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W6

1914a

Wisconsin Dairy and
Food Commission

1914

Class SF253

Book W6

1914a

WEIGHTS AND MEASURES

REVISED

Regulations Relating to Cream Test Scales and Bab-
cock Milk and Cream Test Bottles

PRESCRIBED BY

J. Q. EMERY,

Ex Officio State Superintendent of Weights and Measures

OF

WISCONSIN

ISSUED NOVEMBER 21, 1914

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DEC 18 1914

SF 253
W6
1942.

STATE OF WISCONSIN

OFFICE OF

DAIRY AND FOOD COMMISSION AND WEIGHTS AND MEASURES

Madison, November 21, 1914.

To Wisconsin Sealers of Weights and Measures:

Subsection 6 of section 1659 of the Wisconsin statutes contains the following provision:

"The superintendent of weights and measures shall issue from time to time regulations for the guidance of all sealers, and the said regulations shall govern the procedure to be followed by the aforesaid officers in the discharge of their duties. In said regulations he shall prescribe the amount of tolerance to be allowed."

In obedience to the requirements of this statute, the following regulations are prescribed for the guidance of sealers of weights and measures in the performance of their official duties so far as the same relate to the subject of Babcock milk test bottles, standard Babcock pipettes, Babcock cream test bottles, and cream test and butter fat test scales, which supersede all previous regulations issued on this subject.

BABCOCK MILK TEST BOTTLES.

Babcock milk test bottles complying with the following specifications shall be sealed:

The standard Babcock test bottles for milk shall have a capacity of two cubic centimeters for each 10 per cent marked on the necks thereof.

The necks of the standard Babcock milk test bottles shall be graduated from zero to 10 per cent and the graduated scale shall be 75 millimeters in length, with an allowable tolerance of 5 millimeters either above or below. The graduated scale shall

Milk Test Bottle. Type A. Type B. Type C. Type D. Type E.

Types of Babcock Cream Test Bottles

be plainly divided into per cent and fifth per cent divisions by lines of different lengths. Each per cent graduation shall be numbered and the tolerance for the entire graduated scale or for either half thereof shall not exceed one tenth of one per cent.

Subsection 1 of section 1494aa of the Wisconsin statutes provides as follows:

“In the use of the Babcock test, the standard milk measures or pipettes shall have a capacity of seventeen and six tenths cubic centimeters, and the standard test tubes or bottles for milk shall have a capacity of two cubic centimeters for each ten per cent marked on the necks thereof; cream shall be tested by weight and the standard unit for testing shall be eighteen grams, and it is hereby made a misdemeanor to use any other standards of milk or cream measure where milk or cream is purchased by or furnished to creameries or cheese factories and where the value of said milk or cream is determined by the per cent of butter fat contained in the same, or wherever the value of milk or cream is determined by the per cent of butter fat contained in the same by the Babcock test.”

Referring to the foregoing provisions of law and other laws prescribing the duties of the state superintendent of weights and measures, Attorney General Owen has rendered the following official opinion:

“The fact that the statute says that the standard test tubes or bottles shall have a capacity of two cubic centimeters for each 10 per cent marked on the necks thereof implies that the necks should have marked thereon the 10 per cent mark. I believe that a so-called milk test bottle having only 8 per cent mark on the neck is, therefore, not in compliance with the provision of this law and you are, therefore, instructed that you would not be warranted in approving the same.”

STANDARD BABCOCK PIPETTES.

The standard pipettes shall have a capacity of 17.6 cubic centimeters.

When filled with water at 20° C. delivery shall be in 5 to 8 seconds. The tolerance shall not exceed .05 cubic centimeter.

Note. Section 1494aa of the Wisconsin statutes contains the following provision:

“Cream shall be tested by weight and the standard unit for testing shall be eighteen grams, and it is hereby made

a misdemeanor to use any other standards of * * * cream measure where * * * cream is purchased by or furnished to creameries or cheese factories and where the value of said * * * cream is determined by the per cent of butter fat contained in the same, or wherever the value of * * * cream is determined by the percent of butter fat contained in the same by the Babcock test."

BABCOCK CREAM TEST BOTTLES.

The standard unit for testing shall be 18 grams.

Babcock cream test bottles of the following types and complying with the following specifications are to be sealed:

Type A. Thirty per cent, 18 gram, 6 inch $\frac{1}{2}$ per cent graduations. Each 5 per cent on the neck of the bottle shall represent a volume of 1 cubic centimeter.

The neck of the bottle shall be graduated from zero to 30 per cent and the graduated scale shall be 75 millimeters in length, with an allowable tolerance of 10 millimeters above or below. The graduated scale shall be plainly divided into 5 per cent, 1 per cent and $\frac{1}{2}$ per cent divisions by lines of different lengths. Each 5 per cent or 10 per cent graduation shall be numbered. The allowable tolerance for calibration shall not exceed $\frac{1}{2}$ per cent for the entire graduated scale or for either half thereof.

Type B. Thirty per cent, 18 gram, 9 inch, .2 per cent graduations.

The neck of the bottle shall be graduated from zero to 30 per cent and the graduated scale shall be 125 millimeters in length, with an allowable tolerance of 15 millimeters either above or below. The graduated scale shall be plainly divided into ~~1 per cent~~, 1 per cent and .2 per cent divisions by lines of different lengths. Each 5 per cent or 10 per cent graduation shall be numbered. The allowable tolerance for calibration shall not exceed .2 per cent for the entire graduated scale or for either half thereof. Other specifications same as for *Type A*.

Type C. Forty per cent, 18 gram, 6 inch, $\frac{1}{2}$ per cent graduations.

