# HOW TO HANDLE A DAIRY HERD

## C. L. SMITH, EXPERT, TELLS WHAT TO DO

**Proper Selection and Care of Cows is Essential if Best Results are to Be Obtained—Testing of Milk Is Urged Also.**

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(Written especially for The Bulletin)

The 50 cows used in the dairy test at the Pan American Exposition at Buffalo in 1900 was composed of 5 cows each from the ten following breeds: Guernsey, Jersey, Ayreshire, Holstein, Red Polled, Brown Swiss, French Canadian, Shorthorn, Polled Jersey, Dutch Belted. They produced a total of 327,733 lbs. of milk in six months. The average test of butter fat was 3.91. Figuring the butter and skim milk at the average prices, throughout the country for the period, 16 cents per pound for butter and 18 cents per 100 for skim milk, the product was valued at $3,371.65 or an average of $66.19 per cow, $11 per cow per month. Estimating feed stuffs at the average prices, $7 per ton for clover hay, $2 for ensilage, $1.75 for soiling feeds, bran $15, cornmeal and gluten meal $16, oil meal, cottonseed meal and pea meal at $25 the cost of feed was $1,382.74 leaving $1,888.80 profit, or $39.77 per cow per six months.

These cows were not accidents, they were the result of selection, care, feeding and breeding through many generations. They were the product of a certain combination of important factors that had so effected the natural character of the animals as to develop and intensify the original mother functions into a valuable factor of production, that could be utilized by an intelligent man to his profit and advantage.

There is an old adage that "A chain is no stronger than its weakest link." This is especially true of dairying. Successful dairying is the logical result of a chain of factors, the weakness or absence of any one, weakening or destroying the strength of the chain, to the extent that the final profit is always measured by the strength of the weakest link.

The profitable dairy cow is an individual, no a breed. There is just as wide a variation between individuals of the same breed as between the different breeds. In the selection of individuals it is however true that those breeds that have been fed, handled and bred for any specific purpose, will show a readier, more general adaptation to that specific purpose, than individuals from families fed and bred for other purposes.

The building up of a dairy herd begins of course with the selection of individuals for the foundation. The order runs something like this:

First—Selection.

Second—Care: which includes feed, shelter, water and method of treatment.

Third—Testing, sorting and weeding out.

Fourth—Breeding.

Fifth—Feeding, handling and developing of calves and heifers.

Carelessness, negligence, or ignorance on the part of the dairyman in regard to any of the factors will eliminate or seriously impair the measure of profit.

Before making any investment in cows, the dairyman should thoroughly and intelligently consider the line of dairying to be followed, and the breed, that in his judgment is the best adapted for his purpose. Having determined a line, then follow it persistently. One of the serious obstacles, to general improvement, is found in the tendency of so many men, to change breeds, cross breeds and use grand sires. By these frequent changes they reap only confusion and more often build down than up.

**Selection.**

There are good dairy cows to be found in all the breeds mentioned in the first paragraph of this article, that they are not all as widely known and as generally distributed as the Jersey, Guernsey, Holstein and Shorthorn. A profitable or satisfactory herd may be built up from any one of these breeds.

The important points about a cow are ,in general, a large mouth, broad forehead, full,bright eye, with gentle expression, strong heavy jaw, wide nostrils, thin neck, clean throat, thin on top of shoulders, but widening downward so as to be broad in the chest, with forelegs well apart, giving plenty of room for lungs and heart. High backbone, ribs springing down, but well apart and long heavy abdomen. Milk veins large and crooked, with large wells. Udder starting well forward and running well up in back, ie: long udder connection. Teats well apart and of good size and uniform. Udder well veined, free from hair, of good size but not meaty. Hind legs well apart, giving room for the udder, comparatively thin flanks high, broad and strong pelvic arch, back bone full and running level to the tail. If cows of this type are selected, they will, as a rule average well.

**Testing, Sorting and Feeding**

The profitable dairy cow being a specific individual, the dairyman never knows just how profitable each cow is nor just the measure of profit until with proper feed and care he has established those artificial conditions that have produced cows capable of manufacturing three, four, or even five times the amount of feed into milk that their unimproved ancestors could. By weighing the milk of each cow, each day, each week,and keeping the record, the owner may soon determine the exact quantity of milk that each cow gives. Quite as important as quantity in the matter of quality, and quantity is never an index to quality. I have inspected hundreds of dairies and tested thousands of samples of milk. The "Babcock Test" is the only perfectly reliable method I have found for determining the amount of fat in milk.

Every dairyman who is desirous of obtaining the best results, working intelligently, building up his herd and knowing just what each individual cow is doing, should have a Babcock testing outfit and use it at least once every month; keeping a record of the per cent of fat and the number of pounds of milk for each cow.

