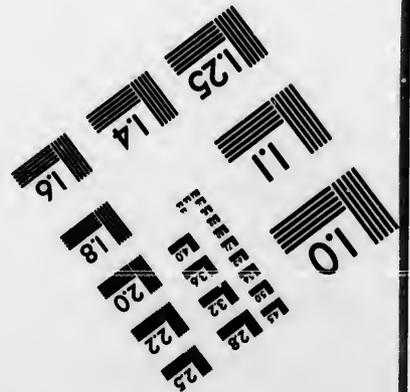
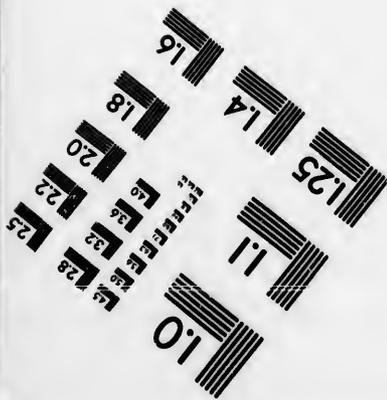
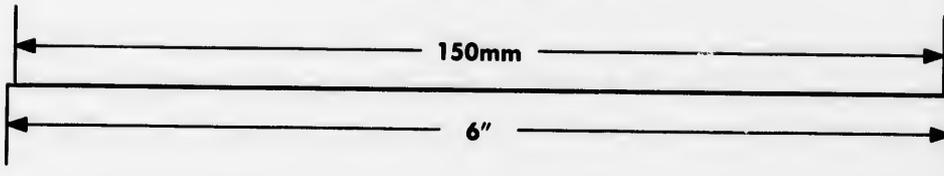
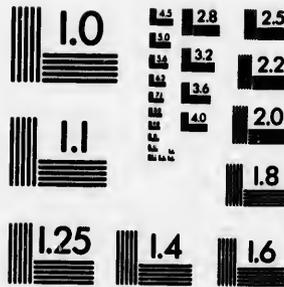
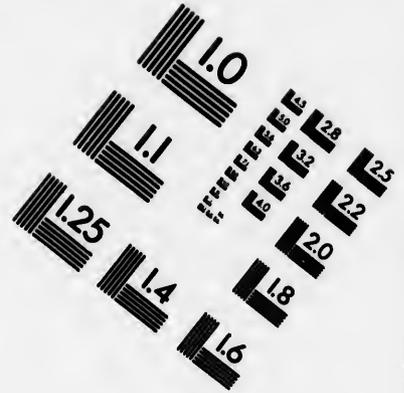
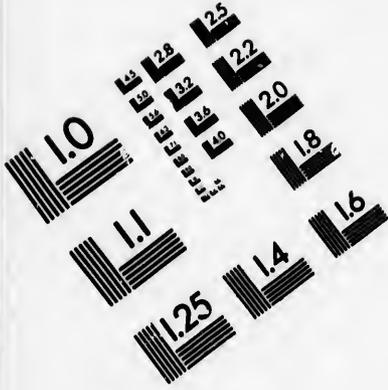


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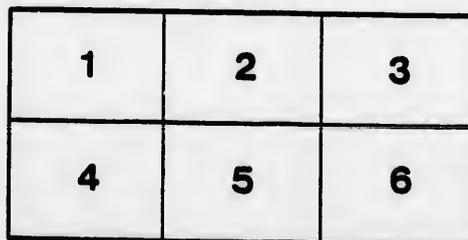
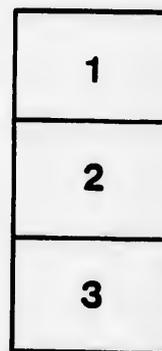
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BULLETIN LXVI

VARIATIONS IN THE FAT OF MILK

BY H. H. DEAN, B.S.A., PROFESSOR OF DAILY HUSBANDRY.