The neck of the bottle shall be graduated from zero to 40 per cent and the graduated scale shall be 75 millimeters in length, with an allowable tolerance of 10 millimeters either above or below.

All other specifications are to be the same as for *Type A*.

Type D. Fifty per cent, 18 gram, 7 inch, $\frac{1}{2}$ per cent graduations.

The neck of the bottle shall be graduated from zero to 50 per cent and the graduated scale shall be 105 millimeters in length, with an allowable tolerance of 13 millimeters either above or below.

All other specifications are to be the same as for *Type A*.

Type E. Fifty per cent, 18 gram, 9 inch, $\frac{1}{2}$ per cent graduations.

The neck of the bottle shall be graduated from zero to 50 per cent and the graduated scale shall be 125 millimeters in length, with an allowable tolerance of 15 millimeters either above or below.

All other specifications are to be the same as for *Type A*.

Referring to the provisions of section 1494aa of the Wisconsin statutes hereinbefore quoted, Attorney General Owen has rendered the following official opinion relative to 9 gram cream test bottles:

“Under this statute it is provided that ‘cream shall be tested by weight and the standard unit for testing shall be 18-grams and it is hereby made a misdemeanor to use any other standards of milk or cream measure,’ etc. As 18 grams are expressly mentioned as the standard unit used in testing, and as no mention is made of a 9-gram standard unit, I am of the opinion that only the 18-gram cream test bottles can be used and the 9-gram cream test bottles should be condemned.”

CREAM TEST AND BUTTER FAT TEST SCALES.

The scale shall be provided with a graduated plate of at least ten divisions over which the pointer plays.

The pointer shall reach to the graduated divisions and shall terminate in a fine point to enable the readings to be made clearly and distinctly.

The clear interval between the divisions on the graduated plate shall not be less than .05 inch.

All scales whose weight indications are changed by an amount greater than one half the tolerance allowed, when set in any position on a surface making an angle of 3 degrees or approximately 5 per cent with the horizontal, shall be equipped with

Types of Cream Test Scales. The one, two and four bottle torsion balance (Nos. 5, 6, 8) and the 12 bottle balance with hanging pans (No. 2) are types that comply with Wisconsin requirements.

leveling screws and with a device which will indicate when the scale is level. Provided, however, that the scale shall be rebalanced at zero each time its position is altered during this test.

The scale shall be so constructed and adjusted that when the pans are released or disturbed the pointer will return to rest at the zero mark.

The addition of 32.4 milligrams or one half grain to the scale when loaded to capacity shall cause a movement of the pointer at least equal to one division on the graduated plate.

The tolerance either in excess or deficiency when the scale is fully loaded shall be one grain.

Weights. A tolerance of 20 milligrams is allowable in 18 gram weights and 10 milligrams in 9 gram weights. The manufacturers' tolerance shall be one half this amount.

Note. To avoid liability of penalty for violation of the weights and measures law by the use of any unsealed weight, scale, measure or measuring appliance of any description, including new appliances, or any such appliance that has not been sealed within one year, owners of the same should give notice in writing to the state superintendent of weights and measures, Madison, Wis., or to the city sealer if in a city having a city sealer of weights and measures, of the fact that they have such weight or measure or weighing or measuring device, giving a description of the same and its location. See subsection 3, section 4432 Wisconsin statutes.

A handwritten signature in cursive script, reading "J. L. Emery". The signature is written in dark ink and is positioned above the printed title.

Dairy and Food Commissioner.

Ex officio State Superintendent of Weights and Measures.

OFFICE OF
DAIRY AND FOOD COMMISSION AND WEIGHTS AND MEASURES.

Madison, Wis., March 4, 1914.
To Cheese Factory and Creamery Managers, Cheese Makers
and Butter Makers:

Paragraph 3 of section 1659 of the Wisconsin statutes relating to weights and measures places a general supervision of all weights and measures and weighing or measuring devices of the state in the hands of the state superintendent of weights and measures. It further provides that he or his inspectors by his direction shall, upon the written request of any citizen, firm or corporation, or educational institution of the state, test or calibrate weights, measures, weighing or measuring devices, and instruments or apparatus used as standards in this state.

Under the provisions of this act, owners of creameries and cheese factories may send to the office of weights and measures at Madison, Wis., any Babcock milk, cream, or butter test bottles, any milk pipettes, and any scales or weights used in the weighing of cream samples, and the same will be tested. No fees are charged for testing. Many managers are now ordering their new supplies sent direct to the office of weights and measures for testing and sealing, thus insuring accuracy before being put to use, with little or no inconvenience. In sending in old glassware, it is best to send only part of the supply on hand at one time, as sometimes several weeks may elapse before the glassware can be returned.

In sending apparatus for testing and sealing the following rules should be complied with:

1. Address all packages to J. Q. Emery, Office of Weights and Measures, State Capitol, Madison, Wis.
2. The name and address of consignor should be placed on the outside of the package.
3. Transportation charges on packages should be prepaid.

4. If consignor desires package to be returned by parcel post, postage should be enclosed in letter to pay for return of same.
5. Bottles to be tested must be thoroughly cleaned before sending, so that all sediment or deposit on the inside of the bottles is removed. No tests will be made of glassware that is not thoroughly clean when submitted.
6. Extreme care should be exercised in packing such glassware or scales for shipment, as this department will not be responsible for breakage.

J. Q. EMERY,
Dairy and Food Commissioner,
Ex officio State Superintendent of *Weights and Measures.*

Gaylord Bros.
Makers
Syracuse, N. Y.
PAT. JAN. 21, 1908

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