

NORTH SHORE NEWS-LETTER

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Price Five Cents

Milk and Ice Condition In Highland Park

Report of H. R. Smith, Professor of Chemistry, to the City Council Tuesday, February 15, 1910. This is a full report with the exception of the statement as to the percentage of fat contained in the different samples of milk collected by Mr. C. W. Aldridge for examination.

The count of colonies of bacteria from litmus lactose agar plates was as follows:

LAB. NO.	DILUTION	BACTERIA PER CUB. CM.	NO. OF KINDS
1	1-100 c.c.	3900	5
2	1-100	3200	6
3	1-100	10500	7
4	4-10	900	2
5	1-100	6400	4
6	1-1000	61300	6
7	1-100	4700	5
8	1-1000	72300	7
9	1-100	4200	5
10	1-100	15100	5
11	1-100	10700	4
12	1-100	6200	3
13	1-100	15400	3
14	1-100	32500	5
15	1-10	400	3

The number of bacteria varies widely from a few hundred to several million per cubic centimeter, depending on three factors: The age of the milk, the temperature at which it is kept, and the cleanliness with which it is handled. Now it is supposed that these samples were furnished from that morning's milk. If such was not the case, then the dealer must plead guilty to furnishing old milk. In no case were the samples more than 7 hours old if the milk was taken from the cow that same morning, so an abnormal number of bacteria cannot be explained by the age of the milk. The prevailing temperature for the 28th of Dec. was about 12 F, and since bacteria multiply very slowly at or below the freezing point the temperature cannot be responsible for large numbers of bacteria in these milk samples, even if they were kept in a warm room for 5-6 hours, for it is known that fresh milk has a bactericidal effect lasting several hours, in which the numbers not only increase but actually decrease. It is clear then that the temperature effect may be dismissed from consideration. There remains but the last factor to explain any high bacteria content. The number of bacteria found in the milk supply of other localities are not the proper basis of comparison to determine the quality of these samples for the conditions of their production may be very different. It is to be seen that two of these samples show a small bacteria content, namely, the 4th and 15th. Of these two it is also known that considerable care is given the milk as free from contamination as possible by brushing the cows, moistening the udders with a damp cloth, keeping the stables free from dust at milking time, removing the milk from the barn as soon as drawn, and by sealing all milk containers with boiling water. The 15th sample was taken from milk handled with much care. This sample where good conditions obtained is considered to be a proper basis for comparison.

The samples containing 10,000 or more bacteria per cubic centimeter are prepared for market under conditions which can not be sanitary.

The kind of bacteria present in the prevailing types were studied. The four presumptive tests for the *Bacillus coli communis* were made as follows:

LAB. NO.	PER CT. OF ANALYSIS (H)CO ₂	PER CT. OF ACID COLONIES	INDOL
1	—	—	—
2	—	—	—
3	—	—	—
4	—	—	—
5	—	—	—
6	—	—	—
7	—	—	—
8	—	—	—
9	40	4-1	—
10	—	—	—
11	—	—	—
12	—	—	—
13	—	—	—
14	—	—	—
15	—	—	—

(-) indicates a negative result and (+) indicates a positive result.

The results are fairly conclusive for the presence of this bacillus in No. 9, doubtful in No's 1 and 8. The presence of this organism is not to be viewed with alarm, for it indicates contamination by manure, which is unsanitary to say the least, but not dangerous to the health of the consumer. Its presence is dangerous in drinking water since that indicates contamination of the water by human sewage and might also contain other germs that produce disease such as typhoid fever. The intestinal tract of cows does not contain pathogenic bacteria which are not also found in the milk so the presence of the colon bacillus in milk does not necessarily

make the milk unsafe for human use. Tests were not made for the tuberculous bacillus, typhoid bacillus, or diphtheria bacillus for a negative test would not necessarily demonstrate their absence. The former is surely and safely detected by the inoculation test and should be made upon every cow giving milk for public use. The other bacilli mentioned gain access to milk by association with persons having a disease of this nature.

Strict quarantine of such persons from a public milk supply should be enforced by those having them in charge. However, the only sure method of prevention of the spread of such diseases is to pasteurize the milk by heating it to a temperature of 160.

The following bacteria were found to be present:—Acid types, harmless *Streptococcus lactarius* in samples 1-15; *Bacillus aerogenes*, in all except 2, 8, 12, and 14; Liquefying types, indicative of filth. *Proteus* group, putrefactive, in 3, 8, and 13. *Bacillus coli communis*, in 9. Neutral types, unimportant. *Streptococcus pyogenes aureus*; *Streptococcus pyogenes albus*. *Streptococcus pyogenes citreus*.

KEY TO LABORATORY NUMBERS.
No. 1. Kuist. No. 2. Richards. No. 3. Smith Bros. No. 4. Baker. No. 5. Zahle. No. 6. J. Vetter. No. 7. Carleson. No. 8. Ziegler. No. 9. R. G. Tillman. No. 10. John Mooney. No. 11. Chas. McNeill. No. 12. Murphy. No. 13. J. Hudson. No. 14. Shelton. No. 15. Hill.

Summary:—The worst that can be said regarding these samples is that some are filthy, and with the approach of warm weather they may become dangerous especially to infants. Such samples are No's 3, 6, 8, 13, 14, with No's 10 and 11 not very much better. Dr. Evans of Chicago says, "That of the 6000 infant deaths in Chicago for the year fully one half are caused by impure milk."

Cleanliness of such an important food as milk is certainly a vital necessity, and steps should be taken to secure it. It is recommended that an inspection be made of the conditions under which the milk of Highland Park is produced and suggestions can be given to the dairymen as to methods of furnishing a more wholesome supply for the public use. This should be carried out in a purely friendly manner, though warning might be given of a later examination of the milk supply of the city which may be published.

