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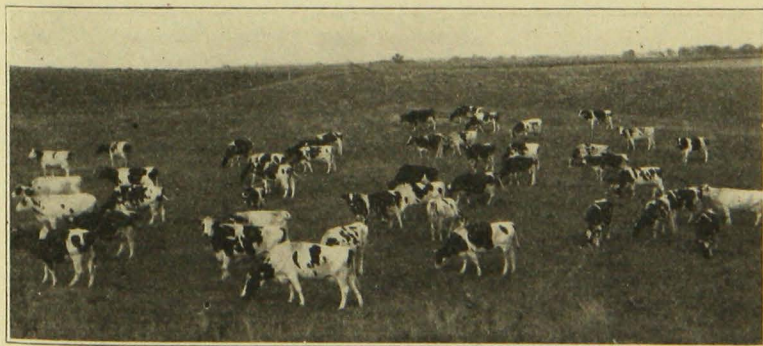
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THE DAIRY COW AS A MARKET FOR LABOR

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SUGGESTIONS FOR PROFITABLE DAIRYING

(1) **Study feeding.** Many cows fail to give the returns of which they are capable because they do not get the right combination of feeds. Some cows do not get the right feeds, others get balanced rations but not a sufficient quantity to enable them to return a maximum profit. Get a copy of Minnesota Bulletin No. 130 entitled "Feeding Dairy Cows" and follow the instructions given. (2) **Use purebred dairy sires of high producing ancestry.** Carefully select the high producers among the heifers by means of milk production records and the use of the Babcock fat test. (3) **Keep records or make estimates of all costs of your dairy herd.** Compute the wage they return per hour for the time expended on them. (4) **Know the yearly production of each individual cow.** This means keeping private records of the production of each individual cow or membership in a testing association. (5) **Set a standard of production for**



A Profitable Dairy Herd

This herd returns a good wage for labor expended upon it after feed and all other expenses are charged at actual cost. The good results are due to liberal feeding of balanced rations, breeding for high production, and careful, regular, faithful care of the herd.

your herd. For herds that average 150 to 175 pounds of butterfat a year, one might reject all cows that with proper feeding and care do not produce 190 pounds yearly. The ultimate aim should be a herd that will average 250 to 325 pounds of butterfat per cow. (6) **Keep only the number that can be well fed.** In the newer cut-over sections, lack of feed rather than lack of labor is usually the limiting factor. Under these conditions it is difficult to get profitable employment by milking cows fed on purchased hay, but part of the grain may often be purchased to advantage.

Lessons from Dairy Cost Records

Cost accounting investigations in Minnesota have shown that a large number of dairy herds pay less than the going wage for the labor expended on them. Some herds, on the other hand, because of better breeding and selection, more skilful feeding and management, and more favorable market conditions, pay more than the going rate of wages. Altho the latter is the goal to strive for, still the dairy herd yielding a low labor return may be furnishing a market for the time of the farmer and his help during hours for which they might not otherwise have employment. Where a considerable amount of such labor is available, dairy cows may add materially to the farm income, even tho they do not pay the current rate of wages for this labor. Dairy cattle differ from beef cattle in that the latter furnish a market for cheap feeds with but little labor on the part of the farmer whereas dairy cattle furnish a market for large amounts of labor in addition to a market for his feed.

WAGES PAID BY DAIRY COWS FOR LABOR IN 1920

Table 1 shows the average returns per dairy cow on the Owatonna statistical route for 1920, when results are calculated upon the basis of the amount earned per hour for man labor.

