

bear, nor yet to let too much manure accumulate, but try and strike the happy medium. Keeping the floor bare wastes the urine; letting too much accumulate causes fermentation, makes the air bad, and wastes manure.

7.—If possible, let them have free access to water, and everybody can easily make it possible to have salt for them to take when they need it. A ewe will take between one and two ounces per week all winter. Also, as a start into winter quarters, I know of nothing that is more cheap and healthy than a run on rape for a month or so; ours get it every day yet.
JAS. BOWMAN.
Wellington Co., Ont.

Testimony from Wisconsin.

To the Editor FARMER'S ADVOCATE:

SIR.—In answer to your questions, I will give such information as my experience of 30 years with the flock dictates.

1. I consider it very essential to the health and proper thrift of the lambs to winter them separate from the older sheep. They should be more liberally fed than breeding ewes that go into winter quarters in proper condition.

2. I only confine sheep to sheds when damp storms are falling. I like large yards where breeding ewes can have exercise and fresh air.

3. Clover, hay, corn, fodder, oat straw. (a) I grow but few peas. (b) At least once daily. (c) Feed all in racks, uncut.

4. I feed roots quite freely to young sheep, but more sparingly to breeding ewes. Silage is good in limited quantity.

5. I find a moderate grain ration good for growing lambs, $\frac{1}{2}$ to 1 lb. daily; $\frac{1}{2}$ to $\frac{3}{4}$ lb. to each breeding ewe gives me stronger lambs and better milkers after lambing.

6. Pens should be cleaned out at least every six to eight weeks, to prevent heating and preserve good health of the flock.

7. The best results come where my sheep have free access to water. If this cannot be secured, water twice daily.

Breeding flocks should improve slowly from time of service until the lambs are dropped, but care not to feed heavy two weeks before lambing and two weeks after will save much trouble. Exercise breeding ewes must have to do well in a lamb crop. Danger from too much corn is one thing to avoid in a corn country. A balanced ration to keep the system in a healthy, laxative condition gives good results.
GEO. MCKERRROW.
Madison, Wis., Dec. 29th.

[NOTE.—Additional correspondence embodying the experience of practical sheep-raisers, replying to the above enquiries, will be gladly published.—Ed.]

The Management of Foals.

The first winter is the critical period in a colt's history. Too seldom do we see at this season the weanlings frolicking playfully as they did in the fall before being weaned. A great quantity of food is not all that the foal requires, but management is highly necessary if the youngster is to pay for raising. If the foal is well cared for during the first winter, the expense of the following three years need be comparatively light to make him a good horse; but if he be neglected, and consequently half-starved during his first winter, he will be more expensive to keep in succeeding winters, and will miss the mark altogether of being a really good horse.

A foal always does better with one or more companion foals. Bran, oats, roots, hay, and water, and dry, clean bedding in comfortable, roomy quarters are also conducive to his best thriving. Small feeds regularly given three or four times a day will give better results than lavish feeding, when some of the last feed will require to be taken from the manger. A daily run in a roomy yard, having a smooth surface free from ice, will do much to develop muscle and promote vigor. Underfed or neglect the foal and you ruin both horse and pocket. Be liberal to the foal, and when he is a yearling and a two-year-old he will be strong enough to look after himself and live cheaply and well with ordinary management. It is infinitely better to raise no horse at all than a mediocre animal, for which only a pittance can be obtained when he is old enough to sell.

Breaking the Colt.

We believe that seven out of ten colts bred on farms are broken to harness during the winter, as that time affords more leisure and the sleigh is perhaps the best to hitch to for the first few times. Some colts require very little training to accustom them to going in harness, but in order to handle a high-spirited, wild colt successfully the driver must possess four qualifications in a high degree: kindness, patience, firmness, and perseverance. He must remember that the colt is a dumb brute, without the faculty of reasoning, but is governed by instinct. No colt, however gentle, should be hitched to anything until there has been some preliminary training. Haltering, bridling, checking, harnessing, and handling should all have been done a number of times before he is attempted to be hitched to a vehicle. It is well to teach the colt to drive beside some old trusty horse before being hitched up. One man should not attempt this work alone, as unforeseen troubles are likely to arise during the first few lessons. The right side is the

proper one on which to hitch the colt. A level-headed assistant can usually prevent any tangling up or wild leaping by the use of a "side line," which is simply a plow line fastened to the inside ring of the bit, then passed under the jaw and through the ring of the right side. It is not necessary to even tighten the line except the colt attempt to go beyond his place or become unmanageable without it. It is needless to say that strong and comfortably fitting harness in every portion is important.