*PUBLISHED BY THE DEPARTMENT OF AGRICULTURE*  
*June 22, 1891*

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## BULLETIN LXVI

### VARIATIONS IN THE FAT OF MILK TAKEN AT INTERVALS FROM THE CITY OF GUELPH SUPPLY.

It has been stated on apparently good authority that milkmen who dip from the top of the can, or who draw from the bottom through a faucet, do not give to each customer his proper share of the fat or cream of the milk and that in the case of "dipping" those who receive theirs last get skim-milk. It having been demonstrated that where dipping is practised there is practically no difference in the amount of fat contained in different samples, we determined to see whether there is any difference when the milk is drawn from the bottom as in the case of three of the four milkmen of the city of Guelph whose milk was tested as here reported.

**METHOD OF TESTING.** The fat was determined with a Babcock tester. In every case the milk dealers were requested not to depart from their ordinary methods. In all twenty-five samples were taken with the following results :

MILKMAN No. 1. June 2nd, 1891.

Sample.	Per cent. of fat.	Time.
No. 1	3.2	7.30 a.m.
" 2	3.2	8.40 "
" 3	3.1	9.50 "
" 4	2.95	11.00 "
" 5	3.05	12.20 p.m.

*Remarks.* (1). In this and in all the other cases the percentage of fat is the average of duplicates. (2). Sample No. 1 was taken from the bottom of the can after the milk had been driven about two miles,

after it had been well stirred to ensure thorough mixing of the cream, and before any customers had been served. Nos. 2, 3 and 4 were taken at the time indicated from the bottom of the can without stirring as the milk was drawn for customers. No. 5 was taken from the last quart in the can. (3). Milk was carried in one large can (20 gals.); herd consisted of twenty-three cows which were on grass at the time; supplied one hundred and eighty customers.

## MILKMAN No. 2. June 3rd.

Sample.	Per cent. of fat.	Time.
No. 1	2.6	9.07 a.m.
" 2	2.8	9.30 "
" 3	2.6	10.00 "
" 4	2.8	10.30 "
" 5	2.8	11.00 "

*Remarks.* (1). All these samples were taken from the bottom and without stirring, as a vessel containing ice which was floating in the milk prevented this being done. The milk had been driven only a few rods when the first sample was taken. (2). Milk carried in one can (15 gals.); herd numbered twenty cows which were kept in the stable and fed green feed; about one hundred customers.

## MILKMAN No. 3. June 4th.

Sample.	Per cent. of fat.	Time.
No. 1 can { No. 1	3.2	8.00 a.m.
" " 2	3.2	8.00 "
No. 2 can " 3	3.2	8.10 "
No. 1 can " 4	3.2	9.00 "
No. 2 can { " 5	3.35	10.00 "
" " 6	3.4	11.00 "

*Remarks.* (1). No. 1 sample was taken from the top of the can after stirring before any customers had been served and after the milk had been driven about one-quarter of a mile. No. 2 sample

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was taken under the same conditions except that it was taken from the bottom of the can. All the other samples were taken from the bottom. (2). Milk was carried in two cans (12 gals. each); herd consisted of thirteen cows.

## MILKMAN No. 4. June 5th.

Sample.	Per cent. of fat.	Time.
No. 1 can No. 1	3.55	6.20 a.m.
" 2	3.40	6.20 "
No. 2 can { " 3	3.35	7.25 "
No. 1 can " 4	3.35	7.30 "
No. 2 can " 5	3.45	8.30 "
" 6	3.20	8.30 "
No. 1 can { " 7	3.35	9.30 "
" 8	3.25	10.30 "
" 9	3.45	11.30 "

*Remarks.* (1). All these samples were taken from the top of the can. There were four cans (10 gals. each) and samples were taken from two only. Samples 1, 4, 6 and 7 were taken from can No. 1 before any customers received milk. Sample No. 1 was taken after stirring and No. 2 without stirring and before any customers had been served. Sample No. 8 was taken after the first customer had milk from No. 1 can, it having ridden for about four hours. Samples 9 and 5 were taken from the bottom of cans 1 and 2 respectively. (2). Milk had been carried three-quarters of a mile before first sample was taken; it was the previous evening's milk; herd of twenty cows; over two hundred customers.

**CONCLUSIONS.** Although there are some variations, yet they are so slight that from these trials we may conclude that there is practically no difference in the percentage of fat in the milk as ordinarily handled and served to customers at different times from the same can, whether it be taken from the top or from the bottom and that the motion and jarring of the waggon are sufficient to keep the fat or cream thoroughly mingled with the milk.

