nded to them in time to gainst - dangerous atmos

e's Diary.

Klugh, M.A.

ted a piece of country near which illustrates very well eatment of land, and from see here we can draw some e of value in dealing with the country where similar

sent shore of Lake Huron, m it varying from one-half ge of sand-hills. This ridge less than half a mile to was at one time the shore ally speaking the sand-hills shore very recently, as the he sand belong to the same the lake to-day. The higher hills are old dunes which shore from the fine sand ction. After the lake-level hills became covered with with a fine mixed forest. eem strange that this poor should be able to support a er, but we must remember y tend to prevent evaporamoisture, the greatest need ply humus by the decay of

ion of the country in which it—a rolling country covered Maple, Beech, Paper Birch, ne Pine was the first to go, down, barked, and the logs fell. Then they started to when they burnt off the the fire to escape to the n some places the fire licked ked up the thin layer of soon as the soil was thus d out—the old dunes which bably thousands of years the sand shifting under the In some places where the a belt of hardwood forest the lake, grass was able to cleared land. But as hardaluable this belt of forest sult being as shown in fig. eld in which the wind has the sand. The sand from ns active dunes, which move roads and trees. In fig. 2 escending on a field, and the top of the dune is a as killed. The field upon ancing was in 1908 a good sandy it lies in a hollow to support a good growth ractically useless. e were lacking to show us

e sand-hills have only been he botanical evidence would e it, because there are none s-such as the Sand Reed, ea. Cackile. etc.—which are e dunes in regions where shed for some time. This s makes the problem of es all the harder, and the the advance of the dunes on of these plants. Such e to be done by means of seeds cannot germinate and ich is constantly shifting. we can draw from the iece of country are that in e fixed dunes as much of hould be kept permanently igher elevations should on for even if cleared they are very strictest precautions ard against the running of

od stand of red clover was y be profitable to handle ay as to obtain a crop of weather this year seems and vigorous after-growth. ants a farmer growing his tolerably good yield. course, to keep buckhorn ants out of the field as such cleaned out satisfactorily. ke will be cheap, but there esent that a diminution of seeds will occur. If local e the matter of producing one's own use is worthy aclimatization of crops to and farm is growing in

THE HORSE.

Color does not make a horse.

Teach the colt at home, not in the show-ring.

More oats and less whip should be the motto.

Visit the colts in the back pastures occasionally and handle them.

When the driver is having a cool drink of water the horse will often enjoy one as well.

If the brood mare and her foal can spend much of their time at pasture it will be better for both.

Horsemen and stockmen in general should exhibit at the fairs. It is good business for the

The noted stallion, Baron O' Buchlyvie, died slightly over one year ago, but as each fair recurs his name is brought up as a sire of winning Clydesdales.

Don't allow the work horses to exist only on pasture unless the grazing is good. In any case some grain is necessary. There is still some hard work to be done.

Frequent washings with soft water and soap will cause many horses to cease scratching their manes and tails. This habit detracts from the appearance of many good horses.

Make the Horse Show Strong.

During a period of slow sale horsemen are liable to hold back their animals from exhibitions. From the standpoint of the horse business, this is poor policy, both for the individual breeds and for the industry as a whole. A business man must show his wares before he can make sales, and it is just as necessary for horsemen throughout Canada to exhibit good horses of the various classes in order to keep the idea of breeding uppermost in the minds of people at large. The preponderance of any one breed is liable to influence prospective breeders in the direction of that class of animal. There are many good breeds in Canada, adapted for various requirements, and they should be well represented at county fairs and large exhibitions. horses will be brought from Europe this year, so exhibitors will know fairly well how keen competition will be. Canadian-bred classes are getting stronger all the time, and there have been instances in the West where the imported animals have taken second places to horses bred in this Steps are being taken to unite the two classes and make the awards larger and more numerous for one class, including both imported and Canadian-bred. This indicates that the Canadian horse industry is being built up on a sure and firm basis, but it is the duty of all those interested in this development to assist it as much as possible through the exhibition of their good animals. Increased prize-lists are general this year, so no exhibitor should suffer a serious

Training Young Horses.

It is a debatable question when young horses should be trained. Many leave them until they are three or four years old before teaching them the requirements of man. There are others who handle them from the first, and thus gradually impress upon them the ways of the educated horse and what is required. When young animals are to be shown at fairs it is nocessary that some preliminary lessons be given the colt. Some of the line-ups of young horses seen at the country fairs are ridiculous in their manoeuvers. Especially with young colts when the judge wishes to see them trot, they walk; when he asks that they walk they often stand on their hind legs or move broadside to the judge and spectators. It is very unsatisfactory indeed when the entire line-up are executing different motions in a disconcerted manner, according to their individual wishes. Boys often make friends with the foals on the farm, and if they are given the responsibility of training them they will likely he more tractable at fair time. So long as the boy has the upper hand the education is liable to be all that is necessary. A little later on the colt should be accustomed to straps and harness, but the foal should first be taught to stand or

The word breaking is often used interchangely for training. The former word implies a ably for training. pernicious or stubborn vice in the animal which must be curbed or broken, while the latter indicates an education which all horses must receive

before they are useful as servants of man. Train the colt so it will not have to be broken later

LIVE STOCK.

