

T H E S I S .

Subject, The Dairy Business

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In studying the various products of Pennsylvania, and especially of the Monongahela valley, perhaps we cannot find one more interesting or one more extensively engaged in than that of the dairy products.

During the boyhood days of our fathers, this occupation was not such a universal one but of late years we scarcely find a farmer who does not to a certain extent engage in the dairy trade. If we were to observe closely in the mornings, as we chance to be going to meet an early train, perhaps about 7:30, we would see quite a train of milk-wagons making their way to the station, where gallons and gallons of milk and cream are shipped to the various towns and

cities along the river.

It is well known to all of us that milk is one of the most important elements of food. A cook cannot prepare a meal without using milk in some form. Milk is the only animal food which is habitually used in a raw state. It is the principle article of diet for infants, invalids and convalescents. Alone and in combination with other food substances it is used by nearly all classes in enormous quantities.

Since we see what an important food it is, great care should be taken that it may be kept clean and free from all impurities. Many outbreaks of typhoid fever has been traced to contaminated milk. The milking should be done in an

atmosphere which is absolutely free from dust, and on cemented floors previously lightly sprinkled, in order to reduce the number of germs to a minimum.

It is well known that it is difficult to keep milk from spoiling or souring during the hot months. Probably the first agency used was the application of ice, it being well understood that low temperature retard or prevent the formation of injurious germs. This plan, however, was attended with more or less expense on account of the cost of ice and the increase in freight charges. Within the past fifteen years various experiments have demonstrated the fact that any of the many preparations into

which boracic acid enters will answer the same purpose as ice, but they at the same time ferment & injure the milk and nearly all the milk producing states have made their use illegal under heavy penalties. Independent of the positive injurious character of some of these preservatives, they all have a dangerous power of retarding fermentation and thus, at least indirectly, preventing digestion and are therefore dangerous to health and hence their interdiction by laws.

A great many milk-men have a process of testing their milk, but none of the patented milk-testers are to be depended upon. The lactometer test for milk may

be taken as evidence in connection with other known tests, but when taken by itself is liable to mislead. The theory of the test is that the specific gravity of pure milk is about 1.030 and if the cream has been removed, the lactometer test will show it by a higher reading because cream, which has been removed is higher than the milk, if on the other hand, water has been added we would expect a lower reading because water is lighter than milk.

We do not realize what great products milk and butter are but the census of 1890 show that in United States 16,511,950 milch cows with an aggregate production of 5,209,120,567 gallons of milk and

1,024,233,465 pounds of butter.

The butter manufacture in this country is the most important item of our dairy products. There has been within the last decade, a great falling off in the amount of home-made or private dairy butter, and a corresponding increase in factory-made, or more commonly called creamery butter. One of the advantages of this change is that these creameries are usually supplied with first-class butter-makers, who has spent his time and money to fit himself for the business.

The factories are supplied with the latest improved machinery; there is usually an abundant supply of pure water and every thing is favorable for converting

the milk or cream received, into the best possible product that it is capable of making. It is safe to assume that the quality of the butter turned out these creameries is much better than the average has formerly been of those same dairies made up at home. One great advantage of this system to the farmers is, relieving his household of much of its drudgery.

My own ideal of a perfect plant for making butter is the home dairy with all the latest improved appliances, such as a separator, steam for power purposes, also for scalding and sterilizing all of the dairy implements, up-to-date churns, butter workers etc. In fact, a small home creamery,

where all is under the eye of the owner from the beginning to the end. The cream is separated from the milk soon after it is milked from the cow, without being carted miles to the factory; the skim milk is at hand in the best condition ready for feeding as it comes warm from the separator, and the owner runs no risk of pollution among his young animals by feeding diseased milk from other herds.

From these few remarks we see what great benefit is derived from the dairy products, and great care should always be taken in the various preparations of milk that it may always prove a great source of help to every farmer.