

## **12 KAR 5:040. Sampling and weighing.**

RELATES TO: KRS 260.775-260.845, 260.992

STATUTORY AUTHORITY: KRS 260.825(1)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 260.825(1) requires the Director of the Agricultural Experiment Station to promulgate administrative regulations necessary for the efficient enforcement of KRS 260.775 through 260.845 regarding milk. This administrative regulation establishes procedures for milk sampler-weighers for accurately sampling and weighing milk in farm bulk tanks.

Section 1. Each bulk farm tank shall be separately sampled and weighed. If a producer has multiple bulk farm tanks, samples and weights shall be obtained for each tank and the information recorded separately in the sampler-weigher's records.

Section 2. Sampler-weigher Equipment. A sampler-weigher shall use the following equipment in his sampling and weighing procedures:

- (1) A sample case shall:
  - (a) Be rigidly constructed and insulated for safe transportation of the samples;
  - (b) Have ample space to hold samples;
  - (c) Maintain a refrigerant that is needed to cool and maintain the samples at a temperature range of 0.5-4.4<sup>0</sup> C (33-40<sup>0</sup> F);
  - (d) Contain a rack or float to keep the samples in an upright position and to keep the neck and the top of each sample container above the surface of the cooling medium; and
  - (e) Maintain a refrigerant at the level of the milk in the sample containers;
- (2) Sample containers shall be clean, dry, and sterile. Sample vials shall have leak-proof caps and may be made of glass or molded, rigid plastic. Plastic bags may also be used if approved based on sterility. The sample containers shall hold a minimum of one (1) ounce of milk and provide sufficient air space for processing the sample in the laboratory;
- (3) A sample dipper or other sampling device of sanitary construction. The sampling device shall be stored in a receptacle containing a sanitizing solution. To be used, both the sampling device and the sanitizing solution shall be approved by the Milk Safety Branch of the Cabinet for Health Services based on sterility and efficacy;
- (4) An accurate dial or digital thermometer;
- (5) A waterproof, indelible marker to write information on sample containers;
- (6) A watch or other device to time the agitation of the milk in the bulk tank prior to sampling;
- (7) An indelible pen to complete the necessary paperwork; and
- (8) An adequate supply of bulk milk delivery tickets.

Section 3. Weighing Procedures. While measuring milk volume in farm bulk tanks with a gauge rod inside the tank or an external scale plate with gauge tube on the outside of the tank, the milk shall be motionless. A sampler-weigher shall:

- (1) Use the following procedures for measuring milk with a gauge rod on the inside of a bulk tank:
  - (a) Remove any milk foam from the measurement area by pushing it aside with the rod;
  - (b) Remove any milk residue from the rod by wiping the rod with a clean, single-service towel. If the milk residue cannot be removed by this method, rinse the rod in warm (not hot) water and again wipe the rod with a single-service towel;
  - (c) Lower the gauge rod slowly straight down until it reaches a point approximately one-quarter (1/4) inch above its base. Hold the rod in this position for a moment and then ease it down until it seats firmly and naturally in its base;

- (d) Raise the gauge rod and immediately read it in a well-lighted area at eye level;
- (e) The gauge rod shall be read to the nearest graduation mark on the rod. If the reading is exactly half-way between two (2) graduation marks, read to the nearest even mark; and
- (f) Repeat the gauge rod reading until two (2) readings are in agreement and record the reading;
- (2) Use the following procedures for measuring milk with an external scale plate and gauge tube on the outside of a bulk milk tank:
  - (a) If milk is in the external scale plate's gauge tube, it shall be drained and refilled with cold milk. The tube shall be clean and dry prior to filling it with milk;
  - (b) To fill the gauge tube, open the outlet valve slowly to prevent foaming of milk as it fills the tube;
  - (c) After the milk from the bottom of the tank fills the tube, read the highest point of the center of the milk's meniscus as the measuring point to compare to the scale plate;
  - (d) The scale plate shall be read to the nearest graduation mark. If the reading is exactly half-way between two (2) graduation marks, read to the nearest even mark; and
  - (e) Repeat the scale plate and gauge tube reading until two (2) readings are in agreement and record the reading;
- (3) Promptly convert the volume reading of the bulk milk tank to milk weight using the tank's conversion chart. The conversion shall be repeated until two (2) conversions are in agreement. Record the milk weight; and
- (4) Procedures for weighing farm bulk milk in tanks that are not equipped with a gauge shall be approved by the director.

Section 4. Sampler-weigher Records. A sampler-weigher shall prepare and account for records pertaining to milk he samples and weighs.