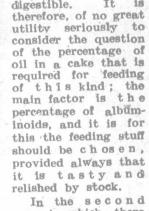
Feeds for Cattle on Grass.

It is a fact well known to all stockkeepers that the grass begins to deteriorate in quality from the middle of July onwards, and that cattle grazing it fail to do as well as they did earlier in the season although there is plenty of keep. This change in the quality of the herbage is felt to the greatest extent by the cowkeeper, who finds that his milk yield begins to go down in spite of the fact that the cows have plenty to eat, while it is also apparent to the grazier who is fattening cattle at grass, for these animals fail to make the progress that they did earlier in the summer, and even young stock do not grow quite so rapidly. Very often the deterioration in quality is also accompanied by a decrease in the quantity of grass, owing to overstocking or to drouth, and although the fall in milk yield or decrease in the rate of fattening or growth may be partly due to this cause, there is no doubt whatever that it is very largely due to a decrease in the feeding quality of the herbage itself. Experiments and the analysis of the herbage at different periods during the summer have shown this to be the case. It was found, for example, in a series of analyses made at Cambridge University of the herbage of a rich fattening pasture at different periods during the sum- and the remaining three containing about 20 per mer that on May 8 the herbage contained 19.4 cent. The percentage of oil in these cakes may per cent. of dry matter and 4.45 per cent. vary con iderably, and although a certain amount

required when there is still a sufficient amount of grass for the animals to eat, but its quality has deteriorated.. It also follows that should there be at the same time a shortage of grass so that the animals are not able to fill themselves easily, a feed may be required that supplies not only the deficiency in the albuminoids of the herbage consumed, but supplies the animals with a sufficient amount of both albuminoids and carbohydrates in a digestible form to take the place of the grass which they are not able to obtain by grazing. There are, therefore, two sets of circumstances under which feeding may be necessary in the late summer, and each requires a rather different class of feed to meet the case exactly, without waste and to the greatest advantage to the

Dealing first with the case where the cattle are obtaining a sufficient amount of grass, but where feeding is necessary to make up its deficiency in quality, it is evident that the most effective feed to use will be one containing a high percentage of digestible albuminaids, and there are four or five different feeds from which The highest percentage of we may choose. albuminoids in any obtainable vegetable feed is found in earth nut or ground nut cake which contains about 46 per cent. Next to this comes decorticated cotton and soya bean cakes, both of which contain from 40 to 44 per cent. Linseed cake comes next with 30 to 32 per cent. and undecorticated cotton cake with 20 to 23 per cent. None of these feeds supply any very large quantity of carbohydrates, the linseed and soya bean cake being the highest with about 30 per cent.,

of oil may be useful to the stock it must be remembered that oil in any considerable quantity is not essential, either for the production of milk or for the fattening of cattle. This is apparent from the fact that good pasture grass, the very best feed of all, contains less than 1 per cent. of fat, and quite commonly less than half of that is digestible. It is therefore, of no great utility seriously to It is



case, in which there is a shortage of grass as well as



matter in the late season analysis should have shown nearly double the quantity of nitrogen if the proportion of the albuminoid or nitrogenous matter had not decreased. Numerous other instances could be given showing similar decreases, such as one where the decrease in the nitrogen between May and August was from 3.22 to 1.87, but these mentioned are sufficient to indicate what it is that takes place. Even allowing for the fact that some of the nitrogen in the early analysis may have existed in the form of amide and not of albuminoid, it is evident that there is a considerable decrease in the amount of albuminoid contained in the digestible portion of This fact the grass as the season advances. gives us a clue to the kind of feeding that is required in the latter part of the grazing season, when it is necessary to give concentrated feeds in order to keep the animals up to the mark either in milk production, fattening or growth; it is the easily digested albuminoids that are chiefly

it quality, deterioration considerable to supply centage of carbohydrates in the feed as well as a fair amount of albuminoid. The exact proportions between these two, and the quantity of each that may be necessary, will depend upon the amount of the shortage in the grass. shortage is slight, then a comparatively small quantity of a feed fairly rich in both albuminoids and carbohydrates may be all that is required, but if the shortage of grass is considerable, then a considerably larger quantity of feed must be given, and it should contain a somewhat smaller percentage of albuminoids and a considerably larger percentage of carbohydrates. The best fattening proportion of albuminoids to carbohydrates is about 1 to 5, this being about the proportion of a first-class herbage at its best. Now, the average proportion in a decorticated cotton cake, reckoning the oil at its carbohydrate value, is about 1 part of digestible albuminoid to 11 parts of carbohydrates, while in an undecorticated cotton cake and linseed cake it is about 1 to 2, and in such feeds as cocoanut cake and various compound cakes it is 1 to 3 or 1 to 31. There are other feeds, such as maize and barley meals, in which the proportion of albuminoids to carbohydrates is about 1 to 10, and such feeds, if available at reasonable prices, can be used for bringing up the carbohydrates and reducing the albumincids of the various cakes that have been mentioned. Generally speaking, the kinds of feed required for the use of cattle in which there is a shortage of grass in the latter part of the season, are those showing from 18 to 22 per cent. of albuminoids, 40 to 50 per cent. of carbohydrates, and from 5 to 7 per cent.