Qualifications of a Dairy Cow.

By Mrs. Minnie E. Sherman.

Scientific dairying, as to the feeding of the cow and the handling of her product, has been the outgrowth of the specialized work of the dairy school experts. While the creamery man, with his manner of paying as little as possible for what the cows produce, has made the dairyman take out his pencil and learn to figure exactly what the cows do earn; so he has, by calculating, brought the keeping of the cows down to a business basis.

The first historical mention we have of the importation of cattle is that they were brought by the Europeans to Mexico about the year 1525. The mild, equitable climate and the abundant grass covered ranges caused them to multiply rapidly, and they soon covered not only the plains of Mexico, but those of Texas and California, with their offspring.

The first improved cattle came to Virginia from Holland in 1625, and were of beef and milk form. The oxen were powerful animals, plowing the new lands, while the cows furnished a small amount of milk for the settler's family. The first cows used solely for milk were brought from Normandy to Quebec by the French emigrants. It is said that these yellow, dun and silver gray Normandy animals enter largely into the foundation strains of both the modern Island Jersey and the brown Swiss cattle. They were of medium size and gave a fair quantity of milk, while the oxen were large enough for plowing in a hilly country, like Canada and New England.

However, the dairy cow was, as yet, of little value in the eyes of the farmer, for as late as 1825, at a Massachusetts county fair there was no class for cows or for butter or cheese; but there was the surprising entry of 100 yoke of oxen competing in feats of strength and docility. I wonder if there were some old men there to croak at that county fair as an ox show, just as we croak today that our fairs are mere race horse matineees.

The beef strain is very hard to breed away from; even in the fifth and sixth generations of cows it often crops out when cows are fed for heavy milk production. Many a good grade cow has slipped off into beef when five or six years old, causing a loss—for it does not pay to fatten a beef on dairy rations. When we consider a good cow should produce 350 pounds of butter, worth, say 25 cents a pound, or $87.50 in a year, it is indeed, killing the goose that lays the golden egg to sell her for cow beef at $30 to $40. You see, we do not believe in the general purpose cow, though it may seem presumptious, for she has prominent advocates but then, 'seeing is believing," and we have never seen one.

Now, in selecting a cow for dairy use, one of the principal points is the stomach; it should be large and somewhat pendant—never set flush with the backbone, but always leaving a ridge. The stomach should suggest that the digestion is ample, and that the consumption of food can be pushed heavily, and yet a margin of reserve force remain, for the drain from the heavy milk flow should be urgent, and her appetite constant if she is to continue its profitable milking for the entire year.

Draw an imaginary line directly across the cow's body in front of her udder. First of all, notice if ample breeding power is indicated by the width of her pelvis. The hips should be high, the thighs wide and encurving well; a strong, rugged backbone, with a distinct rise at the rear, so as to make the animal taller at the rump than at the shoulder. This rise should be gradual, and in improved breeds is rarely a rough, disfiguring hump. The tail should be long and slender and set high enough to carry out the high line of the pelvic arch. She should be thick through in front of the line to give ample room for heart and lungs, with a large navel and well developed milk veins, with a skin soft and full of oil. The head and neck should be fine and feminine, the breast without brisket or dewlap. The eye clear, prominent and full of gentle intelligence, while the under jaw should be strong and rather short. The spare hind quarters of the dairy cow have grown lighter and lighter in the years past.

The teats should be well placed and of convenient size and shape, neither too large nor too small, and far enough apart to be easily milked dry. The two small rudimentary teats behind the four regular ones are a good indication for mily continuance in a cow. The Swiss say that they indicate a cow will transmit her quality as a milker to her offspring.

The elaboration of milk by the cow is a physical mystery about which little is definitely known. The alliance between blood supply and the milk shows, however, to have a copious supply of milk, there must be a correspondingly generous supply of blood. The blood flows from the heart to the udder, and passes into the milk veins, and back through the milk wells, near the forelegs into the body, returning again to the heart and lungs. The milk veins show by their size and engorged condition the amount of blood they carry. The milk wells should be large enough to admit easily the second finger of a man's hand.

The front part of a cow's udder is often less well developed than the rear portion. Here is a loss of milk greater than is commonly recognized. Some years ago Prof. Plumb found in 13 cows deficient in the fore part of their udders, that the hind teats gave 57 per cent more milk than the front ones.

As to how long a cow should be retained in the herd, each must decide for himself; but I am satisfied that many people sacrifice their cows by selling too soon, as they are afraid the cow will become too old for the butcher. I have kept many cows until they were worthless for beef and thought that it paid rather than to lose a year or two of good milk. The mature cow has outgrown the likelihood of milk fever and garget, and has shown she possesses good lungs and a good digestion, and that her disposition is good. We have had cows eighteen years old that made 350 pounds of butter in a year. By the records of 486 cows kept for seven years, the age of greatest profit in a cow's life is from six and a half to fourteen years old. The Holland government tested a large number of cows to find at what period of cow's life the milk contained the greatest amount of butter fat. The period was fixed at from the seventh to the eighth years, and that in a healthy, well fed cow the milk capacity increased up to the twelfth year, the flow remained stationary until the fifteenth year, when it usually decreased until the cow became farrow.

The selection of a pure bred sire to head a grade herd is wise.

This sire should be a good individual, strong in his race type, with a backbone as rugged as the ridge of a continent, without brisket or dewlap; a distinctly masculine head, with a good mellow skin. He should show rudimentary teasts ond dairy form in his rear conformation. It is important, though often overlooked, that the dam of this sire should have a perfectly formed udder—for form of the udder is strongly transmittable, and each breed has a type of its own. The sire should have a lively sense of his own importance, and not be willing to be imposed on by rough handling. He should fight if cornered, for the gentle bull rarely imparts grit to the offspring, and endurance seems to be founded in temper. Listless, flabby people are amiable; so is a listless, inert bull. The very word, bully, should indicate his character; he should be ready to bluster and fuss at any infringement of the rights of his harem. It is better for the head of a grade herd to be a strong, typical individual than one whose dam is a phenomenal, record-breaking cow. There are many fine bulls sacrificed to the idea that nature will permit sudden great elevations of quality. Now, quality must be backed by the physical health of the animal; so, if we push quality before conformation, or correct form has been built up strongly, we are apt to lose health. Milk production is a heavy strain, and the animal must not only be physically educated herself to stand it, but must have inherited the acquired constitution from her dams.

Each sire used in breeding the herd should be more refined in type than his predecessor. We believe in generation having fresh blood introduced, and do not believe in incestuous inbreeding.

Hold on to the Cow.

Perhaps it is not altogether to be regretted that when prosperity comes and nature smiles, man is apt to forget the times of adversity. At the same time it is ungrateful, to say the least, to forget the instrumentality that pulled him through, and it is foolish to suppose that adversity will continue forever. It is not many years since the dairy cow stood between the western farmer and very hard times indeed. Money was scarce. Prices of grain, of beef cattle and other stock were low. Prospects did not seem very bright to the farmer. In this emergency the dairy stood between many a farmer and hardship. She bought shoes for the children, dresses for the women folks and—well, in some cases, perhaps, tobacco for the men. She enabled some farmers to float over the period of depression comfortably, and many to swim where without her they would have sunk.

The hard times have gone. The pig, the horse, the steer, the grain are all bringing good prices. Money is plentiful and cheap. Bank accounts are carrying a comfortable surplus. Under these conditions many a farmer is forgetting the good old cow that pulled him through. He is allowing the calf to run with her. He is forgetting and his children are not learning how to milk. The usefulness of the cow for the dairy is being destroyed. When the turn of the tide comes