In the work if inspecting dairies I have found cows ranging from 600 pounds of butter per annum down to 100 pounds. Of course it would be difficult to fix an arbitrary limit, but it is safe to say, mark for the butcher any cow that will not produce 200 pounds of butter per year. She would be a weak foundation for a profitable dairy; 300 pounds si practicable and easily within the reach of an intelligent dairyman. It is not uncommon to find a dairy of ten cows with one or two that pass the 300 pound mark, five or six between 300 and 200 and the rest below 200. One dairy I remember, of five cows, one a grand, good cow giving 30 pounds a day of 5 per cent milk, two that gave 20 pounds per day of 4 per cent milk, and two that gave only 12 pounds per day of 4 per cent milk. The four cows giving 64 pounds, worth just about the same as the food they consumed, leaving the owner nothing for labor or capital invested. The one cow returned a profit of 100 per cent. The owner had never weighed or tested the cows separately, nor stopped to think out the details of dairying. After the individual weighing and testing, the two 12 pound cows were soon sent to the butcher; two intelligently selected heifers were added to the herd, and later, a third. The man now has five cows that average a little over 300 pounds of butter per cow each year. One of them did one-third better the second year than she did the first.

The profitable dairy cow should be a persistent milker, maintaining a fairly even flow of milk for at least seven months and then gradually falling off and going dry six to eight weeks.

**Breeding.**

The sire used for building up a good dairy herd should always be a pure, full blood animal of the breed selected. The quantity and quality of milk produced by mother and by grandmothers are important considerations and worth investigating. Sisters or half-sisters that are milking are valuable references to be consulted; but with all the above excellent in character the animal may be of no value in the building up of a dairy herd unless he possesses individual merit.

The sire selected should be his general built and carriage indicate strength, vigor, style and constitution. He should be alert and resolute but not vicious. The rudimentaries should be well developed, squarely placed and free from the scrotum. The abdomen should be large, deep and muscular, with ribs well apart; long rump, wide pelvic arch, thin thighs, prominent backbone running level to the tail; a clean throat, with clean neck and a full chest; wide muzzle, strong jaws, full bright eye with gentle expression, forehead broad and long. Never allow him to run with the herd; handle him kindly and firmly, and however gentle never take any chances. Handle with a ring and staff. Be sure to have the stalls and paddocks just a little stronger than seems necessary. If he gets good heifers that show better performance than their mothers, keep him to a good old age. If sire and offspring are clean and healthy, inbreeding may be a decided improvement. Some of the most satisfactory improvements of domestic animals have come from inbreeding.

**The Calves.**

Calves should be removed from the mother within a day or two. Some advocate never allowing them to suck, others let them suck once, then remove them. Whichever way it is done the calf can easily be taught to drink by fastening it in a rigid stanchion and giving it the warm new milk in a clean pail. Feed at first sparingly, one and a half to two quarts of milk, morning, noon and night, for the first week, then drop the noon feed and increase the others up to four quarts of feed night and morning. Change gradually from whole milk to skim milk. Feed all milk warm and sweet. Use a dairy thermometer and warm to 90 or 95 degrees.

Never mix meal shorts or bran with the milk. Oil meal is not good to mix with skim milk. Ground flaxseed soaked in six times its bulk of cold water will make a jelly that can be used advantageously mixed with the milk. A pint of jelly is the right quantity for four quarts of milk.

Feed at the regular hours and after the first week give a little dry grain, after the calf has drunk the milk. Give calves all the clean cool water they will drink. Sprinkle a little salt on a board where they can lick it. Give a little bright clean hay. As they become accustomed to it, increase to what they will eat up clean. Increase the grain gradually until it reaches a pound a day. Shelled corn, whole oats, bran, wheat and shorts are all good. Always feed the grain dry in the box after taking away the milk pail. Leave the calves in the stanchion thirty to forty minutes after feeding. Handle them carefully, avoiding frightening them. If they go on good pasture at six or seven months of age, gradually shut off the grain. Feed the skim milk four to six months. For forage, alfalfa, red clover, pea and oat hay mixed with meadow hay and fodder corn and ensilage are all good. The first four are the best.

That calves can be successfully raised in winter on skim milk, grain and hay, has been practically demonstrated. That such calves are better suited for the dairy or feed lot than those that have run with their dams has been shown by numerous carefully conducted experiments. During the winter months the calves should be kept in warm, light, clean quarters. A little road dust stored in barrels under the shed will be found very convenient to sprinkle the floor with. It will absorb several times its own weight in moisture. Use plenty of bedding. Whitewash walls and ceiling if there is any appearance of dysentary. Reduce the feed and add one teaspoonful of dried blood, stirred in the warm milk fed. Two or three doses will usually effect a cure. The dried blood can be bought of the packing houses, feed stores or dairy supply dealers.

Breed the heifers to drop the first calf at from 24 to 30 months of age, preferably in October or November. Keep them in good flesh and aining in weight all the time, but not fat. Keep them in good flesh and gaining eral with the forage, but avoid any over feeding. Handle the udders of the heifers frequently previous to parturition, so they will become familiar to the touch and can be milked without exciting or frightening them. Within three weeks after calving, begin increasing the ration gradually, using as far as practical foods that will stimulate milk production. As long as they show a tendency to utilize the food for milk production keep gradually increasing, up to their limit to digest and assimilate. But at the first sign of loss of appetite or indigesion, make a slight decrease in the ration. Keep on feeding a portion of the grain ration after she goes to pasture.

Occasionally weigh and test the milk. Allow for a gradual increase in both quantity and quality during the first two periods of pactation. If the heifer has shown good development along dairy lines, and good performance at the pail, milk her to within eight weeks of the second parturition, then dry her off by first milking once a day, then every other day, just drawing enough to relieve the pressure of the udder. A very slight change in the feed at this time will often assist in drying off the heifer and help to fix the habit of going dry at that period.