

gives milk about the average quality for her milking year, so that it will be necessary to take at least two tests during that month, and I would advise taking the sample of milk on the sixth day at the morning, and all the consecutive milkings up to the night of the 10th day. This will give you ten samples, and for the second test on the 26th day up to the 30th, the average of these two tests will give the approximate average of the quality for the year. This will be near enough for all practical purposes. I might here state for the benefit of those who have never tested their cows, that to take a sample all the milk of one milking must be in one pail or can, and then well stirred; then take a small measure (I use a small wine glass) full of this milk, and pour it into an ordinary glass fruit jar, which should be quite clean, and labelled with the date and name of cow. Take a small wine-glassful for ten consecutive milkings, not forgetting always to stir well before taking sample; put each in the fruit jar, which will now contain a fair sample of your milk. Now, either test yourself or take it to a factory or friend who has a Babcock tester. As I have already said, test twice during the fourth month, and the average of these two tests will be about the average for the year. By knowing the amount of milk in pounds, and the average of fat it contains, the dairyman can at once commence to weed out all poor cows, and raise his heifers from his best milk and butter producers. Prof. Dean, at the great dairy convention at Ingersoll, showed by comparisons of over 1,000 tests that samples may be kept for over a month, and then the test made, and not show 1-10 of 1% variation from the average of twice a day.

Next, let me say a few words on kindness and gentleness. Never hit or, as I have too often seen, kick a cow. It always makes them nervous and fidgety. Have the manure fork and milking stool used for their proper work, which is not to pound the cow with. To those who are thinking they must have a dog for their cows, my advice is the same as Punch's to those about to marry,—"Don't." Try putting a little bran in the manger always before milking time, and you will nearly always find your cows waiting to have the gate opened. No matter how good your pasture, they like and look forward to their bran, and it will pay in the increased milk and butterfat. I have tried it for three years and know.

In feeding your heifer calves, I would advise at least three weeks of pure milk; then skim milk, with a little grain feed, such as oats and bran, with a little boiled flax-seed in the milk, and clover hay; but beware of getting them fat,—it is a mistake. Just good growing condition is the best for dairy heifers. Breed them so as to come in at about two years.

To recapitulate, let the dairyman follow this course: 1st. An A No. 1 bull. 2nd. Fall calves. 3rd. Weighing and testing, raise your heifers from the best cows. 4th. Gentleness and kindness in handling all your stock, and kept only "dog bran." 5th. Feed calves and heifers well, but do not have them fat, and have them to calve at about two years old. By so doing he will soon have a herd of heifers that it will be hard to beat, especially if he chooses the blacks and whites, where nearly every heifer turns out a good milker.

With regard to the selection of butter cows, I would say, buy thoroughbreds by all means, for the good cows among our natives are few and far between, and farmers that have good ones will not part with them. It will cost more at the start, but you will soon raise a herd from only one or two. Find out the records of milk and butter of their nearest female relations, and those of their sire; then the records of their ancestors, which in buying thoroughbred cattle can nearly always be had, but which can never be had with grades. The more strongly the milking tendency has been developed the more certain is it to be transmitted.

No quality can be transmitted which is not possessed by the ancestry. Pedigree without performance is valueless, so performance without pedigree is robbed of a great deal of its work, as it gives no evidence of prepotency.

In selection by milk signs, may be included: 1st. The milk form which may be described as a wedge shape, i. e., shoulders thin, forward, legs comparatively close together, quarter without much flesh. 2nd. Good large udder. 3rd. Large and crooked milk veins. 4th. Escutcheon. 5th. Openness between the spinal processes. 6th. Oiliness and depth of color. 7th. Tail reaching to hock. 8th. Good, mellow, loose skin. 9th. Large openings of the milk veins into the body. 10th. Fine head.

As evidence of richness and quality of milk, I only mention these signs as a help to those who are about buying, as I would rather have them than not, but the only true tests are the scales and Babcock or other tester. Both quantity and quality are influenced by feed. In the selection and breeding of butter cows, the character of ancestry should be carefully studied as regards quality and quantity of milk, and also the economy of its production.

