

to thrive on ordinary feed. Care should be taken never to let it lose its calf flesh, as much time, feed and care are necessary to get it into good shape again, and it will never make as good an animal as it would had proper attention been given during this period. FARMER'S SON.
Huron Co., Ont.

Dying for an Appropriation.

To the Editor "Farmer's Advocate":

Sir,—Have read carefully the few letters published in the "Advocate" condemning the Live-stock Commission and the live-stock associations for the course taken at the meetings called to consider the advisability of making an exhibit at St. Louis. Now, I think, outside of a very few who are so anxious to die for their country at St. Louis (if they get paid for it), the great bulk of the people were very much pleased with the course adopted by the associations. In fact, it was the only course self-respecting men could take. This continuous grovelling to our American cousins invites, and deservedly so, the contemptuous treatment often received from them. Now, there is a good deal of nonsense in this talk of a national exhibit from these men who want to show at St. Louis, and want their expenses paid. I have before me a report of the Columbian Exhibition in the old Live-stock Journal. It gives the names of the sheep exhibitors, names of sheep that won, and names of their breeders, and I find that in the class in which I am most interested, the Oxfords, in the regular classes there were 42 prizes, 41 of which were won by English sheep, and one by an American-bred. There were two pens shown which had to be bred by exhibitor, so, of course, they had to be home-bred, and I also find that the bulk of the winners of other breeds were also imported. Now, I fail to see where the great glory or any particular benefit accrues to Canada from the prizes won by sheep there, and from the number of sheep about to be imported, there is no doubt the St. Louis exhibit will be a repetition of the Columbian.

The parties who derive the benefit will be, first, the English breeder; then, if this stock is good for breeding purposes, the American breeders who buy them, and the few speculators who import, show, and sell them. There will be very little of this stock distributed amongst Canadian breeders; it is the American market these exhibitors are after, so really any grant made for this purpose will be to, and in the improvement of, American herds and flocks. Besides this, the prizes are very large—it is possible to win between \$200 and \$300 on one sheep, besides the association prizes, which are large also—and these gentlemen will no doubt win all of them, for I see by their advertisements they have the champion flocks of America. Now, sir, I think it is a little too thin to want the Canadian taxpayer to tax himself for something from which he receives no benefit. Now, one word for Mr. Hodson. I think the most of us feel we have the right man in the right place, capable, thoroughly in earnest in his desire to help the live-stock industry of Canada; a man in whom we have all confidence, and I think there is very little sympathy with those parties who are trying to raise a kick at our commissioner. ROBERT J. HINE.
Elgin Co., Ont.

The Brains of a Collie.

"T. B. M.," in the "Farmer's Advocate" for March 17th, advanced the argument that the head of the collie dog has been so changed that he has not now, according to bench show requirements (because of the shape of the skull), any brains. So long as a dog has abundance of brain room, that should be sufficient. "T. B. M." wants a "projecting" forehead, one with the "stop" of the setter or St. Bernard. Would he say that a collie with the head formation he desires would certainly turn out a worker? Hardly! He would not want the inexpression of the setter, nor the stolid, complacent look of the St. Bernard. A collie must have his wits about him to be a high-class worker, and the expression of the best individuals now shown give indication of his still possessing them. Besides, collies never had very prominent foreheads, the farmers' dog (always called a collie) sometimes more prominent than the clean-cut ideal of the fancier. The collie of twenty years ago had a medium length of muzzle, and a rather broad, deep and fleshy skull, covered with a comparatively long coat of hair, rendering it in appearance bulkier than it actually was. The collie shown to-day has a long muzzle, set on a skull as long as it is possible to get it, and with the least amount of flesh on it obtainable. The lower jaw too has been fined down, giving less cheek, and also less thickness. With the much greater length of skull, there must be additional space for brains, and this would indicate that the prize-winning dogs of to-day have brains in weight as large as those of years gone by.

