or milk protein.

(9) "Modified Roese-Gottlieb method" means the Roese-Gottlieb method, modified as follows:

(a) The Mojonnier vacuum oven may be used for drying the fat at a temperature of 135° C with a vacuum of not less than 20 mm of mercury for 5 minutes.

(b) Previously weighed fat tins or dishes may be used so that the rinsing of the fat tins or dishes required by the Roese-Gottlieb method can be eliminated.

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(10) "Ounce" means fluid ounce.

(11) "Payment record" means a written or retrievable electronic record showing, for each producer whose milk is tested for payment purposes, the producer letters or number and the daily test result for each milk component or milk quality test on which payment may be based.

(12) "Performance error" means:

(a) With reference to a calibration sample, the known percentage content of a milk component in the calibration sample minus the percentage content as measured by the testing device being calibrated.

(b) With reference to a daily performance check sample, the known percentage content of a milk component in the sample minus the percentage content as measured by the testing device on which a daily performance check is being conducted.

(13) "Preserved fresh milk sample" means a fresh milk sample preserved with potassium dichromate, bronopol (2-bromo-2-nitropropane-1, 3 dial), or another chemical preservative approved by the department.

(14) "Reference method" means the Roese-Gottleib method or the modified Roese-Gottleib method for milkfat, and the Kjeldahl method or the Kel-Foss automated modification of the Kjeldahl method for protein.

(15) "Reference sample" means a sample conforming to the requirements of s. Ag 107.06 (3) (c) which is used in conducting the initial and hourly reference checks under s. Ag 107.06 (3).

(16) "Sample" means a representative sample of milk or cream used for testing to determine the milkfat or protein content of milk or cream, the quality of milk or cream, or any other properties or characteristics of the milk or cream from which the sample is taken.

(17) "Sampler" means a milk weigher and sampler licensed under s. 98.146, Stats., or a cheesemaker or buttermaker licensed under s. 97.17, Stats.

(18) "Standard deviation" means a standard deviation calculated according to the formula set forth in the "Official Methods of Analysis of the Association of Official Analytical Chemists," 14th edition, section 16.071.

Note: The "Official Methods of Analysis of the Association of Official Analytical Chemists," 14th edition, is on file in the offices of the department, the secretary of state, and the revisor of statutes, and may be obtained from the Association of Official Analytical Chemists, Inc., 1111 North 19th Street, Suite 210, Arlington, VA 22209.

(19) "Testing device" means an automated testing device used to test milk samples for milkfat or protein, or both, using a test method authorized under s. Ag 107.04 (1) or 107.05 (1).

History: Cr. Register, March, 1976, No. 243, eff. 4-1-76; am. (1), renum. (2) to (7) to be (8), (5), (9), (4), (7) and (3) respectively, and am. (3), (4), (7) and (8), cr. (2), (6) and (10), Register, September, 1982, No 321, eff. 10-1-82; am. (intro.), s. (2) and (10), renum. (1), (3) to (9) to be (5), (2), (6), (10), (3), (13), (16), (17) and am. (2), (3), (13) and (16), cr. (1), (4), (7) to (9), (11), (12), (14), (15), (18) and (19), Register, June, 1985, No. 354, eff. 7-1-85.

Ag 107.02 Licensing milk weighers and samplers. (1) In addition to the initial examination required for the issuance of an original milk weighers Register, June, 1985, No. 354

and samplers license under s. 98.146, Stats., the applicant may be required to demonstrate competency to perform the weighing and sampling functions, either on the department's premises or in a field examination. The applicant shall, as a condition to the first biennial license renewal satisfactorily pass a second and more comprehensive examination as prepared by the department.

(2) Every sixth year after a milk weighers and samplers license has been in effect, the department may, as a condition of renewal thereof, require re-examination, unless the applicant has satisfactorily completed a training course approved by the department within the past 6-year period.

(3) Every milk and cream tester, cheesemaker or buttermaker qualified for testing milk with a testing device shall have that qualification clearly indicated on his or her license. Any licensed milk and cream tester found operating a testing device which is not calibrated and adjusted as required by s. Ag 107.06 (1) may have his or her license suspended by the department.

History: Cr. Register, March, 1976, No. 243, eff. 4-1-76; am. (1) and (2), cr. (3), Register, September, 1982, No. 321, eff. 10-1-82; am. (3), Register, June, 1985, No. 354, eff. 7-1-85.

