of unsealed brood, and they will raise their own queen. If the queen is not laying I will find the reason and set her to work. If there is not honey enough in the hive I will feed extracted honey or syrup made from granulated sugar. In short, I shall strive to have all my colonies strong by the time the white clover begins to blossom. At that time I shall place sections on some hives and begin extracting from others, as I intend raising both extracted and comb honey next year.

We get most of our surplus honey here from white clover and basswood. Last year the basswood did not yield much honey on account of the July drouth, but the white clover honey which began about the 15th of May, was good, both in quality and quantity. We get some honey later on from corn, and then from buckwheat; but buckwheat honey is dark colored; has a sharp taste, and does not sell as well as white clover or basswood honey.

I have here a sample of clover seed which claims to be Alskie clover seed, but from the description I should say it was alfalfa clover seed. At any rate, it produces well, makes splendid hay, and yields immense quantities of honey. Thus far I have said nothing of bee stings. Pure Italian or pure black bees are the pleasantest to handle because they are not so cross as the common hybrid bee, which is a mixture having the same nature as a mule, both being scroces between two species of the same general family.

Any person who attends to bees must learn to go quietly among his bees and handle his hives gently. There are two very useful helps in preventing stings; one is to wear a bee veil and the other is to use a smoker; both are inexpensive and of great value. One thing to be borne in mind, never, under any circumstances, expose honey or other sweets so that the bees can get at them; they will carry them home if there is no honey to be gathered, and when they have carried the exposed honey home they will begin prowling around other hives; and if a weak or queenless swarm is found it will be robbed, and when robbing begins it is hard to tell where it will stop.

Some folks are so foolish as to place combs partly filled with honey in front of weak swarms, thereby intending to feed them. The result invariably is that all the bees in the neighborhood rush to the exposed honey and when it is gone they go into the hives near by and rob them.

Selecting a Breed.

[By McLean Smith, of Dayton, O.]

Improved stock, more especially neat stock, may be defined with tolerable accuracy as stock which responds to good care and feed. There is no poorer investment, and none which is likely to prove more unsatisfactory than a purchase of finely bred stock, which is afterward neglected and allowed to shift for itself. Our native scrubs are what generations of neglect and periodical short rations have made them. If it is intended the cows shall pick a living in summer along the roadside, and in winter about the straw stack, there is probably no breed will do better, or yield a better return, than these same scrubs. They are bred up to that sort of living, and, as nearly as any animal can be, they are accustomed to scant fare and no favor.

The objection to the scrub cow is that, with the best of care and feed, she does little better than when picking a living along the road, with an occasional raid on some corn-field, you often hear a remark like this: “Yes, those cows look well, and give a fine mess of milk, or make fine beef; but if you would give a lot of scrubs the same care and feed they would do just as well.” This is a mistake. The finely bred cows would do no better, perhaps not so well as the scrubs, on scant fare and no attention; but good care and full rations are largely thrown away on poor stock, they do not respond, as better bred animals do to high keep.

What breed is best will depend on the circumstances of each case—the purpose in view, the soil, climate, food, etc. But whether any unproved breed will pay depends chiefly on the man. If they are to shift for themselves, depending on luck, or the character of the season, whether they are full fed or half starved, and on the state of the weather for their physical comfort, then, decidedly, improved stock will not pay. On the other hand, if the cows are full fed, and properly cared for in inclement weather, then every day you keep a scrub, under such circumstances, you are loosing money. Your feed and care are largely thrown away. She can not
respond to such treatment as a better bred animal would do.

It is true that by generations of such keep, with proper selection, the scrub is gradually modified to suit her changed conditions, and becomes, in fact, an improved breed. But why waste so many years in what is of necessity a tedious and costly process, when the work has already been done to your hand, and you can select from the many improved breeds now in existence just what you want, and at a hundredth part of the expense it would entail to form a breed, even if you were sure of success. But you are not sure. Undoubtedly it can be done. With sufficient time, good keep, and proper mating, I believe our so-called native cattle could be bred up to a high standard. But it requires genius for such work. Not many men possess the requisite ability to see so far ahead, and predict the result of different combinations, while any one of common sense can preserve a breed once formed.