Before hitching, the wagon or sled should be run out where there is plenty of room so that there need be no turning at first. There is no better place than a sod field for the first few lessons to the sleigh. The team should be coupled by the lines and driven about with the neckyoke on for a little time before the traces are attached. Always hitch the old horse first and when all is ready for a start attach the colt's traces and be off without further waiting. Have a good, strong, calm-headed man in the sleigh to handle the lines, but the best horseman should lead the colt at first. Keep perfectly cool whatever happens, and never under any circumstances lose your temper, but ever remember that the colt cannot be expected to understand what is demanded of him until he is taught. Many people expect more from a colt than they would look for in a human foreigner who has to learn new ways. Nearly every spirited colt does something alarming before he is thoroughly broken. A colt that goes off like an old horse is not likely to ever make a record-breaker. Ambition and courage are both commendable qualities and often show themselves in the colt by his attempts to run, rear, lunge, and even kick at first. Cool-headed firmness, with kindness and patience, will make him a tractable, willing servant of which his owner will be proud. After having gotten the colt to go along in a horsey manner, the lessons in labor should be given gradually. If driving on the road is to be his occupation, he should never at first be driven until much fatigued, and it is also better to go round a block, coming home some other way than that upon which he left home. If the colt is to be a farm work horse, such light jobs as hauling manure, wood, and the like will readily prepare him for his bread-earning.

Cure for a Balking Horse.

While in nine cases out of ten a balking horse is made so by his breaker, yet not infrequently a bad specimen finds its way into the hands of a good horseman who is not to blame for the evil habit. He may draw like a hero through all sorts of bad roads, and on some occasion, with a light load on a good road in some public place where an exhibition of his obstinacy would be most exasperating to his driver, he stops, throws his head over his mate's neck and stands there. Just what is best to do upon such an occasion is not easily determined, except the driver has knowledge of a remedy more than ordinarily effective. At such a time advice is freely offered and seldom effective. A writer in the *Kentucky Stock Farm* records a line of treatment for which much is claimed. It is this: "To a short piece of stick tie a piece of stout packing twine; tie the free end around the animal's neck, and then begin to wind the twine around his ear. Draw the string fairly tight for several winds, then push the stick inside the brow band of the bridle, when the offender will wriggle his ear vigorously, shake his head impatiently, and very soon begin to walk away with his load as though he had entirely forgotten that he had balked. The theory of the cure is that a horse can think of only one thing at a time, and the string on his ear takes his whole attention away from his balk."

Cow Culture.

"Cow Culture," as the last quarterly report of the Kansas State Board of Agriculture is entitled, contains over 250 pages of carefully selected matter pertaining to the dairy cow. It is edited by Secretary F. D. Coburn, to whom we are indebted for our copy. It is made up largely of addresses and extracts from addresses by leading American dairymen, and articles clipped from dairy and agricultural and live stock journals. Also included are the replies given by many of the most prominent dairymen of the United States, and Prof. Dean, of Guelph, Ont., to a series of questions submitted by the author. The answers to the two following questions will be of interest to all our readers:—

Given a section of country such as Kansas, with abundance of forage and grains, where the cows are mainly of Shorthorn blood on a "common" or "scrub" foundation, reared primarily for beef rather than milk production, what breeds or types of sires would you advise using with a view to better or cheese dairying without wholly or largely ignoring or abandoning beef production?

Ex-Gov. Hoard, of Wisconsin.—Holsteins and Guernseys. It may be well to say in this connection that dairying with beef-bred cattle is not a success anywhere else, and I do not see how it can be in Kansas.

Professor Haecker, of Minnesota.—I would advise using Shorthorns of a medium beef type, for in this breed we find a larger percentage of cows that will give a good flow of milk for a period of five or six months, and at the same time produce steers with good feeding qualities, than in any other beef breed.

Professor Wallace, of Iowa.—Our first preference would be Shorthorns bred on milking lines, or, if

these cannot be had, Shorthorns that have been milked for dairy purposes for two or three generations; where these could not be obtained we would use Red Polls or Swisses.

Professor Wilson, of Iowa.—Selected Shorthorns, Red Polls or Holsteins.

