Churning.—The cream is kept in a tin vessel, and is stirred when new cream is added, when it is kept until it acidulates—until it begins to thicken. Then it is churned in a rectangular churn, at a temperature of 62° by a floating thermometer, to granulation. The buttermilk is then drawn off and well water is introduced to wash out remaining traces of buttermilk.

Salting.—The butter is now in fine particles; just in the right condition to salt. How much salt is now the question. If the salt is good dairy salt (none other should be used), there is little danger of getting in too much, provided you do not get in more than will dissolve.

This butter was made in a fifteen pound churning, and a heaping pint bowlful was used, which is as much again as was needed to flavor the butter; but it was added to the butter in a moist state; incorporated well through it by a few turns of the churn. It was allowed to rest about four minutes, when the churn was revolved and the butter worked into a mass, at which time some two quarts of strong brine were found in the churn. The butter was then packed solidly in the tub with a common butter ladle.

It was once held, and is still held by many, that butter must be held over some twelve or more hours and re-worked before packing. My reply is, here is the butter made as I have described; find fault with it if you can. I court criticism, and am ready to explain more fully any position I have taken in this paper.

My Experience in Dairying.

By C. P. Goodrich, Jefferson County, Wis.

Seventh Paper.

Selling Fertility.—The year 1872 found me the owner of a small farm. At last my debts were paid and I had a clear title to the land. This had been accomplished by grain raising, and I found that I had been slowly selling off my farm, a little at a time with each load of grain hauled away, until its productiveness had been so much reduced that it required the closest economy to make my income from it sufficient for my necessary expenses. The prospect was not cheering. My farm was gradually growing poorer; I earnestly wished to give my boys better opportunities for gaining an education than I enjoyed in my youth; my health had failed. It was plain that if I was to accomplish anything, a change must be made. I must use my brains if I had any.

A Start in Dairying.—About this time some were turning their attention to dairying. I had not thought very favorably of the business; had kept as few cows as possible, just enough for my own use, two or three usually, and deplored the necessity of keeping even these. In fact, I did not like cows—
could see no money in them. But a cheese factory was started in the neighborhood, and thinking I might get a little something out of it, I increased my number of cows and patronized it in summer, and during the fall and winter made a little butter, (which was sold at a very low price at stores and groceries), and took my pay in goods at a very high price. On looking over my books, I find that the year 1875 was the first that the income from my cows was enough to make me think it worth my while to keep an account of it. That year the total proceeds from nine cows were $348, a little more than $38 each. It was said I had done well. It certainly was something. I had received pay for keeping the cows, as I kept them then, and a little besides to go toward paying for the work of milking, etc.

Variation in Prices of Butter.—Circumstances soon occurred that opened my eyes wide. In the fall of 1875, after the cheese factory had closed, I went into partnership with a friend living in Philadelphia. We scraped together a few hundred dollars with which I was to buy butter and ship it to him and he was to sell it. Not considering myself a judge of the article, I relied mainly on the word and character of the maker. When the account sales came, I was astonished at the great variation in prices of the different makes.

Secret of Good Prices.—Of course, after this, I tried to buy so as to make something. I shipped to different markets—New York, Boston and Chicago, and still this great variation occurred. One man's make sold away above others in every market. I have just been looking at one of those old account sales, and find that the prices ranged all the way from 15 cts. to 32 cts., and this particular make was 43 cts. per pound. Our own make was 30 cts. This was in March, 1876. My wife and I examined the butter closely, and for our lives we could not see that the butter that sold so high was any better than much of the rest, or any better than our own make. But there was more money in it, sure, for it cost no more to make it, and I was bound to find out the secret if I knew enough. I showed the maker the account sales, and asked him if he could tell me the reason of the difference in price. "Is it all a fancy?" I asked. He said: "You may call it a fancy if you like. My butter is made to suit the fancy of those who are able and willing to pay good prices for what suits them." At my request, he gave me particular instructions as to how his was made, all the way from the care of the milk, the time to skim, ripening the cream, churning, working and packing the butter. I went home and told my wife what he said. She was enthusiastic to try to make butter that would sell for something. We went at it, and soon prices began to mend. I went to reading everything I could get on the subject. Took dairy papers, from which I learned much. Especially was this true of the dairy department of the Jefferson County Union, now Hoard's Dairymen. In the spring I built a small milk house near the well, detached from the dwelling, and we made butter all summer. I visited many of the large creameries in my part of the country to learn the best methods. I have ever since been studying and learning, and have attended nearly all the dairy conventions, trying to keep up with the times, and have not learned all yet.

Money in Butter-Making.—The year 1886, the proceeds from the same nine cows footed up $690.42, an average of $77.83 per cow. I now knew there was money in butter-making.