Table 1. Returns per Dairy Cow in 1920

(Average of 21 Steele County herds, total 325 cows)

Receipts:	
Butterfat, 167 lbs. at 70.7 cents.....	\$118.07
Calf at birth.....	4.46
Manure, 6.7 loads at \$2.....	13.40
Skimmilk, 37.45 cwt. at 59 cents.....	22.09
Total	\$158.02

Expenses:

Hay, 1.0 ton at \$15.95.....	\$ 15.95
Fodder, 1/7 ton at \$7.91.....	1.13
Silage, 3¼ tons at \$5.53.....	20.74
Grain, home grown, 995 lbs, at \$2.04 per cwt.....	20.30
Grain, purchased, 310 lbs. at \$2.48 per cwt.....	7.69
Pasture, 163 days at \$0.06.....	9.78
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Total feed	\$ 75.59
Equipment cost	5.00
Interest on value of cow, \$118 at 6 per cent.....	7.08
Taxes and miscellaneous cash costs.....	2.68
Horse labor, 12 hrs. at 17 cents.....	2.04
Depreciation	14.19
Barn rent	9.51
Overhead, including fencing, waste ground, and auto for cream delivery.....	4.67
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Total expenses except man labor.....	\$120.76
Return for man labor for one year per cow.....	37.26
Return per hour of man labor (171 hours per cow)	0.218

The foregoing figures were compiled by the Division of Agronomy and Farm Management from data collected in 1920 on the Owatonna statistical route in Steele county.

These Cows Paid Less Than Market Rate for Labor

To those who are not familiar with the labor required by dairy cattle, a return per year for man labor and profit per animal of \$37.26 may look very attractive. However, each of these cows required 171 hours of labor or nearly one half hour per day for each cow in the herd. Dividing \$37.26 by 171 gives a return per hour of 21.8 cents. For the year 1920, the average cost per hour of man labor on these farms was 32.2 cents when the time of the farmer and family help was figured at the actual cost of month help plus board, or a paper loss of 10.4 cents per hour on each hour devoted to the dairy enterprise.

It is possible that these losses were somewhat greater in 1920 than in the average year. However, the cost accounts kept over a period of years in Minnesota and elsewhere seem to indicate that the usual return per hour obtained from the lower producing cows is less than the rate paid for farm help, including board. Some farmers say "Dairying pays when you have your own help, but it doesn't pay to hire help in order to keep more cows." This is one way of stating that dairy cows are usually a means of providing a market for labor that otherwise would be unemployed. Where this condition prevails the most profitable

number of milk cows to keep will be determined by the number that can be milked by the available farm help rather than by the additional help that might be employed with a view to keeping more cows.

In newly developed portions of the timber country, however, the farm will raise feed for fewer cows than can be milked by the family. In those regions feed is almost always high in price and if roughage must be purchased as a regular practice, it seldom adds to the farm income to milk cows even with an abundance of unemployed family labor.

AMOUNT EARNED PER FARM FROM DAIRY COWS

Table 2 shows the amount earned per hour and per farm for time spent on dairy cows on each of several farms. These farms were selected to show the variation from one farm to another in returns per hour when these returns are calculated upon the basis shown in Table 1.

Table 2. Amount Earned per Hour and per Farm from Dairy Cows

Farm No.	No. cows per farm	Rate earned per hour, cents	Amount earned in 1920 per farm from labor on cows
5	20	-12.7*	-\$320*
11	22	6.4	254
6	11	12.6	462
16	19	17.9	624
7	11	29.3	724
2	10	42.1	1040
12	24	48.3	1920

* A rate of minus 12.7 cents per hour means that this farmer earned nothing for his wages and in addition for each hour of man labor expended, lacked 12.7 cents of meeting other expenses. In the same way, a total income for labor on cows for the year of -\$320, means that the herd paid nothing for work and lacked \$320 of meeting other expenses.

PAYING FOR A JOB

The poorest returns from dairy cows on any of the twenty-one farms were obtained on Farm No. 5. This herd paid no wages and in addition lacked \$320 of paying other expenses. This farm family, in a very real sense, paid for the privilege of dairying. In this case, 2500 hours were spent on 20 cows that produced 109 pounds of butterfat per cow. These cows received the usual amount of hay and silage and 1226 pounds of grain compared to an average of 1305 pounds. They were not so well bred as the higher producing herds, but there is every reason to believe that the real trouble was with the feed and care given, so that these cows did not have a fair chance. The amount of grain and roughage used per cow was

greater than that used by one farmer who secured a production of 190 pounds of butterfat per cow. The outstanding difficulty was the kind of feed. The roughage was late-cut timothy hay, shredded corn stover, and a poor quality of silage that contained very little corn. The grain was almost exclusively ear corn and oats. Such a ration is lacking in the muscle and bone producing elements (protein) that make milk a perfect food for young animals. In order to make up for the lack of clover or alfalfa hay, it would have been necessary to purchase liberal quantities of oilmeal or other protein concentrates, in order to give these cows an opportunity to show what they could do. In addition to poor feeding these cows were milked and fed at irregular hours. Such farmers should either make a decided change in methods or milk only enough cows to provide the family with dairy products.