Professor Dean, of Guelph, Ont.—Ayrshire sires of good size, yet having the dairy form, would probably give best results. If milking strains of Shorthorn sires could be secured they also would prove equally valuable, or even more valuable than the Ayrshire. In Canada it is difficult to get milking Shorthorns.

Supt. Gregg, of Minnesota.—In case cows have been bred mainly for beef stock of any breed, I would consider it to be a very slow process to obtain stock from them by any sires from any dairy breed that would be good for dairy purposes. I would much prefer to select from the native stock those cows that show the best dairy qualities, and use them as foundation stock for the future dairy cattle of that section. I think it would be wise to use such beef cows as a basis for beef breeding exclusively, and lose sight altogether in those cows of a milk product, except so far as it might be used for the rearing of their young. Our State has demonstrated by its tests at the Experiment Station that the type of cattle is a great factor to be considered in economical dairy production.

Professor Wing, of New York.—Select such grade Shorthorn cows as show a tendency to increased milk production upon more generous fare and breed them to a Shorthorn bull whose immediate female ancestors have been known to be excellent milkers. Select the heifers from such breeding along the lines of, first, milk production; second, size; third, form; or use a well-selected Guernsey or Holstein-Friesian bull upon the same class of cows and with the same principles of selection.

C. P. Goodrich, of Wisconsin.—Under the conditions named, Shorthorn sires of the best milking families of that breed possible to obtain would no doubt give better satisfaction than any other, although with such sires the highest excellence could not be attained in either line.

Henry E. Alvord, of Washington.—Holstein-Friesians and Guernseys, or well-selected types of the old-fashioned milking strains of Shorthorns.

H. B. Gurler, of Illinois.—I would select a bull from the best milking strains of Shorthorns—something like the English dairy Shorthorns.

John Gould, of Ohio.—Jerseys and Ayrshires.

Professor Curtiss, of Iowa.—Milking families of Shorthorns, Red Polls, Devons or Ayrshires.

J. E. Dodge, of Wisconsin.—Milking Shorthorns.

F. E. Dawley, of New York.—One of the larger, strong, vigorous families of Jerseys, paying particular attention to the individuality of the animals selected, and securing those which give a fair quantity of rich milk. My second choice would be Guernseys or butter-producing families of Holsteins.

John Mathieson, of Minnesota.—I use the Jersey sire on such stock in my own herd with very satisfactory results. I do not see how dairying and beef-raising can be profitably combined in the same cow.

H. C. Adams, of Wisconsin.—There is no general purpose cow better than one from a milking strain of Shorthorns, but these are not easy to find. Red Polls are good.

W. K. Boardman, of Iowa.—I would advise using the dairy type of Shorthorns or Red Polls, selected from families having good records for the production of rich milk.

H. M. Brandt, of Kansas.—Generally speaking, I would say cross with Holsteins after the Shorthorns are fairly graded.

George Morgan, of Kansas.—My first choice would be Red Polls; second, Shorthorns of the milking strains.

J. E. Nissley, of Kansas.—Shorthorns.

A. E. Jones, of Kansas.—For butter or cheese making the Jersey sire would be preferable; for beef, the Shorthorn sire. The dairy and beef types are separate and distinct. If beef is to be one requisite the dairy type of the Shorthorn comes nearest to filling the bill.

A. G. Eyth, of Kansas.—Would advise a Jersey, thereby improving quality and flow of milk, still retaining some of the size.

For dairying alone in such a section, without special regard to beef or final disposition of the cows, what breeds or grades and what sires would you give preference?

Hoard.—Jerseys, Holsteins, and Guernseys.

Haecker.—Jerseys, for the reason that they will produce more butter on an average and at less cost than any other breed.

Wallace.—Jerseys, Holsteins, and Red Polls.

Wilson.—Jerseys or their grades.

Dean.—For butter alone, Jerseys or Guernseys; for milk alone, having regard to quality chiefly, the Holsteins; for cheese alone, the Ayrshires.

Gregg.—I consider that the available stock of today for the average farmer is the Jersey, not that they are the only good dairy cattle, or that they are so superior, if at all, to other good dairy breeds, but they are in sufficient abundance so that we can select a good quality from them at a very reasonable price. I have seen equally good quality among the Holstein, Ayrshire, and Guernsey breeds, but it is much more difficult to obtain in the case of the average farmer. We must select our needed dairy quality from any and all dairy breeds.

Wing.—Jerseys, Guernseys, Holstein-Friesians, the selection of the particular breed depending in each case very much upon local conditions.