But it is asked, would you then advise everyone to discard his native cows and substitute full-bloods of some improved breed? Assuredly not, that is certainly the quicker way to attain your object; but for practical purposes it is unnecessarily expensive. A three-quarter-blood, or seven-eighths grade, of any improved breed, if properly bred and cared for, ought to be, for practical purposes, as good as a full-blood. If not, the breed itself is lacking in power, it is lacking in one essential element of a thorough-bred animal — prepotency.

Of course all animals are liable at times to breed back, and a grade may breed back to a scrub; but, if mated to a full-blood, the chances are a hundred to one that the mongrel blood will not show itself in the offspring. Indeed, for practical purposes, a high-grade, developed on your own place from your old native stock and choice full-blood sires, is often better than a full-blood, because more perfectly adapted to the circumstances surrounding it. But grades, except in rare cases, where it is desired to preserve some peculiar trait, should not be bred together. A full-blood of inferior individual merit is a more desirable sire than any grade, because all its good qualities are more thoroughly in-bred, and are therefore more decidedly hereditary.

Having decided that you can and will give the requisite care to your stock, and proper feed to develop its good qualities, the first point will be to select a breed adapted to the particular conditions which will surround it. I do not mean by this the adaptation of the breed to our purpose — milk, or beef, or butter production, or a combination of all, — but its adaptation to the soil, climate and general conditions which will surround it. This will largely determine your success or failure; but it is not, I think, so often considered as it should be. Usually we are struck with the fine quality of some breed as it appears in the show ring, or in the herd of some successful breeder, and we conclude that is what we want. Perhaps it is. But, perhaps, if we knew all the care and feed employed to produce that fine appearance, we might conclude that something not quite so grand would suit us better.

Large size is not always desirable even in a beef animal. We should cut our coat according to the cloth. If our soil is rich and grass abundant, so that a large animal can obtain a full feed without much exertion, then, other things being equal, the larger animal is preferable. But on most of our farms grass is not over-abundant; and the slight advantage of the larger animal in saving room is more than compensated by the greater activity of the smaller. It may be laid down as a general rule, that on farms of moderate fertility, or where abundant rations are not always provided, a medium-sized animal is more profitable even for beef.

But the question arises, whether we shall choose a breed for one purpose merely — milk, or butter, or beef — or whether it is best to choose a general purpose breed; not, perhaps, the best for any one thing, but fairly good for all. My own opinion is that in a system of mixed husbandry, where grain-growing is the leading business, and stock is kept as an incident to this — to keep up the fertility of the farm and convert the rough feed into money — a general purpose breed — one that will grow a good steer, and the same time yield a paying quantity of milk and butter — will prove most desirable.

I know it is the habit of many breeders to sneer at the general purpose cow as a jack at all trades and master in none. And it is doubtless true that the
general purpose animal is not likely to attain the highest degree of excellence in any department. But it is also true that the work of the world is mostly done by animals which do not attain supreme excellence. You are not likely to find a horse with the speed of a thoroughbred and the strength of a Percheron; and yet a horse, which is inferior to both in their specialties, may be far more useful than either on the farm. So it is equally true that in many cases, perhaps in most cases where mixed husbandry is pursued, a general purpose cow would be found the most profitable.

Where it is desired to raise a few steers each year, and at the same time possess a breed of cows that will furnish the milk to raise the calves, and make butter to pay the grocery bill, a breed fairly good for every purpose must be employed. If one could purchase good steer calves as needed, at a fair price, it might pay to keep a milk or butter breed, without reference to beef, and knock the male calves in the head. But everyone knows this will not be done. If a farmer undertakes to raise a few steers for beef, they will be of his own breeding, if he has them, whatever they are. It is essential, therefore, if he would get any pay for his care and feed, that the cows should be able to transmit good beef qualities.

For the large farmer and stock-grower, or the farmer who is engaged in some special pursuit, there are particular breeds which, for special purposes, claim pre-eminence. For beef, the Short-horn, Hereford, and Polled Angus in the latitude of Ohio; in the south, the Devon, and in the extreme northwest, the Galloway.

I am a great admirer of the Short-horn. When properly fitted for the show-ring they are, in my opinion, the grandest breed of all; and, under favorable conditions, they will make beef of high quality as economically as any. The objections to them are that they are a little delicate. They do not bear exposure well, and they must have full rations without much effort. They do not forage as well as some other breeds.