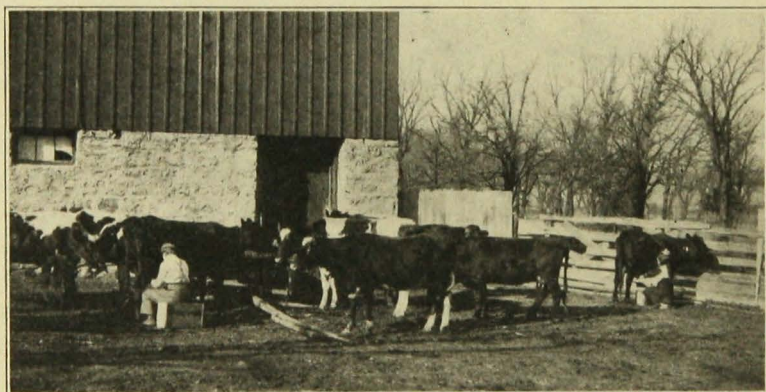
A Wage of 6.4 Cents Per Hour

Farmer No. 11 had 22 cows and expended 3963 hours on them during the year. He earned 6.4 cents per hour for this work after crediting all returns including by-products, and deducting all expenses except labor. The total return for these hours was \$254. If this work was performed by family labor that would otherwise have been without employment, then the \$254 was that much added to the farm income. On the other hand, if the 22 cows caused over \$254 worth of extra help to be hired, then they were a source of positive cash loss. The average production of this herd was only 134 pounds per cow, notwithstanding the fact that they were of fair dairy breeding, had the usual amount of hay and silage, and consumed 1385 pounds of grain per year, or more than the average. It is probable that by weighing and testing the milk from each cow so as to find the higher producers and to furnish the basis for adjusting the feed of each cow to her productive ability, that 12 cows could have been selected from the herd that would have given a larger total yearly wage for the time expended than was earned by the 22.

A Moderate Wage But an Increased Income

Farmer No. 7 kept 11 cows that produced 156 pounds of butterfat per cow. This herd required 2469 hours of labor, or 224 hours per cow. These cows paid 29.3 cents per hour for the labor expended on them, or a total of \$724 for the herd. In this case, the proprietor, a grown boy, and younger children were operating a 160-acre farm without any hired help. Thus the \$724 earned by milking cows was clearly that much added to the farm income, even tho the rate earned per hour was about three cents less than

the average cost of hired labor for that year. In order to have provided this amount of labor without cows, it would have been necessary either to grow a considerable acreage of some intensive crop to which local markets were not adjusted, such as potatoes or vegetables, or to do outside work. Sometimes such a situation can be improved by renting outside land, but in this case no land conveniently located could be had at a reasonable figure. None of these plans would have provided winter employment as satisfactorily as the dairy cow.



A Herd of Cows Cared for by Family Labor

The return per hour was small but the farmer's income was greater than it would have been without the cows.