- (1) Sampler-weigher records shall include;
  - (a) Bulk milk delivery tickets;
  - (b) Producer barn charts;
  - (c) Information recorded on sample containers; and
  - (d) Any other record relating to bulk milk sampling and weighing activities.
- (2) All records relating to sampler-weigher's daily activities shall be legible and written in indelible ink. Changes or corrections to records shall be made by drawing a single line through the entry and writing the correction nearby. Any changes or corrections shall be dated and initialed.
- (3) Bulk milk delivery tickets shall accompany all loads of milk to milk-receiving stations, transfer stations, and processors and shall include:
  - (a) Identification of the handler;
  - (b) Identification of the milk-receiving station, transfer station, or processor;
  - (c) Date of collection;
  - (d) Producer identification (and tank identification if the producer has multiple tanks);
  - (e) Time of pickup (including a.m. or p.m.);
  - (f) Temperature of the milk;
  - (g) Milk volumetric reading;
  - (h) Converted milk weight;
  - (i) Any comments related to unusual circumstances; and
  - (j) Sampler-weigher's signature.
- (4) A sampler-weigher shall record the following information on producer barn charts for each tank sampled and weighed:
  - (a) Date;
  - (b) Time (including a.m. or p.m.);
  - (c) Milk temperature;

- (d) Milk volumetric reading;
  - (e) Converted milk weight; and
  - (f) Sampler-weigher's signature or initials.
- (5) If more than one (1) sampler-weigher samples and weighs producers' milk for one (1) truckload, each sampler-weigher shall sign the bulk milk delivery ticket, regardless of who delivers the load to the milk-receiving station, transfer station, or processor.

Section 5. Sampling Procedures. A sampler-weigher shall use the following procedures to obtain a representative sample from a producer's standard farm bulk tank:

- (1) Each sample container shall be permanently marked with waterproof, indelible ink and shall be identified with the following information:
  - (a) Producer identification (and tank identification if the producer has multiple tanks);
  - (b) Date;
  - (c) Time (including a.m. or p.m.);
  - (d) Milk temperature; and
  - (e) Sampler-weigher's initials;
- (2) Milk in the bulk tank shall be agitated sufficiently to provide a homogenous blend and to obtain a representative sample. A minimum of five (5) minutes of agitation time shall be required for tanks with less than a 1000 gallon capacity. Tanks with a 1000 gallon capacity or larger shall be agitated a minimum of ten (10) minutes;
- (3) To eliminate moisture and sanitizing solutions, the sampling device shall be rinsed with milk at least twice prior to taking samples;
- (4) The milk shall be transferred from the sampling device to the sterile sample container away from the opening of the farm bulk tank. The container shall be filled to approximately three-fourths (3/4) full or to the container's "fill line." Enough air space shall be left in the container to allow the sample to be adequately mixed at the laboratory. After the milk has been transferred to the sample container, the container shall be tightly sealed and immediately placed in the sample case with appropriate refrigerant;
- (5) At the time of sampling the first bulk milk tank on the sampler-weigher's route, an additional sample shall be collected for temperature determination. This sample's container shall be identified with the information established in subsection (1) of this section and with adequate information to identify the sample as the temperature control;
- (6) Any additional or special samples obtained on the sampler-weigher's route shall be clearly and specifically identified with waterproof, indelible markings stating the purpose of the sample;
- (7) Sampling procedures for nonstandard or sealed farm bulk milk tanks shall be approved by the director based on accuracy and sanitation; and
- (8) Milk samples shall be under a sampler-weigher's immediate care at all times until the samples are delivered to the milk-receiving station, transfer station, or processor.

Section 6. Load Sample. A sampler-weigher shall obtain a load sample from the tank on the truck immediately after the last producer's milk is pumped into the truck's tank.

- (1) The load sample shall be taken from the porthole at the top of the tank on the truck using a sanitized sampling device. Care shall be taken to prevent any foreign material from entering the porthole. The load-sample container shall be identified with:
  - (a) Adequate information to identify the sample as the load-sample;
  - (b) Date;
  - (c) Time (including a.m. or p.m.);
  - (d) Sampler-weigher's initials; and
  - (e) The milk truck's assigned tanker number.
- (2) The load sample shall be used for comparisons of the load sample and individual producer's samples for the purpose of grading and evaluation of the sampler-weigher's competency in sampling.

(3) The load sample shall be taken by all bulk sampler-weighers in addition to, not in lieu of, any other load samples required by the milk handler, transfer station, receiving station, or processor.

Section 7. Sample Set. A sample for each producer bulk milk tank, a temperature control sample, and a load sample shall accompany each load of milk to its final receiving station, transfer station, or processor. A sampler-weigher might need to obtain multiple samples for his bulk milk route to meet this requirement.

Section 8. Milk Sample Transfer Procedures. To expedite the transport of samples to the appropriate laboratory, a sampler-weigher shall follow these procedures:

(1) For bulk milk deliveries to locations where producers' milk samples are routinely transported from the receiving station, transfer station, or processor to the appropriate laboratory; a sampler-weigher shall properly place the samples in the location's sample storage refrigerator or refrigerated sample storage case after the bulk load of milk has been determined to be acceptable; or

(2) For bulk delivery if producer's milk samples are not routinely transported from the receiving station, transfer station, or processor to the appropriate laboratory, a sampler-weigher shall follow written sample transfer procedures established by the licensed handler or handlers who issue payments to producers on the sampler-weigher's route or routes. Written sample transfer procedures shall be approved by the director based on sanitation.

(AES-CL 13; 1 Ky.R. 1234; eff. 7-2-75; Am. 11 Ky.R. 615; eff. 11-13-84; 15 Ky.R. 1122; eff. 11-23-88; 27 Ky.R. 1854; eff. 3-19-2001; 47 Ky.R. 745, 1353; eff. 2-9-2021.)