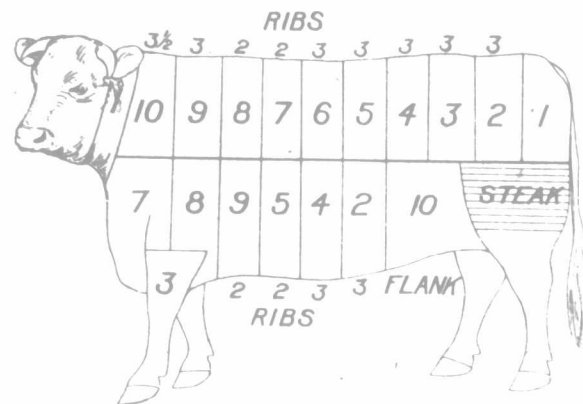
"T. B. M." gives his experience (one instance) of the working quality of a fancy-bred collie. Has he not heard of sheep-dog (collie) trials in Scotland, North of England and Wales, where fashionably-bred dogs successfully compete? Yet all collies are not good workers, no more than are all horses, or even men, as "T. B. M." possibly has realized. He will find families of nervous and shy

dispositions, that never develop satisfactorily, but with individuals of character and courage better results are obtained. When he bought his prize-winning collie, "T. B. M." evidently expected that the prize won was a guarantee of his working ability, about which possibly he took no precaution to enquire. If he were buying a trotter would he not wish to know about his record as well as show winnings? It may be admitted with reason, that collies raised for generations in confined kennels lose instinctive character and intelligence, but most prominent prizewinners are reared on farms, where, if they are not always trained to work, their associations are for their best development, physically and mentally. OBSERVER.

FARM.

Beef-ring Chart for Twenty Members.

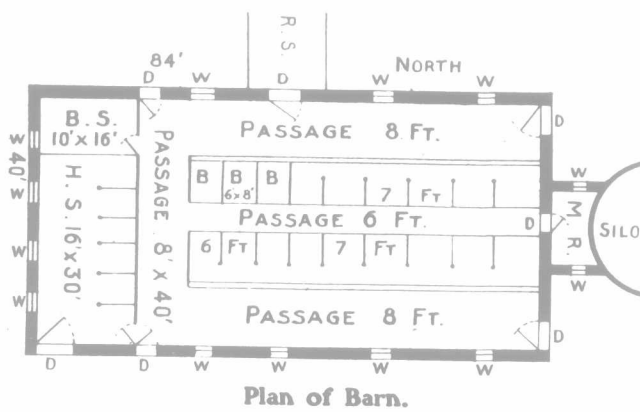
In a late issue of the "Advocate" J. W. A. was wanting a chart for a beef-ring for 20 members, so that each one receive a boil, roast and steak. I enclose a chart, which I have been using for seven years, and which has given good satisfaction. I think it is the easiest chart to cut by of any I have seen. It will work for 20 or 21 members. CHRIS. GROSE.
Simcoe Co., Ont.



The Value of Alfalfa Pasture.

The Kansas Experiment Station has been conducting an experiment during the last year for the purpose of determining the value of an acre of land as pasture for swine that are fed a grain ration, consisting of half shorts, one-fourth corn meal, and one-fourth Kaffir meal. Thirty shoats, averaging fifty-two pounds in weight, were divided as nearly equally as possible into three lots of ten each. All the lots were fed the same grain ration, but one lot received rape pasture, one lot alfalfa pasture, and the third was fed in a dry lot. The grains eaten were very nearly equal. Where no pasture, however, was used, it required 371 pounds of grain to make 100 pounds of gain; with rape pasture, 301 pounds; and with alfalfa pasture, 300 pounds.

The station, based on this experiment, credits the grain with 877 pounds of pork, and the rape with 199 pounds. At six cents per pound, the price at which hogs were selling at the close of the experiment, this makes the value of an acre of



Plan of Barn.
As used by W. H. Caverhill, Middlesex Co.

rape \$11.90. In a similar manner the alfalfa is credited with 201 pounds of pork, equal to \$12.05, and as there was only a half acre of alfalfa used, the value of the alfalfa was \$24.10 per acre.

The cost of preparing the seed-bed and seeding the rape was \$1.80 per acre. The Station says:

"The experiment emphasizes the superior value of alfalfa pasture. Where alfalfa is not available, or where variety is wanted, or it is desired to utilize otherwise waste land, Dwarf Essex rape, seeded at the rate of 6 to 8 pounds per acre, any time from early spring to late summer, will furnish an excellent diet that is greatly relished by the hog. Succulence and variety will make healthier hogs that will return increased profits."