Every intelligent milkman should welcome if he wishes to command his share of trade in competition with others.

Respectfully submitted,
H. R. SMITH, Chemist.

BOARD OF HEALTH, HIGHLAND PARK, ILL.

JANUARY, 28, 1910.

I have the honor to submit to you at the request of Mayor Dooley, the following sanitary examination of the ice from Weber's and Mooney's ponds which are to the southwest of the city of Highland Park.

In company with Mr. Aldridge on Jan. 19, '10, I went to the above mentioned ponds and took samples of ice from the broken cakes that were found about the loading platforms on the edge of the ponds. It was thought that these cakes were representative of the ice of the ponds because they had come from all parts of them. As soon as the ice melted in the laboratory culture plates of the water were made on agar media to determine the numbers of bacteria. After three days incubation the most of the plates were found to be practically sterile. Two different samples were examined from each pond. It was not expected that these samples would agree closely for they were taken from different cakes.

Weber's pond.	Mooney's pond.	
	1st. sample	2d. sample
Number per cubic centimeter	0	0
	0	400

No evidences of the *Bacillus coli communis* were found.

Next, chemical tests for sewage were made as follows:—

	Parts per million.	
	Chlorine.	Organic matter by oxygen
Weber.	1.50	2.6
"	1.40	1.7
Mooney	2.00	3.0
"	2.10	2.0

The results of the examination show no contamination by sewage. The tests indicate as safe a water in the ice as the city water supply. The ice was clear except for small hard pieces of vegetable matter, like sawdust.

These ponds, being excavated for brick material, are artificial and have very little natural drainage into them. Weber's pond is not over ten rods from the city dump but the drainage from it goes to the west. Some drainage might reach Mooney's pond from the barnyard but the most of it flows to the west and around the pond.

It appears rather unusual that ponds so near dwellings, barns and outhouses should be so free from organic matter. The wet fall may explain this partially because of the increased flow of water out of these basins. Then the gradual freezing of the water tends to exclude dissolved solids and other matter not floating on the surface. I see no reason why this ice should not be used.

Respectfully submitted,
H. R. SMITH, Chemist.

Highland Park NEWS

Miss Ruth Helm of Chicago spent the week-end as the guest of Miss Ruth Ewing of South St. Johns avenue.

Mr. and Mrs. Benedict F. Zimmer of Chicago were the guests of Mr. and Mrs. A. B. Holabird for the week-end.

The Travel Club has been disbanded; the last meeting was held on Thursday at Enola Garnett's house.

The Tau Sigma Chi sorority held a spread at the home of Miss Helen Warner of Belle avenue on Thursday afternoon.

Jesse L. Smith delivered one of his interesting lectures at the Scoville Institute at Oak Park on last Friday evening. His topic was "Our Native Wild Flowers"

On Monday evening a birthday surprise party was given in honor of Mrs. R. E. Winter, about thirty friends gathered. All had a jovial time.

Mr. A. Morrison of Kansas City, Mo., is visiting his aunt, Mrs. V. L. Garnett.

Miss Helen Garnett entertained at dinner Tuesday, the 22nd for her sister and friends from the University of Chicago. Covers were laid for ten.

Mrs. Lovell and her son Raymond Lovell are in the South.

and Mrs. William Murry of Lincoln avenue have closed their house and moved to Chicago for the winter months.

The regular weekly dancing lesson held at the Highland Park Club on Tuesday afternoon.

The Junior Class of Northwestern University are getting ready for their play which will be given at Ravinia Theatre April 2nd. They will present Bernard Shaw's "His House in Order." The cast is as follows:

H. J. Jenson	M. C. Leigh
F. J. Jenson	Robert Piper
S. Daniel Ridgely	Douglas Johnson
P. J. Ridgely	Forest Cool
M. J. Maureward	Walter Ward
D. J. Dilmot	Russell Clapp
H. J. Haw	Marshall Beck
F. J. Haw	Robert Beale
N. J. Ridgely	Helen Adams
L. J. Ridgely	Marjorie Verbeck
G. J. Ridgely	Mary Holton
M. J. Thoni	Rachel Jones

Womans' Club.

The Woman's Club celebrated Washington's birth day with a patriotic musical. It was one of the most largely attended meetings ever held, guests coming from the North Shore towns.

The afternoon's meeting was under the direction of Mrs. W. C. Eddy who furnished a very interesting and clever entertainment. The following program was given:

Autumn	Salter.
Dry those Tears, Teresa Del Rigo.	
A Birth Day	Cowen
Mrs. Eddy	Reading
Elizabeth M Gilder.	Practical
Mirandy.	

Mrs. Frank B. Green
My heart at Thy Dear Voice—Saint Seaus.

Mrs. Eddy
Solo—Fleder-Maus-Waltzer
Miss Gladys Brainard
Reading—Mrs. Casey and the Beauty Dr.

Mrs. Green
Irene Stoddard Capwell.

1) Spring Song - - - Weil.
2) Come to the Garden Love—Salter.

Mrs. Eddy.
Mrs. Eddy responded with several beautiful encores, one a piece written and composed by Mrs. Frank B. Green.

Mrs. Green responded with a Welsh and Irish selections of her own composition.

Miss Brainard rendered Fleder-Maus-Waltzer, and other selections very beautifully.

It was one of the most pleasant and entertaining afternoon's ever enjoyed by the woman's club and their friends.

The hostesses of the afternoon were Mrs. F. B. Williams, Mrs. Noerenberg, Mrs. Renning, Mrs. Harbaugh, Mrs. A. A. Putnam, Mrs. John Duffy and Mrs. Samuel Levin.

The next meeting will be held March 8th, when Mrs. Green of Chicago will speak on anti-sufferage.