**The Berkshire Hog.**

Paper prepared by John G. Springer, Springfield, Ill., for the Canadian Swine Breeders' Association.

The Berkshire hog in its purity has been longer established as a breed than any other now before the public. Its good qualities are without a doubt the foundation of the chief excellencies of all other modern breeds. Its origin is a pretty well established fact. Intelligent gentlemen who have handled the breed and made investigation concerning its history both in England—its native heath—and in America, concur greatly in their conclusions as to the foundation of this breed of swine. Briefly stated, the result of these researches is that the hog *par excellence* which we now have, and known as the Berkshire, is the result of long and judicious cross-breeding of the native swine of Berkshire, England, with the Neopolitan and Chinese swine. The first named of these, tradition and historical records show to have been among the largest and most popular of the English breeds. The animal was in color a reddish-brown, spotted either black or white, and was prized for choice meat, producing hams and bacon of a superior quality. It sometimes reached in weight as much as eight hundred to one thousand pounds.

The Neopolitan was imported from Southern Italy, where, skillfully bred for a long time, it attained fame as the main ingredient of world-wide known Bologna sausage. Its introduction to Britain was, according to the best authorities, about, or a little previous to, the time of the first importation of the Chinese breed, about the middle of the last century. It was a small breed, had comparatively little bone, and was easily fattened even on indifferent food. In color it was black.

The Chinese hog, first brought into England for the purpose of crossing with native stock for its improvement, was also a small animal, little boned, with good fattening qualities. Two colors were introduced, black and white. In their purity they were not well adapted to the climate of England, being very sensitive to the cold and dampness of the Island atmosphere. Their quality was as with the Neopolitan swine their aptness for putting on fat.

It is from these two imported breeds, carefully interbred with the large-framed native English hog of Berkshire, that we have the modern model Berkshire, as well as most of the other improved English and American breeds now extant, for those foreigners were used freely and with great advantage by the English in crossing with native swine in other parts of England than in Berkshire. But, in the language of Dr. Detmers, in his exhaustive essay on "The Origin of Improved Berkshire Swine," prepared for and published a few years since in the American Berkshire Record, "The happiest combination, however, of all the superior qualities of each of the three different races—the native English, Neopolitan and the Chinese; the most perfect extinction or suppression of all the bad or undesirable properties of any of those races, has been accomplished in originating the so-called middle breeds, and among them, especially in forming their principal representative, the modern Berkshire breed, by crossing the old Berkshire hog first with the Neopolitan, and then by infusing some blood of the Chinese breed of swine."

The Berkshire, as improved by these crosses, became the ideal hog. In meat, superior because of the distribution of lean with fat; in form, the medium between the racer and the sloth; in head, finely finished; in carriage, erect; in all respects a slightly intelligent animal. For more than a century no other blood has been permitted to find place in its make-up. The great perfection it has reached is from the growth of its own purity.

"That 'blood will tell' all thoughtful men agree  
But whether good or bad the story be,  
Which thus is told, depends entirely  
Upon the blood itself—its quality.  
If bad the blood, the story bad will be;  
If good the blood, a story good we see."

In endeavoring to equal or excel the Berkshire, other breeds of swine have been greatly improved and new breeds have been presented for public favor, but under the direction of skillful breeders the Berkshire also marches on towards perfection, and easily continues to hold its place at the head of the hog with which all breeds are compared.

"One breed may rise, another fall;  
The Berkshire hog survives them all."

**Ontario Veterinary College.**

We have received the annual announcement of the Ontario Veterinary College, which will commence its session of 1894-95 on Wednesday, October 17, and continue until the end of March. We wish to state that the subjects taught at this institution are the same as in the modern European veterinary colleges, and all the lectures are delivered specially to veterinary students, the same as in the colleges of London, Edinburgh and Paris. Among the list of graduates of this college can be seen many names of men from England, Scotland, United States and Manitoba, which goes to show the world-wide reputation which the institution has won for itself. The success in practice of the numerous graduates of the Ontario Veterinary College is the best guarantee for the teaching students receive. Persons desiring further knowledge of the course can receive a circular from the Principal, Prof. Andrew Smith, V.S., Toronto, Ont.

