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### Why Every Farmer Should Raise Improved Stock.

The benefits available to all farmers from raising and feeding improved stock are well set forth in a paper read by Henry Wallace before the Illinois Live Stock Breeders' Association, from which we quote:

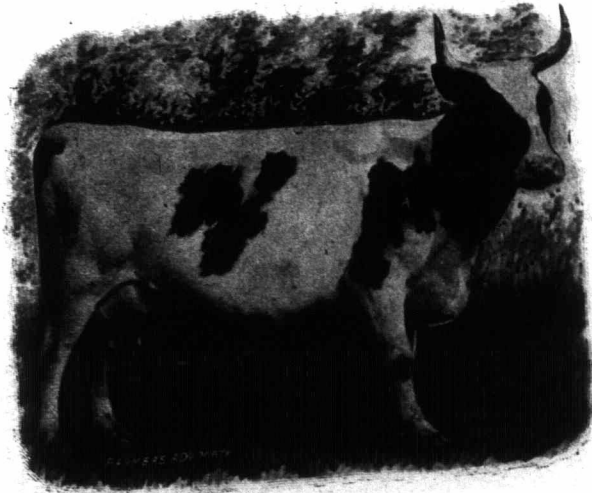
As a preliminary question, it might be asked why the farmer should grow any kind of stock? Why not grow grain exclusively? Many plausible reasons might be given why he should keep no stock at all except his work horses, a cow or two to furnish milk and butter for the family, and a few pigs to consume the waste and supply the family wants. It might be argued that a grain farm can be conducted with much smaller capital in every way. Little or no fencing would be required, and no buildings except for the comfort of the family and the stock absolutely necessary to a grain farm. It might be argued, on economical grounds, that a flesh diet is vastly more expensive than one purely vegetable; that man lived for at least two thousand years on a purely vegetable diet, and that one of those old fellows, named Methuselah, lived nearly a thousand years; that the period of human life was shortened after they commenced to eat flesh, and that 100 bushels of wheat will keep a man in good health for many years, while, if converted into beef, it would make only about 250 pounds of dressed beef, which a stout, hearty man could eat as fast as one steer could make it. In short, it might be argued further, from the standpoint of personal comfort, or political economy, or morals, or the welfare of the race, that the farmer should not grow live stock at all.

As a matter of fact, the farmer does not grow live stock until he is driven to it. All new agricultural countries, and nearly all new farms, are opened up by grain-raisers. The grain growing habit, when it has become fixed, usually continues until the farmer is by force of circumstances driven to growing stock. As a rule he avoids it as long as he can. When waning fertility is observed he tries a rotation of grains, and this proving a failure, is finally driven to grass, and then forced to grow stock to consume it, forced to fence, to build, to study the habits and appetites of animals; the science and art of breeding; the food value of grains and grasses; in other words, the science and art of mixing feeds, or the balanced ration. It is either this or the impoverishment of land, and sooner or later a mortgage, a death grip—for that is what the word mortgage means—and, after that, migration to a new country or falling down from the position of owner to renter, and finally to that of a hired hand. It should be thoroughly impressed upon the minds of farmers that there is no such thing as maintaining as maintain the fertility of land without live stock. It is essential to the maintenance of soil fertility; that is, available fertility. A wise Providence will not allow any farmer to so utterly exhaust land that it cannot be restored by clover and live stock, but he locks up the fertility, thus rendering it unavailable, and hides the key where only the good stock-grower can find it. If, then, the farmer must raise stock or sell his land by piecemeal, why not grow improved stock—the best for the purposes, whether in breed or individual merit, that can be obtained?

