

Minns, Syst. Serv. ① ②

Minnesota Dairy Products Processor

AGRICULTURAL EXTENSION SERVICE • INSTITUTE OF AGRICULTURE
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Editor - V. S. Packard

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STANDARDS AND GRADES

We have received a number of inquiries regarding raw milk standards and grades. With the introduction of the new USDA standards some confusion exists. We will list standards (USDA and Minnesota Department of Agriculture) that are presently in force to help bring them into focus. But before we do that, let's review the grade A standards. These are Minnesota Department of Agriculture standards as adopted from the U. S. Public Health Service Grade "A" Pasteurized Milk Ordinance.

GRADE "A" STANDARDS

	STANDARD PLATE Count (Bacteria per ml)	COLIFORM (Bacteria per ml)	COMMINGLED not to exceed
(2) Raw Milk	100,000	-----	300,000 bacteria
(b) Pasteurized Milk	20,000	Not over 10	per ml

OTHER THAN GRADE "A"

There is a classification of milk for fluid use termed "other than grade A." This is a state classification. The raw and pasteurized count cannot exceed 500,000 and 50,000 respectively. The maximum coliform count on the pasteurized product is 10/ml.

MANUFACTURING GRADE MILK (MINNESOTA GRADES)

The state standards on manufacturing grade milk are:

	<u>Microscopic Clump Count</u>	<u>Methylene Blue</u>	<u>Resazurin</u>	<u>Sediment</u>
Grade 1	200,000/ml or less	not less than 5½ hours	not less than 2 3/4 hours	pad No. 3 or less (2.5 mg)

Grade 1 milk must be free from undesirable flavors and odors.

Grade 2	over 200,000/ ml up to and including 2,000,000/ml	not less than 2½ hours, but less than 5½ hours	not less than 1½ hours, but less than 2 3/4 hours	pad No. 3 or less (2.5 mg)
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Grade 2 milk may contain undesirable flavors and odors only to a moderate degree.

Under- grade	over 2,000,000 /ml	less than 2½ hours	less than 1½ hours	pad No. 3 or less (2.5 mg)
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Testing must be repeated at weekly intervals until milk is found to be Grade 2 or better or is rejected for sale.

Rejected Milk Milk which is found to be undergrade four consecutive weeks is rejected from sale. The commissioner must be informed within 48 hours.

Illegal More than pad No. 3 - Illegal milk is that which shows sediment or contains visible foreign material. It should be denatured, tagged, and sent back to producer.

USDA GRADES, MANUFACTURING GRADE MILK

	<u>Microscopic Clump Count</u>	<u>Methylene Blue</u>	<u>Resazurin</u>
Grade 1	Not over 500,000	Not less than 4½ hours	Not less than 2½ hours
Grade 2	Not over 3,000,000	Not less than 2½ hours	Not less than 1½ hours
Under- grade	Over 3,000,000	less than 2½	less than 1½

Bacterial estimates, by one of the above procedures, are to be run at least once each month at irregular intervals. Grades number one and two may be accepted without qualification. Undergrade is considered a probational rating. Further testing is required.

COMMINGLED MILK (USDA)

Commingled milk stored in the plant prior to processing must not exceed 3,000,000 bacteria count. This is equivalent to the number 2 rating by clump count, methylene blue, or resazurin.

SEDIMENT STANDARDS (USDA)

Grade	Off-the-Bottom 1 1/8" disc	Mixed Sample .40" disc
1	Not to exceed 0.50 mgms	Not to exceed 0.0625 mgms
2	Not to exceed 1.50 mgms	Not to exceed 0.1875 mgms
3	Not to exceed 2.50 mgms	Not to exceed 0.3125 mgms
4	Over _____ 2.50 mgms	Over _____ 0.3125 mgms

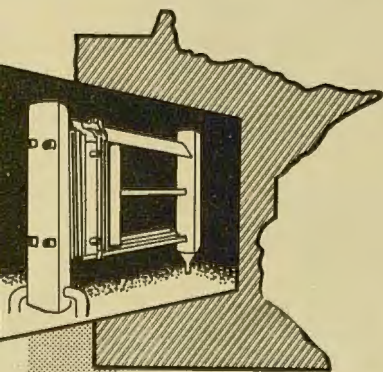
Sediment tests are to be made once each month at irregular intervals. Grades 1 and 2 and 3 may be accepted. No. 4 milk must be rejected. When can milk is graded number 3 or 4, all cans must be tested. In addition the next shipment must be tested.

A BRIEF ANALYSIS

Minnesota Department of Agriculture bacterial standards are uniformly more stringent than USDA standards. As such, Minnesota Standards take precedence. The sediment requirement of less than 2.5 mgms is the same for both agencies. There are minor variations between the two sets of standards in frequency of testing and on retesting of probational supplies. But in general if state standards are met, this will more than satisfy the USDA ratings.

However, one other point seems clear. There long has been, and there continues to be a need for unifying grades and standards. In terms of the ones currently being applied quality is not at stake. Possibly peace of mind is.

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