**The Use of a Herd Book.**

[Paper read by H. E. Eyre, before the Canadian Ayrshire Breeders' Association.]

The object of the herd book as a preservative of purity of blood to the breeder and a guarantee of excellence to the purchaser is admitted by all. How, then, to make it best subserve these requirements I think may be profitably considered to-day, and I trust that my views may be thoroughly discussed and fearlessly corrected or amended.

First.—I believe the primary object sought should be to make the book as indisputable a title to property in blood as the county registry is to titles in real estate. A man who pays for an animal upon which to found a herd, depending upon a herd book title for purity of blood, and finds, when by time and labor he has built up a herd, that by some alleged irregularity in the pedigree that he has been robbed not only of his herd, but of, perhaps, the best years of his life, is in the same position as the man who in early life buys a bush farm, spends years in clearing, improving and adorning it, and then in old age is informed that through some error of, perhaps, some dead man, his title is not valid, and that he must leave, give up his hard-earned competence for old age, to eke out his remaining years repressed by want and chilled by penury.

Does some one say: Pshaw! but this is law. Yes, but all law is not justice, and it is the business of legislators to correct abuses and protect the innocent and the weak from the rapacious and strong. Much more, then, is it our duty to guard our book against error and establish it so strongly that no man need fear to build a herd upon it with confidence that his children, and, mayhap, his grandchildren, can some day point to their cattle, boasting that they have been in the family for generations.

But, Mr. President, it is now almost a reproach to exhibit an animal that has not at least imported grandparents, and, indeed, judges have sometimes been at their wits' end when deciding between a beautiful Canadian-bred animal of the highest merit and one imported, but only of medium qualities. Now, this is either right or radically wrong. It is right, if we should neglect the interests of ourselves and our customers to pander to the prosperity of a few larger breeders and importers. It is right, if it is the duty of Canadians to minimize and detract from the facilities and productions of their own country to shed a halo over the mother land ayont the billowy wave. But, gentlemen, it was not the glorification of some other country that made our cheese industry what it is, or developed that cold and bleak land once said to only consist of a few "arpenes of snow" into the Canada of A. D. 1893 that surprised the whole world by coolly capturing the best of the Chicago Columbian Competition.

Do not think that I fault any man for honoring the land of his parents or the land of his birth, especially when that land is the land of the heather. Far from me be any such thoughts, for when I consider what "Auld Scotia" has done for us Canucks, in giving us the nice, the trim, the beautiful Ayrshires, I almost wish myself, like many of you, a Scotchman, and, notwithstanding my cosmopolitan inclinations, I can nearly excuse you when you keep Halloween or "Tak a richt gude willie waught, for auld lang syne."

Yet, gentlemen, you will only be fitting sons of noble sires if you apply the industry and ability fostered during generations by "the land of the mountain and the flood" in developing the resources of your adopted land, until it shall vie, even in your esteem, with the old land. Yes, until it shall be made to surpass any other country in the world. The young farmer does not fail to honor his father and mother by refusing to give the money that might wipe out the mortgage on his farm to build a palace for his parents. Neither does the Canadian breeder dishonor the European herds by refusing to acknowledge them better than equally well bred animals of American nativity. Some of the grandest records made by the noblest specimens of the different dairy breeds have been made, not in Europe, but in America.

Then, away with the whimsical notion that if the foundation of a herd be pure, that judicious breeding will not only preserve, but will increase its good qualities. Hence, Mr. President, my conclusion that in this dairy land of clear air, green pastures, and fresh waters, nativity is not, and can never be, a reproach to either men or to cattle.

Recent experiments to ascertain whether the giving of salt to dairy cows has any direct bearing upon the supply of milk showed conclusively that it is very expensive to neglect that humane duty. Three cows were kept without salt for one month, and during the last half of the period the milk was weighed twice daily. The cows were then given 4 ounces each daily, and after their capacity was again allowed to develop, because of the salt, it was found that the increase for the half-month was 100 lbs. of milk. A constant supply of fresh water is just as important.