mentum. When one’s interest and enthusiasm is aroused it is only necessary to show that the plan is feasible and successful from a financial standpoint.

**SWISS CHEESE MAKING.**

Mr. Joseph Willimann, Monroe, Wisconsin.
Cheese Factory, Dairy and Food Inspector.

I shall take a positive stand against the prevailing opinion, that the imported Swiss cheese is better than our domestic Swiss, for it is not, providing we proceed in the process of making and curing the same, as the fundamental principles of Swiss cheese making require. We know, a cow fed on alfalfa, good grain and pure water will give a good milk, which of course, is the first essential part to make good Swiss cheese. With such milk, the old country Swiss maker begins, but for financial and technical reason, he skims a portion of the cream from that milk, which we do not, and have therefore a point in favor of a better product. When I say financial and technical reason, I mean by extracting one half to three quarters pound butter per hundred pounds milk. Any of you can see the financial gain in that process. When I say technical, I mean the texture gets more tensile strength, which is really needed, to open Swiss cheese to such extent as the imported Swiss is opened, and of course, the people are of the opinion that Swiss cheese must have big eyes or holes as they call them and a lot of them. Not that the cheese is any better for this reason, but the point is, to make a big show with a little quantity and yet get a lot of money for it.

Well, I stated the maker in Switzerland starts his Swiss with a good clean milk, makes the cheese with the best of scientific and practical methods, brings it to a cool cellar, salting it daily for about four weeks, when he removes it to a warm room for fermentation, until satisfied that it is open enough for export market. Then it is removed to a cool room again and is continually salted until it is five to six months old, when the wholesale merchant will buy it, remove it to his store room, where again it will be continually salted, until it is salt ripe, which means that it has that oily salt water in the holes, a flavor peculiar to Swiss cheese, which bites a trifle on your tongue when you eat it. And last but not least, it melts between the teeth.

**Swiss Cheese in Wisconsin.**

Now, let us see how we make Swiss in Wisconsin—it is possible for us to have just as good milk to begin with here as anywhere under the sun, and even better than in Switzerland, which I will explain. We got the good milk to start with, but I must admit, while we have a good lot of number one Swiss cheese makers, we also have a good lot, who lack scientific and technical training, although we have the finest dairy school in the United States at Madison. We see further that our good makers, do not adhere to the well known laws and principles of Swiss cheese making. While they take a creditable, well made cheese to the cellar, they start the gross neglect as soon as they get it down cellar, by omitting the daily salting, which hastens fermentation and that is just what they want, so they can get it on the market in from four to six weeks. In capacity of foreman of a large wholesale firm, Swiss cheese only thirty days old passed through my hands going to the consumer. They were what you call open, the texture fairly tender and white, but this unnatural condition of cheese only four weeks old was brought about by the starter or “sur.” But at the cost of the aroma and flavor which was sacrificed, as there is not a trace of flavor or aroma which an imported Swiss cheese has. And do not forget the cheese eating public is not long in deciding which cheese they will eat when you put before them the imported or at present our Wisconsin Swiss. Can you, fellow milk producers, cheese makers and
cheese dealers in the face of this condition go on in a way which is harming an industry of such importance, until the other fellow gets the whole field? I say, no, a thousand times no. To my understanding this is beyond American business ability to let any one else from abroad capture our home market, simply because someone is napping.

I say some of you must start the ball a rolling by ripening some of our Wisconsin Swiss like they do across the sea and establish the fact that we can make just as good Swiss in Wisconsin, as anywhere under the sun, and I say again, even better. Because we have just as good water, and the lime stone subsoil which is known to impart the superior flavor to all dairy products, the clover, blue grass and alfalfa and more fat, the makers in Switzerland are finding it more difficult to produce number one Swiss cheese on account of so much commercial fertilizer and commercial feed used, which has very detrimental effects on cheese making.

In conclusion, it seems to me, if they over there on land nearly double the price of our land, can buy milk, make cheese, cure it for about a year, which implies great capital, then pay transportation and duty to America, and still realize a good profit, then why cannot we equal this foreign product in quality, and in consequence realize a greater profit?

WHEY SEPARATION AT CHEESE FACTORIES

Prof. G. H. Beydendorf, University of Wisconsin

In discussing this subject it is my purpose first to call your attention in a general way to the losses of the fat in the whey—second to take up the subject of recovering this fat, and third to give my views as to how the proceeds can be divided equitably so that the maker and the patrons will each get a just share of the gross proceeds arising from the sale of the whey cream.

The losses of the fat in the whey vary with the kind of cheese manufactured. Where the so-called American cheese is made the losses in the whey approximate close to .3 of one per cent during the entire year. At certain seasons of the year, in June for instance, the loss may be rather low while at other times the loss may be so high as .4 to .5 of one per cent. Some investigators have found the average loss in the whey during the entire season as high as .36 of one per cent.

Many cheese makers do not appreciate the richness of drippings and merely test the whey at the time of dipping. An observation made in Sheboygan county by careful investigators showed that the drippings from the milled curd of a 5000 pound vat of milk amounted to 58 pounds testing 11.0 per cent fat. This no doubt was an exceptional case but to get from the same amount of curd 40 pounds of drippings testing 8.0 per cent fat, is not unusual.

A friend of mine in Manitowoc county reported that during June he was able to recover 2.52 pounds fat per 1,000 pounds of milk; during December 3.94 pounds; during the entire season the average received was 2.7 per 1000 pounds of milk or .3 of one per cent fat in the whey. This young man made these observations in a factory operating on the "pound for 10" system and it was to his interest to keep the losses down as much as possible. Our observations at the Dairy School corroborate these figures as being very conservative.

Those of you acquainted with the manufacture of Swiss cheese appreciate the enormous amount of fat lost in the whey where Swiss cheese is made. The high temperature employed, the fine cutting, and the rough treatment that the curd receives necessarily cause great losses of fat in the whey. Such whey tests .7 to .8 of one per cent and even up to one per cent, or in other words from 20 to 30 per cent fat delivered to a Swiss cheese factory goes into the whey and is lost unless an effort is made to recover the same.