The breeder comes in after the farmer has been driven from grain to grass and live stock, after rotations have been established, which is seldom until after the land has begun to show exhaustion. The clay must appear on the hillsides before farmers, as a rule, really begin to do hard thinking on agricultural lines. After he has had experience in growing live stock, and has so far restored fertility by his means (and it is mainly a restoration of the humus to the soil), the farmer begins to study his animals with a view to their improvement, and he learns a number of things that surprise him greatly. He is at first disposed to resist improvements, to criticize, and often to condemn improved breeds and breeders. He maintains that he can with a given amount of grain make as many pounds of gain on the unimproved stock as he can on the improved, and in this he may be correct, for gain does not depend on type and form, but upon the capacity to digest and assimilate, and this is quite as likely to exist in a high degree in the common stock of the country as it is in improved stock. It is when the farmer goes to market with his cattle or sheep that he finds that there is a wonderful difference in the selling price; that while one bunch of steers, for example, may sell at \$7.00, another bunch equally fat may not bring over \$5.00. He is at first disposed to lay the blame on the "Big Four," or the combination of buyers, but further investigation will show him that the men who buy his stock have no prejudice either for or against any breed, any color of hair, for horns or no horns, but that they are buying simply with a view of securing the kind of stock that will furnish the most dressed beef per hundredweight and the largest cuts that bring the high price on the market. In short, he finds that whether in cattle, sheep or hogs, the long, deep middle, the strong, thick loin, or the firm, thick ham, brings the highest price live weight. It is the steer, for example, that with a vigorous appetite and digestion puts the fat on his broad back, deep loin,

and well-covered ribs, and interlards his muscles until he walks like a well-fed lawyer or unctious doctor, that brings the price per pound on the market, and the seller goes home with a resolution that hereafter he will grow and feed stock, not for the sake of having a market for his grain, roots and grass, nor for praise or vainglory, but for the sordid cash. He finds that there is a type in all kinds of improved stock to which he can sell safely his grain or grass on ninety days, six months or a year's time, with the probability that it will pay him a better price than the dealer at the nearest station, who buys his grain perhaps to sell to other people to feed their stock. The reason, therefore, that the farmer should grow improved stock is simply because they are built in such a way that they are safe customers for everything that he has to sell. In growing or feeding any kind of live stock, the farmer is not only improving his land and fitting it to grow larger crops in the future, but he is finding good future customers for the crops which he may grow, customers which are solely under his care and control and which will turn over to him, not merely the price which the merchant will give, but a large profit in addition. He is conducting both sides of the bargain.

Let us go into the matter a little more thoroughly. Few farmers realize wherein the difference lies between improved stock and unimproved. It is not, as we have before stated, in the capacity to furnish fertilizers to the land. The unimproved steer is as good a manure factory as the improved. It is not in the capacity to make pounds of gain. The unimproved, with equal digestive and assimilative capacity, will make as many pounds of live gain as the improved steer, and his appetite and digestion are quite likely to be fully equal to the improved. The difference between them is in where the gain is placed. Breeders have been for a hundred years studying how to secure a type of all kinds of live stock used for meat production



MYRNIE—2065—  
First-prize Ayshire cow and sweepstakes female of the breed.  
Nova Scotia Provincial Exhibition, 1898 and 1899.  
OWNED BY C. A. ARCHIBALD, TRURO, N. S.

that will furnish the largest amount of cuts so located that they have little movement when the animal takes its ordinary exercise. These are the loin and the ribs. It may be surprising, but it is nevertheless true, that a first-class beef animal will not only dress, when equally well fattened, a much higher per cent. of beef than the unimproved or improved in other lines than the beef production, but that 60 per cent. of value of this carcass lies in the ribs and loins alone, and that this represents less than 30 per cent. of the total weight of the dressed carcass.

Some years ago the Iowa Experiment Station conducted some valuable experiments in this line. While the experiment was intended to reveal the merits of the different breeds, it nevertheless revealed some facts quite pertinent to our purpose. Among these were a Jersey and a Hereford, each fattened to a finish on the same feed and with the same care. The Jersey had 190 pounds of tallow on a 747-pound carcass, while the Hereford had only 131 pounds of tallow on a 1,062-pound carcass. The Hereford dressed 66.4 per cent. beef, while the Jersey dressed only 57.5 per cent. Why? The Jersey, which for beef purposes should be ranked with the unimproved, put the fat as near as possible in the place where his mother put the essence of her food. The Hereford put it largely between the muscles. The Jersey had been bred for milk and butter production; the Hereford for beef. The Jersey, therefore, had thinly covered ribs and a deficient loin; the Hereford was perfect in both these points. The same was true, in different degrees, of the Short-horn and Polled Angus. The farmer, therefore, should grow improved cattle if he is growing for beef, because they furnish the largest per cent. of beef, because they furnish the largest per cent. of cuts that bring the high price. When this experiment was made, the loins sold for 19 cents and the ribs for 16½ cents per pound, while the other parts of the carcass sold at from 2 cents to 6 cents per pound, the average value of the entire carcass, outside of the loin and ribs, being about 4.5 cents per pound. In short, the loin and ribs, while less than 30 per cent. of the weight of the dressed carcass, had more than 60 per cent. of the value.

