

Flour No. 11 contains 2 forms.

a (1) Same as No. 1 a (1).

a (2) Same as No. 3 a (1).

Flour No. 12 contains 3 forms.

a (1) Same as No. 7 b (3).

b (1) Same as No. 4 b (2).

c (1) Same as No. 2 a (3).

No.	No. of Forms.	Bac. Per Gram.	Moulds Per Gram.	Grade of Flour.
1	3	4090	2272	High.
2	3	2727	2727	High.
3	4	14545	1363	Medium.
4	6-1 yeast.	4545	909	High.
5	2	9090	909	Medium.
6	1	2727	000	High.
7	4	15909	2727	Medium.
8	3	222727	000	Poor.
9	2	4545	4090	High.
10	1	254545	909	Poor.
11	2	6363	0000	Medium.
12	3	18136	909	Poor.

This work was done under the direction of Miss Katherine E. Golden.

THE NUMBER OF MICRO-ORGANISMS IN AIR, WATER AND MILK AS DETERMINED BY THEIR GROWTH UPON DIFFERENT MEDIA.

BY A. W. BITTING.

While conducting a series of experiments to determine the number of bacteria and moulds in milk, some variations in number were found when the tests were made upon different culture media. This led to an experiment to determine the number of micro-organisms present in air, water and milk, using agar agar, glycerine agar, beef gelatine, and wort gelatine. The results of the test were somewhat of a surprise. The agar agar, glycerine agar and beef gelatine were neutral, while the wort gelatine was slightly acid, but the degree of acidity not determined. Ten exposures were made with each media, using petri dishes and kept as close together as possible. The conditions were evidently as nearly alike as it is possible to obtain.

The average number of bacteria and moulds which developed is as follows:

	<i>Bacteria.</i>	<i>Moulds.</i>
Agar agar	86	3
Glycerine agar	73	7
Beef gelatine	64	20
Wort gelatine	41	34

Ten tests of water gave the following result:

	<i>Bacteria.</i>	<i>Moulds.</i>
Agar agar	2,370	12
Glycerine agar	2,260	15
Beef gelatine	1,470	60
Wort gelatine	480	88

Ten tests of milk gave the following results:

	<i>Bacteria.</i>	<i>Moulds.</i>
Agar agar	7,967	2
Glycerine agar	11,207	7
Beef gelatine	7,416	12
Wort gelatine	1,700	47

Agar agar shows the highest number of colonies of bacteria, and wort gelatine the highest number of moulds. The inference is that a statement of the number of forms found in anything should be accompanied by a statement of the media used and how prepared.

THE EFFECT OF FORMALIN ON GERMINATING SEEDS. BY M. B. THOMAS.

Having had occasion during the past year to investigate the application of formalin as a germicidal agent, I became greatly interested as to the possibility of its use as a fungicide.

Some very imperfect laboratory experiments suggested the probability of its value in connection with the destruction of the smut of corn, oats and wheat, and accordingly plans were made to carry out a series of experiments with this in view. More careful thought on the subject convinced me that such experiments would prove too expensive unless some accurate data were at hand regarding the effect of formalin, in solutions