A PROFITABLE DAIRY HERD

Farmer No. 2 earned 42.1 cents per hour for the labor on 10 cows. He is one of the two farmers among twenty whose cows made a good profit for time expended on them above the market rate for labor. He used 2456 hours of labor on his 10 cows and earned \$1040. His average production was 260 pounds of butterfat per cow. Here was a combination of good cows, good feeding, regular milking, and faithful care. For about ten years this farmer has been using a well-selected purebred dairy sire and selecting the high producers until his herd now consists of animals that show three-fourths to thirty-one thirty-seconds of the blood of the breed. He had an abundant supply of good clover and alfalfa hay and silage. Each cow received a total of 1509 pounds of grain per year of which 70 parts were corn, oats, and barley, 24 were wheat bran, and 6 were oilmeal. Each cow required 246 hours of man labor as compared to an average of 171. This high labor requirement was in part due to the good care given and in part to the fact that

only 113 days of pasture per cow were available compared to an average of 163. If sufficient pasture had been available to provide an abundance of good feed for 150 days, both the labor and feed cost would have been less and the return per hour of labor higher.

Farmer No. 12 kept 24 cows and earned 48.3 cents per hour, or a total of \$1920 for the labor on cows during the year. However, except for the fact that he made several unusually satisfactory sales of pure-bred animals, his return per hour would have been less than that of farmer No. 2.

CALCULATE YOUR EARNINGS PER HOUR

Farmers who receive a large part of their income from dairy cows can well afford to keep such feed, production, and other records and make such estimates as will enable them to determine what they are receiving for the labor expended on their cows. The data necessary for computing this wage rate are indicated in Table 1. The number of hours spent on cattle may be estimated quite closely by noting the time required per day once every two weeks and assuming the other days to require the same amount of labor. This item varies widely from farm to farm. On the Steele county farms the hours per cow ranged from 99 to 240 hours. The average was 171 hours.

INCREASE EARNINGS BY BETTER FEEDING, MANAGEMENT, AND BREEDING

Those farmers who find that their cows are returning them a low wage per hour for the labor expended on them should not be content even tho they may have no other employment for this labor. A job at low wages may be better than no job at all, but that does not justify contentment with low wages if there is a possibility of increasing them. The methods of farmer No. 2 indicate some of the possibilities along this line. Better feeding methods is one of the quickest ways of increasing returns from the dairy herd. Suggestions as to good feeding practice may be obtained from a number of sources such as the county agent, neighbors, farmers' clubs, township farm bureau meetings, farmers' institutes, and books, bulletins, and farm papers. Minnesota Circular No. 2 gives a list of bulletins, papers, and books that are of value in studying feeding and the other aspects of the dairy business. **Send to the Bulletin Room, University Farm, St. Paul, for a copy of this circular and then secure at least some of the bulletins, papers, and books suggested as of value.** Regular care and attention to details will help materially.

Over a period of years production can be greatly increased by the use of purebred sires of high producing ancestry, and by the selection and retention in the herd of only the highest producers. These practices account in part for the high returns obtained by farmers No. 2 and No. 12.

DEVELOP A HIGH PRODUCING HERD AS A MARKET FOR LABOR

This process of breeding and selection takes time. During the process of building up a high producing herd, careful feeding and management of such cows as the farmer has may not result in going wages for the labor expended on them. This does not justify their immediate disposal. The farmer may well keep as many of these ordinary cows as he and his help have time to care for during hours when they would not otherwise be employed. They will thus add to the farm income by providing employment during the winter as well as by lengthening the day at both ends during the season for field work. By having the cows freshen in the late fall the maximum amount of employment in the winter is secured and at the same time the dairy enterprise will interfere least with the field work during harvest, silo filling, and other rush work that comes with the busy summer and fall seasons. The ultimate goal, however, should be the development of a high producing herd that will pay good wages for all the labor expended on it.

KEEN COMPETITION TO BE EXPECTED

The farmer who feeds a large part of his crops to cows that produce from 125 to 160 pounds of butterfat per year should recognize that in milking such cows he is competing with numerous farmers in the corn and small grain sections where a few cows are kept as a side line. These cows are largely cared for in spare time, and under such circumstances any cash return above market value of feed is considered as so much added to the farm income. This competition is likely to exist indefinitely, and therefore ordinary cows are likely to continue to be a means of getting a job at a moderate wage rather than of making a profit with hired labor. Even tho the farm income may be increased by the low return from these ordinary cows, the farmer who specializes in dairying can not afford to rest content until he has his dairy business on a basis where it will pay the market rate of wages or more for all the labor it utilizes.