Setting the Milk.—The first summer I set the milk in common ten quart
pans, set in a sink which extended around three sides of the room, and would hold water. Cold water was pumped in after each milking, which cooled the milk sufficiently to make the cream rise. This worked well, but was a great deal of labor. Since then I have put in improvements and fixtures at some little cost that have reduced the labor to, I think, about the smallest point.

Profit from Sixteen Cows.—For the past ten years I have kept from 12 to 16 cows, and have averaged, for the past seven years, over $1,000 a year net proceeds from the sale of butter alone. Last year it amounted to $1,243. By careful testing of cows, selection in breeding and better feeding, I have managed to make my cows produce more each succeeding year, until last year my mature cows produced an average of 357 pounds of butter each, and total proceeds of $107. I find that the better I feed the more profit I make, using, of course, what judgment I have and what knowledge I can get as to the proper kinds of feed for milch cows.

Feeding Bran.—I have fed bran for the last two summers, even when the grass was the best. I must tell you how I came to do that. I had always contended that good grass, and plenty of it, was a perfect food, and could not be bettered. Of course when pastures were dry and poor I had always fed grain. In May, 1886, the grass was good when I turned my cows out to pasture, but not wishing to change too suddenly, I continued the bran for awhile. They were giving then 400 lbs. of milk and making 18 lbs. of butter a day. I then gradually left off the bran feed and, in a few days, the amount of butter had dropped to 15 lbs. a day, although the amount of milk continued to be 400 lbs. It occurred to me to try the effect of feeding bran again. I fed 100 lbs. a day, and soon the amount of butter was again 18 lbs., although the daily amount of milk was still unchanged. The value of the bran I fed was 60 cents a day, and the three pounds extra of butter was 60 cents. I was getting pay for the feed as I went along, and reasoned that the cows would do better the next fall and winter on account of being kept in better condition. I am sure that was the case, for the yearly average per cow was increased, I believe, fully 50 lbs., owing to feeding an extra half ton of bran, so that for every dollar laid out in extra feed I got back two dollars.

Profits of the Farm Increased.—Now, this $1,000 and over received for butter each year is certainly that much added to the net profits of the farm, for the income from the sale of other farm products has, for several years, been enough greater than formerly to pay for the extra labor caused by the dairy. This is due to the increased fertility of the soil. Besides, a little ready money coming from the dairy has enabled me to make some needed improvements, among which is the draining some wet land which was nearly worthless, and is now the most valuable and productive I have.

I cannot, in the short time allotted to me, go into all the details of how I have learned to manage my cows, handle the milk, and manufacture and market the butter, but I have given you a brief outline of the main facts.

Make a Start in Dairying Now.—My talk is not directed to those of you who are already successful in dairying and are, of course, prosperous and happy, nor to those who are making a success in other lines of farming but to the scores of you (and I know you are here) who are in the fix I was 13 years ago. And some of you are, in some
respects, worse off, for your farms are loaded with mortgages that are piling higher and higher each year, and you will soon be buried out of sight unless you do something different. I would most earnestly urge you to make a start in dairying now. Build a tank, set it near your well, make a shelter over it, get a few cows, and you are started; all this will cost but a trifle. Get a few more cows; but if you don't feel able to do that, take good care of and feed well those you have, and in a few years you will raise some good ones. But the most important thing is to learn the business. You must read and study and find out what others have learned. Lay out $10 in dairy literature. Ten dollars is a very small sum; you have only to leave off an occasional cigar, or some other useless luxury, and you have it. Learn all you can and do the best you can. If you have 100 or 120 acres of fairly good land, you will, in a few years, be able to add $1,000 net to your yearly income, and be making your farm better all the time. Your wives will help you, I know they will, and be glad to do so if you will only give them a chance and furnish some conveniences. What does an added $1,000 a year mean? It means paying your debts, educating your children, improving your surroundings and, if you choose, laying something by for a time of leisure and rest, or old age.

I know you can accomplish this. If you ask me how I know, I can give you the best of evidence: Because I have done it. You have just as good ability, if you will only use it, and most of you are able to do three times the manual labor that I am.

ECONOMY ON THE DAIRY FARM.

By S. B. MORRISON, Jefferson County, Wis.

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Eighth Paper.

Capital and Credit Needed.—In these times of low prices and poor crops we hear so much about economy, and the farmer who has obligations to meet must practice it rigidly, that we dislike to hear even the word mentioned; but the economy which I shall discuss is not the penny-wise and pound-foolish plan so often pursued, but the wisest distribution of forces for the accomplishment of certain ends. It is nearly impossible for the poor man to economize, for he must do as he can, not as he would like.

It requires the combination of capital and good credit to manage the farm economically; and how foolish it seems to see one go deliberately at work to destroy his credit, which, when once lost can not be regained.

Such an one is controlled by circumstances, whereas he should, in a certain measure, control them.

Use Business Methods.—The far-