

(c) Two grammes of curd were rubbed up in a mortar with distilled water into fine particles, and the acidity thereof immediately determined.

(d) Two grammes of curd were cut into fine pieces, placed in a flask with water, and an excess of caustic potash solution, and the liquid boiled. Subsequently the free potash was determined so that the amount of potash consumed showed the acidity of the curd, soluble in alkali.

The following table gives a few examples of the results obtained, and also the acidity of the liquid from press on the same dates.

DATE.	Acidity by "a"	Acidity by "b"	Acidity by "c"	Acidity of liquid from Press.	Acidity by "d"	Acidity due to Curd.
1899.						
June 6.....	85	87	89	84	6.05	5.16
" 24.....	...	90	97	95	5.37	4.40
" 26.....	94	95	99	99	5.37	4.38
July 1.....	104	104	1.05	1.04	5.30	4.25

From these results, which have been confirmed by numerous other experiments, we learn that method "a" does not succeed in obtaining all the acid liquid out of the curd. That method "b," while it improves the results, owing probably to the contraction of the curd by heat expelling its acid contents more thoroughly, still fails to give quite so high results as method "c," which was consequently adopted in subsequent work. It is, fortunately a more simple and more rapid method than either "a" or "b."

Comparing the results obtained by method "c" with the acidity of the liquid from the press, it will be seen that they are practically identical, so that this method of analysis appears to give us merely the same acidity as that of the liquid which is in the curd. As the curd contains only 50 per cent, of liquid at most, we might expect the figures to be one-half those of the liquid from the press. Why they are identical with the liquid from the press, I am unable to explain. It has been noticed that after estimating the acidity by method "c" there is a secondary reaction, which takes place slowly, and is more difficult to determine, but which gives almost constant results. So far as I am able to judge at present, this is due to the acid salts present in the curd.

*Casein Acidity.*—The result obtained by method "d" is very different. Here, in addition to the acidity soluble in water, we have an acidity which we must assume to be due to the solid substance of

the curd insoluble in water, subsequently termed the "casein acidity." By deducting from this total acidity the acidity due to the soluble portion, we obtain the true acidity of the insoluble portion or casein.

The acidity of the casein, as determined by method "d," fluctuated from day to day in a most remarkable manner as in previous years.

The determinations with which the results obtained seemed mostly to accord, were those of the acidity of the liquid from the press. But, though, up to 1896 very numerous experiments had been made to try and discover if there were any relation between these two determinations, no constant relation could be discovered.

Tabulating the figures obtained in 1896, and comparing them with results obtained in 1892—the only year for which the necessary data existed—the following results were obtained.

TABLE SHOWING AVERAGE "CASEIN ACIDITY" DURING THE FIRST 10 DAYS OF EACH MONTH.

	1892.	1896.
June.....	4.27	4.39
July.....	3.77	4.06
August....	3.33	3.39
September...	3.62	3.43
October.....	3.16	3.47

These figures seem to prove beyond doubt that curd when vatted is an acid solid, surrounded by an acid pickle. Also, that the acidity of this solid varies not only from day to day, but in different months, decreasing during July and August, but increasing subsequently.

#### WANTED: GOOD MILK.

If a perfectly sweet, aromatic clean-flavored butter is called for, then a perfectly sweet, clean-flavored milk supply must be available. I have proved conclusively to my own satisfaction, that it is absolutely impossible to mix a batch of milk of 100 lbs. weight, which is off flavored, with the day's full supply of 8,000 lbs., and still retain that perfectly sweet, aromatic, and clean-flavor so prized in gilt edge butter. More than this, after two months diligent correspondence with the proprietors and makers of twenty-five of the leading