Another serious objection to Short-horns, considered merely as a beef breed, is that breeders have not yet succeeded in completely overcoming the original tendency to milk heavily. They have pretty well spoiled them for the dairy by inducing a habit of drying up for five or six months after calving; but occasionally a cow at first will give much more milk than her calf can take. Where beef is the sole object, good milking qualities are a nuisance. It is a waste of energy on the part of the cow, in producing more milk than her calf requires, and it imposes considerable additional labor in looking after the herd.

If I wished a cow merely to raise a calf for beef, I should choose, for the latitude of Ohio, a Hereford or a Polled Angus. Both are good beef breeds, and neither, I think, is liable to give more milk than her calf can take. My own preference would be for the Angus, on account of the greater convenience in handling from the absence of horns. But the color is objectionable to many. They are not so grand looking beasts, and they do not so completely captivate the fancy.

The Hereford is claimed especially to excel as a grazing animal; and it is doubtless superior in this respect to the Short-horn, except under very favorable conditions to the latter. But I can see no reason why it should be better than the Angus. The latter is equally hardy, it produces beef equal in quality, and will make it as cheaply, pound for pound. As between the two breeds it is largely a matter of personal preference, taste, or prejudice, as you may choose to call it. But with me the hornless trait of the Angus would outweigh even greater merits than Hereford breeders claim. This trait, however, is of more importance in the close quarters to which our cattle are confined in Ohio, than on the boundless prairies of the West.

For a cold climate and a thin soil, where feed is not always abundant, and the stock must be much exposed, the Galloway claims the preference. They are, perhaps, not quite so large as the Angus, and are somewhat slower in attaining maturity. But they make beef of the best quality, and they will thrive where some other breeds would starve.

In England a still rougher breed—the West Highlander—is a great favorite with the butcher. They are small and of slow growth, a lot of yearlings, at a short distance, more resembling goats than cattle. But when fully matured and properly fattened they top the market in price, their meat commanding one or two cents a pound more
than any other breed. They do not thrive, however, in any but a cold climate; and even in a Scotch winter, I am told, they cannot endure confinement in a stable. They have never been imported to any extent into this country, and it is doubtful if they would be profitable here, except in limited areas in the roughest parts of the Northwest. For all ordinary locations, even in the coldest parts of this country, the Galloway is sufficiently robust, and would be much more profitable.

For Texas, and the extreme South generally, as also for the thin and rough lands of the Middle States, the Devon, I believe, has no competitor in beef production. Indeed, unless the Angus shows a greater range of adaptation than seems at all likely, the Devon is the only one of the improved beef breeds which thrives in a semi-tropical climate. In Texas the Short Horn is useless and the Hereford not much better, while the Devon is as much at home as in the Middle States.

The only valid objection to Devons for the production of beef, aside from their formidable horns, is that, like the Short horns, they may milk too well. The serious loss and inconvenience this imposes will scarcely be realized without some thought. But conceive yourself in charge of a hundred cows and heifers coming fresh that had never been handled, and you may imagine what trouble good milking qualities would impose. Trust the calf to do the milking and you would probable have a ruined udder and possibly, for breeding purposes, a ruined cow. In selecting Short-horns and Devons, therefore, to build up a herd of beef producers, where the calves must do the milking, avoid as you would some hereditary disease, large milking qualities.

If butter is your sole abject, and you are prepared to give close personal attention, and the best possible care to your herd, the Jersey probably is what you want. But if you decide on Jerseys, keep them for what they are—butter cows—and do not fool away your time and money trying to grow beef. If a few steers are necessary, or would be profitable, better far sell your Jersey calves, or give them away if necessary, and buy something that will feed satisfactorily. A Jersey steer is a delusion and a snare, not on account of their small size—that is not necessarily an objection—a sheep may be more profitable to feed than a steer—but on account of the total lack of beef qualities. A Jersey cow is esteemed for the slight development of her muscular system; but a highly developed muscular system is essential to a good beef animal. A Jersey, when fat, is simply fat, and skin, and bones. There is no rich, juicy lean meat.

The objections to the breed, aside from beef, are lack of hardiness, and lack of docility, especially in the bulls. The breed seems especially liable to abortion, milk fever, and other troubles incident to calving. (I never had a case of abortion in my herd, until I introduced Jersey blood; and I have never had a case since I got rid of it. This may be a coincidence, but I do not think it is.) The Jersey is of a highbred and delicate organization. The cows are very fawn-like and pretty, but they are in fact very ill-tempered with each other, and when closely confined, it is not surprising that accidents should occur.

