

about as poor as the poorest family in our country today and I know from actual experience that poverty does not make it necessary to breed scrubs. The necessity is only in the owner's mind. I know it—for I have been through the mill. We are all changeable, the small farmer and the large breeder as well. Tenacity of purpose is what we lack. The small farmer cannot stick to one breed and the large breeder cannot stick to a single sire until he has made a success with him.

This brings us to the important point in breeding. Make your selection of the breed you wish to develop and do not cross breed. If a breeder cannot cross families within a breed without danger, how can a farmer expect to cross two distinct breeds without absolute disaster? Do not inbreed but keep, to one breed and work along family lines. If you wish to develop some character in your herd which you do not have, do not attempt to introduce it by cross breeding. Keep within your breed and select a mating having some of the qualifications desired. If the same foundation blood lines with their proper "nicks" are found in your foundation herd and the outcrosses introduced, you are quite likely to find that the progeny of this combination will be superior to either of the parent stock.

This is constructive breeding and it may be carried on in building a profitable grade herd as well as with high class pure bred stock. In every successful herd building operation there are certain "nicks" which, blended with a base blood line, give results. There seems to be no other method of determining these affinities than by experiment and through careful selection of producing combinations which carry the base or foundation family lines. By way of illustration take the production of speed in the American trotting horse. It was found that a Wilkes horse crossed on a Mambrino Patchen or Nutwood mare gave speed; other lines nicked as well but this illustration serves our purpose. There are nicks in every line of animal breeding if we are but keen enough to find them. For convenience, if you like, you can call them "positive and negative crosses." The results seem to be like a current of electricity when you get the proper combination. I believe one very good reason why world's record stock does not always produce world's champions is because the nicks in the champion's blood lines are so perfectly balanced to obtain these high results that the next cross throws out the affinity and unless we can find an equally well bred and balanced pedigree in the animal mated, and of practically the same blood lines,

coming down through not too closely related stock, we can not look for as high results in the progeny as we obtain in the immediate ancestors.

This is not addressed to expert livestock breeders, but to the farmers who are breeding good producing commercial herds and you can use the same principles.

To sum up the whole matter, let us choose our breed and stick to it. If improvement is needed, introduce it from superior animals of the same breed and from closely related families. Do not cross breed except to get a start and then keep building on the same foundation.—Geo. P. Grout, Owner of one of the foremost Guernsey herds in United States.

RAISING A MOTHERLESS FOAL

Q.—Can you tell me how to feed a foal that I have found it absolutely necessary to take off its mother as the latter is not well and her milk put the foal's digestion out of order?—Alberta Subscriber.

A.—The late Jas. Johnson, who had probably had as much experience as any man in this work, and who was a most capable horseman, gives this advice: In raising a very young orphan foal, get the milk of as fresh a cow as possible and the poorer in butter fat, the better. Most mares' milk will show not quite three per cent. fat; most cows,

not quite four. Do not use Jersey milk for this purpose. Take a desert spoonful of the best white granulated sugar and add enough warm water to dissolve it, then heat three tablespoonfuls of lime water and enough new milk to make a pint. A costless apparatus for feeding the foal can be contrived from an old teapot. Scald it out thoroughly and, over the spout, tie securely the thumb of an old kid glove, pierce holes in the end of the glove with a darning needle. Warm the milk to blood-heat, pouring part of it into the teapot, and when it flows through the spout into the glove thumb the foal will suck it promptly. Give him half a teaspoonful every hour at first. If troubled with scours, give it a dose of two ounces



On the care given the foal during the first year will largely depend its future as a horse

of Castor Oil and discontinue the milk for a couple of feeds, giving the sugar and lime water as before, but substituting plain water for the milk, or feed nothing at all. There is danger of more or less scouring but the Castor Oil will usually keep the foal all right. As the foal grows older, the quantity of milk fed may be increased and the number of feeds decreased first six times a day, then four times a day. If he does well, he may at the end of three weeks be fed milk or lime water, or milk alone from a bucket, eliminating the sugar, but he should never be given all the milk he will drink the day after. Always have fresh water handy so he may drink if he is thirsty. Always watch for signs of indigestion indicated by scouring, and cut down the quantity of milk for a day or so. At a month old he should begin to nibble at grain, and oatmeal is the first food. At six weeks old a little bran may be added to this. At two months old some sweet sugared milk may be substituted for part of the new milk, until when he is three months old he may have all the sweet sugared milk he wants three times a day. He should be eating plenty of grain and grass by that time and if he wants hay he should have it. Never feed sour milk or sweet milk from dirty pails. Keep him near the house and give him some company even if it is only a runty calf. Give him lots of petting and kindness. Do not confine him too closely to his stall, but let him have lots of run and exercise. The rearing of a motherless foal is mostly up to the man, or woman who undertakes the job.

SUGGESTIONS FOR A YOUNG BREEDER

Believing that these suggestions regarding Shorthorn cattle breeding may be of some assistance to other young men, either now, or hoping to later enter upon this fascinating and profitable vocation, I will set down some thoughts and ideas that have been in my mind.

Some few years ago I owned a small herd of pure-bred Shorthorns and took great pride in them. But, later, feeling that it would be better for me to dispose of them, I did so, yet I have never lost my interest in Shorthorn cattle. It is my fondest hope to again some time establish another herd on a large farm, and to be able to have it said that mine is one of the leading herds of America. The details of planning that farm and herd are of personal interest only.

My father, in his latter days, kept a



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