Ag 107.03 Collection and care of samples. (1) CONTAINER REQUIREMENTS. (a) Sample containers shall be constructed of non-toxic transparent materials and be in a clean, sanitary and dry condition prior to use. All glass or rigid plastic containers used for fresh milk sampling shall be equipped with over-the-lip closures, and have an area on the sample container large enough for placing on it the date of collection and the producer number.

(b) Fresh milk sample containers shall:

1. Be commercially sterile;
2. Have sufficient capacity to hold a quantity large enough to permit 2 tests of the particular test or tests to be applied to the sample; and
3. Be of sufficient size to permit thorough mixing of the sample prior to its use for any test, or for the residual to be used to compile a composite sample.

(c) Composite sample containers shall have a minimum capacity of 8 ounces (240 milliliters) and a satisfactory closure permanently affixed to the sample container.

(d) Composite sample and fresh milk sample containers shall bear legible letters or numbers identifying each patron's sample. Fresh milk sample containers shall also bear the date of collection of the sample by the sampler. Identifying letters or numbers and the date of collection shall be placed on the container by the sampler at the time a fresh milk sample is taken. When a patron discontinues shipping milk or cream to any dairy plant, the letters or numbers used by the plant to identify that patron's milk shall not be reused to identify any milk samples of any other plant patron for a period of at least 90 days.

(2) **SAMPLE PROCEDURES.** (a) *Weigh tank sampling.* If milk is poured into a weigh tank, the tank shall be constructed in such a manner that the pouring of the milk into the tank results in complete mixing of the milk. A fresh milk sample of each weighing shall be taken immediately

after the milk has been poured into the weigh tank. When multiple weighings of a patron's milk shipment is required, the number of cans of milk poured into the weigh tank in any one weighing shall be equalized as nearly as possible, and the entire contents of each can shall be included in each separate weighing. When multiple weighing of a single delivery is required, a separate sample shall be taken of each weighing, using a separate sample container.

(b) *Farm milk tank sampling.* 1. Each sampler shall grade farm milk by appearance and smell prior to accepting it and loading it on the bulk milk truck. The sampler shall reject all off-odor milk and milk which contains any visible evidence of mastitis and extraneous matter. If the quality of milk is in doubt, the sampler, before accepting any milk, shall call the dairy plant and request inspection by a plant quality control officer or other individual designated by the plant, who shall accept or reject the milk.

2. Samplers shall read and record the temperature of the milk prior to accepting and loading it on the bulk milk truck. When the milk temperature is not ascertainable by reading the farm bulk tank thermometer, the sampler shall take and read the temperature by using a pocket type spring dial or other suitable portable thermometer, accurate to plus or minus 2° F. with the smallest gradation not greater than 2° F. Manufacturing grade milk shall be rejected unless collected within 2 hours after milking if its temperature exceeds 50° F. Grade A milk shall be rejected unless collected within 2 hours after milking if its temperature exceeds 45° F.

3. Samplers shall wash their hands before checking the temperature of the milk by use of a portable thermometer or before measuring the quantity of milk in the tank.

4. Samplers shall take and record an accurate measurement of the amount of milk in the farm bulk tank by the reading of a clean gauge rod or other approved measuring device. The gauge rod shall be rinsed with warm potable water and wiped dry with a clean single-service disposable towel immediately prior to its use. The milk shall be allowed to become motionless before the gauge rod is inserted into the bulk tank for a reading. Immediately after the reading, the sampler shall convert the reading to weight or volume using the bulk milk tank manufacturer's conversion chart, and record the reading on a multiple collection record, one copy of which is posted in the milkhouse and one copy submitted to the dairy plant at the time of delivery.

5. The collection record for each producer shall include the producer's identification letters or number, the sampler's license number and license expiration date, the time and date of collection and sampling, the quantity of milk collected and the temperature of the milk at the time of collection. The collection record for each producer shall be signed by the sampler and delivered with the load of milk at the time of delivery.

6. Milk from which a sample is to be taken shall be agitated by the sampler for at least 5 minutes or more prior to taking a sample. Milk shall be agitated for at least 10 minutes if the farm bulk tank has a capacity greater than 1500 gallons, or when the 3A Standard for a tank requires a longer agitation time. The sampler shall take a representative fresh milk sample from each farm bulk tank prior to collection and delivery of a producer's milk. A sampling procedure which prevents contami-