If milk production is the specialty either for sale in the city or to the factory, the Holstein and the Ayrshire claim attention. Neither breed has any great merit from an aesthetic standpoint, but both are large producers of milk of medium quality, and where milk is sold by weight or measure, the lower the grade, provided it passes inspection, the more profit in its production. You cannot make something out of nothing. The richer the milk the more food is required to produce it. If the patrons generally supply milk to the factory which grades No. 2. You cannot well compete with them and furnish at the same price, milk which grades No. 1. The Holstein is not an attractive cow. Indeed, I think she is excessively ugly; and judging from her form and make up, she must be an enormous feeder and a hard keeper; but that she gives much milk, and keeps up the flow well through the year, is beyond question. She is a specialist; but in her specialty she certainly excels.

The Ayrshire is much smaller in size, and much better adapted to thin or rough land than the Holstein; but, like the latter, is a large producer of a medium grade of milk—milk which is better adapted for cheese than butter. She is insignificant in appearance; of no decided or distinguishing color, and has
the least indication of high breeding of any British cow. Indeed, if a dozen well-bred Ayrshire cows were put in a lot with an equal number of common scrubs, it would require a trained eye to pick out the Ayrshires, except from the indications of superior milking qualities. But her insignificant appearance is the worst part of her. As a matter of fact the Ayrshire is an excellent milk cow, and will probably give as good returns, in proportion to feed, as any breed in existence. She is particularly adapted to rough or thin lands, where the production of milk for making cheese, or table use is a specialty. To return to the general purpose cow: to be profitable she must combine good dairy qualities, with a good form for beef, and capacity to lay on flesh of high quality, these are essential. The desirable traits, if they can be added, or combined with these, are good looks, hardiness, docility, and, as a personal preference, the absence of horns.

No man, it seems to me, can take much pleasure in breeding an animal which does not satisfy the taste, or appeal to our pride; an animal must be beautiful, or must do something wonderful, to excite enthusiasm, and without enthusiasm, there is no pleasure in breeding. As it is not expected that the general purpose cow will do anything wonderful—anything to eclipse the specialists in the way of milk, butter, or beef production—it is important that she should be herself attractive, in order to secure proper attention.

The importance of hardiness in our domestic animals—ability to withstand the ordinary vicissitudes of life and resist disease—will not be questioned; but docility is not so often thought of as a factor in breeding. Yet docility, if we consider the extra labor and annoyance its absence imposes, is a very important quality, and it is one which may become as thoroughly inbred as form or color. A vicious temper, or a wild, untrammeled spirit is a serious objection to a cow, and it requires generations of careful handling and kind usage to completely overcome it. It can be done; but it is better, where it is possible, to breed from stock which does not require it.

The breeds which claim special attention as general purpose animals are the Short-horns, Devons, Holsteins and Red Polls, or Polled-Norfolks. Short-horn breeders claim to have the great general purpose cow; and, in some respects, the claim is well founded. In my own opinion, when properly fitted for the show-ring, Short-horns are the grandest cattle in existence; and, originally, there is no doubt they were fine dairy cattle also. Indeed, they are in England to-day the leading dairy breed, and probably have no superior in the quantity and quality of yield, in proportion to food consumed. But in this country they have not been bred and cared for, generally, with a view to preserve their milking qualities. In fact, the effort has been, apparently, to breed out this trait. Almost universally the calf is allowed to suck the cow, and the latter dried as soon as the calf is old enough to wean. This, if persisted in, will ruin any breed of milkers; and it has very nearly ruined the Short-horns. While milking too well to grade as beef cattle, pure and simple—that is, too well to trust the calf to do the milking—they do not milk well enough, or rather, they do not milk continuously enough, to be profitable for the dairy.

During a recent visit to England, however, I attended the London Dairy Show, and I saw some Short-horns that would rank as dairy cattle, and, so far as appearances can determine, they were dairy cattle of a high order. They were very large, of the characteristic Short-horn form, and carried an immense amount of flesh—much more than I should have thought safe, or, indeed, profitable, in a cow giving much milk. They were all recently fresh, or about due to calve, so that they showed to the best advantage. But, if they possessed fairly good staying qualities, they were certainly fine dairy cattle; and, I think, under favorable conditions for their proper development, with their evident capacity to lay on flesh, they were the best general purpose cattle I ever saw.