Water and Tillage in Sugar-beet Culture.

By Mr. H. W. Wiley, Chief Chemist, U. S. Department of Agriculture.

The agriculture which relates to sugar beets is necessarily agriculture of a high grade, because low grade agriculture will not prove profitable in beet culture. The beet is largely a garden plant, and it was for some time after its cultivation began altogether so. Then it developed into a forage plant for cattle, and then, finally, for the production of beet sugar, by the improvement in its quality, which was begun, first of all, by Vil-morin, who was the father of the improvement of the beet, and afterward carried to even greater success in Germany. By selection, by cultivation, and by care, we have developed the beet from a plant containing from four or five or six per cent. of sugar to a plant containing thirteen or fourteen or fifteen per cent. of sugar. Now, there must not only be sugar in the beet, but there must be enough beets to make the amount of sugar grown per acre a profitable amount. The census report shows that considerably less than ten tons per acre was the average yield in the United States during the census year, or the year just previous to the census, and, in fact, it was, in some cases, as low as seven tons. It is difficult to see how agriculture of that kind could prove profitable with such a yield, unless land was very cheap and labor very cheap. But successful industry, especially successful beet industry, tends always to raise the price of agricultural land, so that lands on which good crops of beets can be grown, say an average of ten or twelve or fourteen tons per acre, are lands which naturally command a high price in the market, because they produce a crop which will pay interest on a large fixed investment. It will, therefore, be necessary in this country to bring the average yield up to about twelve tons per acre at least. There is no reason, it seems to me, why we cannot look forward to a yield equal to the average German yield of fourteen tons of beets per acre. We all know that a great many beets have been grown where the yields have been very much larger than these I mention; but we must not take individual instances into consideration when we are speaking of an industry as a whole. We must consider only the average yield.

The question of growing a big crop of beets is simply a question of feeding the beets, and, therefore, it is a question of nutrition just as much as the growing of a steer for the market, or of a horse for the race track, or of a draft animal, or any other animal, is merely a matter of scientific nutrition and treatment. Of course, you must begin with an animal bred for that purpose just as you must begin with a beet bred for that purpose in order to produce sugar. Then you must feed that beet in order to produce the result desired.

The first great food for any growing plant is water. Those of you who live in irrigated regions perhaps have a more lively conception of the importance of that statement than those who live here. The first great need, then, of the beet is water. Hence you cannot grow beets without providing, in some way, for an adequate supply of water. Nature may supply this; but in non-irrigated regions nature's supplies are apt to be somewhat irregular, and, therefore, one of the first functions to be performed in the raising of beets is to prepare the soil in such a way that it will hold water in time of drouth, and let it off easily in time of flood. Water, therefore, which is the chief food of the beet, must be continuously supplied. In irrigated areas the supply is under control; but in non-irrigated areas it must be so manipulated that the land will be supplied in time of drouth and the water may be gotten rid of in time of flood, because in excess it becomes an injury. There should, however, be at all times a sufficient supply to maintain the growth of a plant during times of dry weather. We all know how the preparation of the soil tends to conserve the water supply in time of drouth, and the cultivation of the soil, especially surface cultivation, tends to retain the water which otherwise would escape into the air. We know that if we keep the capillary surface mulched, namely, the upper layer of the soil, which may be regarded as the mulch, and thus break the capillary continuity between the surface and the lower part, which is the seed-bed and home of the root of plants, we can prevent largely the evaporation of water. Hence, until the beets have grown to such an extent as to shade the land, frequent surface cultivation is absolutely necessary in times of dry weather. Previous to that, in the preparation of the seed-bed, there must be a deep loosening of the soil for two reasons: First, because the beet root must be allowed to go straight down. You can never get a profitable yield of beets if the taproot is turned aside by any obstruction, whether it be by a stone, or by hard-pan, or anything else. The soil must be prepared in such a way that the taproot can go straight down in order to get beets of a symmetrical shape, and hence the soil is necessarily loosened to a very much greater depth than is necessary in the cultivation of the cereals. For this reason, unless the soils are naturally