Thus far I have spoken of animals improved in

the line of meat production and have taken beef cattle as an illustration. The same principles apply to a greater or less extent in the production of both pork and mutton. The same underlying principles should guide the farmer when his object is not the production of meats, but of milk. The improved special purpose dairy cow—and this is the type the farmer should use when dairying is his main or exclusive business—is the one that, with a given amount of food, produces the greatest number of pounds of butter-fat consistent with the health of the animal. In other words, he should aim for the greatest production of that which sells for the most money on the market. The dairyman is fooling away his time and his feed with any cow that produces less than 200 pounds of butter-fat per annum. If he is living up to his privileges as a dairyman, he will not stop short of 300 pounds, which can be obtained, not easily, but can be obtained by using the improved breeds, taking advantage of the work that the breeder has done for him.

His circumstances and conditions may require him, while not overlooking the butter yield, to combine this with the yield of meat, and with this end in view he should improve on both lines. While apparently incompatible, they are so only to a limited extent. If he is a sheep farmer, he combines both wool and mutton. In certain lines in growing horses he finds it profitable to combine a moderate weight with a moderate speed. In growing certain lines of poultry he combines weight and egg production. He can in beef production do the same thing.

How, then, can a farmer, once he has clear ideas on this important subject, the correctness of which has been demonstrated both by the theorist and the practical farmer, secure the improved stock which alone will pay him a decent profit? Manifestly only by availing himself of the labors of breeders who have made this a matter of special study ever since live stock improvement began. In other words, he must secure the kind of stock which have the ability to pay the farmer the top prices for his grains and grasses. He is foolish if he engages in the strife between the herdsmen as to which breed is best. There is no best breed, for example, of beef cattle. Intelligent breeders have all been working with the same end in view: to get the greatest weight of the cuts that bring the highest price in the world's market. They differ about horns or no horns, color, and such minor matters that really are of but little practical importance to the farmer who wishes to grow improved stock and thus secure customers for the crops that will usually pay, and pay well.

He should not start at the first with the idea of becoming a breeder. He should use improved sires of the breed that suits his fancy and aim at the production of a grade herd. After some years' experience in this line, he can purchase one pedigree female, and by giving thoroughbred care he can, if he chooses, gradually and surely develop into a skillful and experienced breeder. It is possible to do with cattle what has already been done with hogs: banish the unimproved stock. Five or six crosses of improved stock in either line will develop a herd which for beef or milk production is practically equal to pedigree stock. The only reason why we do not have a uniformly high grade in our cattle stock is because farmers have not followed the same lines, the reason for this failure being in the greater cost of the purchase of males and the slow rate of increase. When the farmers generally have been forced from grain to grass and live stock, and then forced by the higher price of land and grain to improve their live stock, then will begin the breeder's millennium, for then the day of the scrub and the unimproved stock will have passed away. The day of the grade sire will also have passed, and every farmer will find it necessary to use not merely pedigree sires, but the pedigree sire so formed that he will dress the highest per cent. and have the largest possible portion of this dressed weight on the loins and ribs, where it sells for the highest price. The reason why the farmer should grow improved stock is that only along this route lies the pathway to prosperity. He must do this or worse, and in doing this he will acquire an education along many lines that can be obtained in no other way.

### The Objection to Sudden Changes in Food Rations.

When cattle are changed at all suddenly from one description of food to another they almost invariably suffer very sensibly in condition, even though such change may be from a good to a better ration. An experiment was specially conducted some time ago with the object of testing whether the commonly accepted ideas on this subject were not exaggerated, and it was found that in every case in which a change in food suddenly took place the animals were adversely affected thereby. When a cow is fed on a certain ration for a considerable time, her stomach naturally becomes accustomed to a certain bulk or consistency in her food, so that when the change is made, except it is very gradually brought about, there is a tendency on the part of the system to become disarranged, and several weeks frequently elapse ere the animals begin to make what may be described as normal progress on the new food. It is because of this that it is so essential to exercise every care at this season of the year in changing animals to rations in which their feed consists largely of dry and concentrated foods.