The original tendency of the Short-horns to milk well quickly revives when crossed with a good dairy breed. For this purpose, therefore, or for grading up good milking natives, Short-horns are entitled to rank as a general purpose breed, and, with suitable surroundings, they rank high. The objections to them are, that they require rich pasture, where they can fill themselves without much effort, and comfortable quarters in winter. But, where
all the conditions are favorable, a Short-horn cow will prove satisfactory, and will yield as good returns for the food consumed as any.

The Devons, originally, were more noted for the production of work oxen, and beef of high quality, than for milk, but of late, since working oxen are little used, more attention has been paid to the milking qualities; and many Devon cows have made creditable records as dairy animals. The habit of breeders, of showing at the fairs, almost exclusively, either dry cows, or heifers not yet in milk, does not speak well for their own estimate of the dairy qualities; but there are, I know, many Devon cows that milk exceedingly well; and it would not be at all difficult to collect a herd which would compare favorably with any breed in profit at the dairy. They do not milk so largely as some others; neither do they eat so much. Indeed, in my judgment, the Devon is, or could easily be made, almost the ideal farm cow, if it were not for her formidable horns. They have, otherwise, almost every desirable quality. They are handsome; they are hardy; they are high spirited, and sometimes wild, but seldom vicious; they are very easily kept in good flesh, and make beef of high grade; and they are, or could easily be made very good milkers in proportion to the food consumed. But their horns ruin all. They are sharp, strong, and have just the proper curve to rip open an adversary. No man is a safe companion who habitually carries a loaded revolver, and I would not trust any cow in my barnyard with a pair of Devon horns on her.

The Holstein is claimed as a general purpose animal; but the claim is based, I think, altogether, on her size and milking qualities. As a beef animal she possesses almost every undesirable trait. She is long in the leg, big boned, loose jointed, coarse haired, and a hard handler. If she is not a big eater and a coarse fleshed animal she belies every indication in her make up.

Of the Red Polls, or Polled Norfolks, I speak with some diffidence, as it is the breed I have selected for myself, and any praise I bestow may be thought interested. But I have none for sale; so I should be acquitted. I think, if I speak favorably, of trying to bull the market. And favorably I must speak if I speak at all. Indeed, this is I think, for many situations, the most desirable farm cow. She has almost every good quality, except size; and that may be attained, by those who prefer a very large animal, without going outside the breed, but at some sacrifice of what I consider much more important—form and quality. There was recently imported a registered bull of the breed weighing twenty-seven hundred pounds. Another, from the same herd in England, had a recorded live weight of over three thousand pounds. If this is not large enough I would suggest an importation of Elephants.

It is too large for me, and it is too large, I think, for the average farmer to breed with profit. But it is much above the average of the breed. A live weight of two thousand pounds would be considered a large Red Polled bull, and sixteen hundred would be a large cow. The average is perhaps two or three hundred less.

As milkers the cows do very well, as well, I think, in proportion to feed, as any I know. Few records have been kept as yet in this country. Gen. Ross, of Iowa, reports a cow giving eight gallons a day and a higher, twenty-six months old, thirty-eight pounds a day. Mr. Jamison, of Kentucky, reports a higher, twenty-six months old, as giving thirty-seven pounds a day on grass alone. In England, cows of the breed have given ten gallons in twenty-four hours, and five gallons a day, I am informed is not an uncommon yield several months after calving. Their great merit as milkers, however, is in their great staying quality.

I have a two-year old heifer, officially tested at the West Virginia State Fair last fall, seven months after calving, and nearly six months in calf. She gave a little over twenty pounds of milk a day, which tested fourteen per cent. cream. This, after she had been for several weeks on exhibition at different fairs without a bite of succulent food of any sort, and a long railroad ride from Columbus, Ohio, a few days before. The Red Polls have not yet been tested in this country for beef, but in England it is claimed they are equal to Devons, while the size is somewhat larger, and they mature, I think a little sooner. Indeed, in all the desirable qualities of a general farm cow they rank high. They are hardy, docile, easily kept, and last but not least, they are hornless.