

head held close to the ground. After a few seconds or minutes, she will shake her head, blow her nose, and run a short distance, when she will again stop and stand perfectly still, as before. If you inquire into the cause of this strange proceeding, it will be found to be a species of gaddy that the ewe is trying to escape. She will run to a dusty place, if she can find one, and she will shove her nose down to the dust and stamp and paw in order to raise the soil particles, and thus drive away the flies. These flies are responsible for grub in the head, and they are endeavoring to lay their eggs in the sheep's nostrils, where they hatch and the young larvæ work up to the air-chambers in the head. A little pine tar on the sheep's nose will prevent this trouble. A quick method of application is to place the tar in some shallow auger holes in the top of a log, and cover it with a little salt. In getting the salt, the sheep get some of the tar on their noses, which can always be relied upon to keep the flies from depositing their eggs anywhere near it. This is an easy and effective method of preventing what is often a serious trouble.

#### Select the Ram Early.

The lamb crop of 1912 depends largely on the ram that is used this fall. In many cases the old ram has been discarded, and the flock is without a head. There always seems to be plenty of time to procure another ram, but this is a mistaken idea, because, while there is always a large supply of these in the country, only a few of them, after all, have breeding and conformation to warrant their being used as flock-headers. There are only a comparatively small number of breeders of high-class sheep of the different breeds, and, in order that the best are not snapped up before you get there, it is important that no time be lost in selecting your ram. Few are the excellent flocks, and while each flock contains a number of high-class individuals, the superior animals in them are only a small minority. If the best that is available is desired, no time can be lost in getting them located, and no breeder should be satisfied with anything but the best. True, it seems early yet, but now is the time to begin scouting for the good ones, if the best is wished, and the best is none too good, for the average flock is in need of being strengthened.

In selecting the ram to use in the flock, the breeder must understand his flock, and must have studied them, so that he is enabled to select a ram that will nick well with his ewes. Years may be lost by the introduction of a ram into the flock which does not mate well with the ewes, and produces lambs that are not an improvement upon their dams, and are of a different type from that ideal which the breeder is aiming to establish. If a man has upstanding, leggy ewes, and wishes to breed a blockier type, it would be folly to select a great big, raw ram, with too great length, and deficient in breadth and depth of body. Equally disappointing would be the result of breeding a short, chunky ram, of small scale, to ewes that were too fine and of inferior size for the breed. It must always be remembered that the ram exerts at least half the influence on the coming lamb crop, and, if he is an exceptionally prepotent individual, his influence may be even greater than that.

Nothing but a pure-bred ram should be used, and violent crossing should be avoided, because better results can be expected where rams of the same breed are used in the flock. Study the outstanding characteristics of the breed, but, for ordinary breeding purposes, don't pay too much attention to fads, such as covering, color of ear, etc. Of course, if breeding fancy stock, these points are important, but where the flock is a grade one, the main consideration is conformation and size. It is generally advisable, where possible, to see the sire and dam of the ram that is to become the flock-header, because, by so doing, an idea is obtained of the class of stock he came from. His pedigree is important, because his form comprises a concentration of all factors and types of all his ancestors for generations back, almost indefinitely. It is well to ascertain as much as possible about the breeding of the ram, because his breeding will constitute a large proportion of the blood of the flock in the succeeding generations. Select only a broad, deep, thick, low-set, heavy sheep, with as much quality and quantity of fleece as it is possible to get, and a sheep that is strong where the ewes are weak. It is always easier to breed individuals of faulty conformation than it is to produce those of almost perfect form; consequently, in selecting the sire, it is necessary to get the strongest and most prepotent ram available, in order that the weakness of the flock may be to some extent, at least, bred out in the succeeding generations. Masculinity, as in all other classes of stock, should be a strong feature of the ram. No individual with a feminine appearance or with a small, slim head and a ewe neck should ever be used for breeding purposes, no matter how nice a back, loin and leg of mutton he has, unless weedy lambs are expected, because such a ram will seldom sire the kind of lambs demanded by the pres-

ent-day markets or the up-to-date breeders. No time should be lost in closing a deal for the purchase of the best available ram for the flock, and those in need of one would do well to visit the breeders in their own or other localities at an early date, and get their choice.

#### Stockmen Have the Advantage.

The season has been dry in many districts, and many of the grain crops have suffered as a result. While the drouth also has the effect of browning and burning the pastures, those farmers who keep live stock, and do not depend wholly upon the yield of grain or hay for marketing purposes, are much better able to stand a dry season than those who rely solely on grain production. Any of the four main classes of live stock will, if properly managed, tide their owner over unfavorable weather conditions far more satisfactorily than will a grain crop alone. The pastures become parched and dry, but the animals generally succeed in getting sufficient nourishment to keep them in reasonably good condition. It is often surprising to look over fields where there seems to be very little fresh vegetation, and there see the animals comparatively sleek and contented, though, of course, for full results in growth, fattening or milk production, some supplemental feed should be provided.

Let us look into the matter for a moment. The man who keeps hogs may have twenty-five fine shoats running in a clover paddock or on the stubble, and getting, besides, a little grain and milk. These pigs, and he may have many more of them, will doubtless bring him, at time of marketing, anywhere from \$10 to \$15 per head. This money has largely been picked up by the pigs from the pastures and from the sows' milk, and large, clear profit results.

Along with the hogs, the cows are found to be giving good returns. The cows graze the greater part of their living in summer, while in winter they can be fed quite largely on roughage, as corn and clover, or, better, corn and alfalfa. The corn crop does not suffer so much as do the grain crops, because throughout the season frequent and thorough cultivation can be given, which insures at least a fair growth, and so provides an abundance of cheap feed for the cattle. Cattle can be fed more economically where roughage is plentiful and only a small amount of grain is required in their ration. When the grain crop is light, better returns can be made by feeding a little to the stock than by selling it all off the place. While the grain crop may be light in certain districts, there is often a heavy yield in other parts, which serves to keep the price from soaring high enough to pay the grower to sell his grain without first changing it into meat by feeding it to some class of animals.

Sheep are also very useful profit-makers, and it is indeed an exceptional case where the grass is so injured by drouth that the sheep will suffer badly. It is one of the strong points of this class of stock that they can subsist and give good gains from very short and scant pastures. This is also a class of stock that can be wintered very well on roughage, and the value of the wool and the lambs invariably shows that there is a handsome profit to be made from sheep even in dry seasons.

What has been said in favor of these three classes of stock is also true of the fourth, and most important of farm animals, the horse. Horses of the right stamp are always a good price, and sale can be found for almost any kind of a horse, but the good individual pays the best. Horses are necessary to work the land, and while they must be kept for this purpose, many do not put forth any effort to raise colts from their mares. Every suitable mare should be bred, and might just as well be raising a colt along with the summer's work as not. Good colts can be raised almost as cheaply as steers, and there is a vast difference in the value of the two at the time they are three or four years old. The men who are raising a colt or two, or even more, each year are reaping much larger returns for time and trouble than are the grain-growers who feed no stock.

Another very important feature in favor of the live stock is the manure. Where the grain and fodder crops are fed on the land, and the resulting manure goes back on the soil, the land is kept in a much better condition to withstand dry weather. Soil rich in humus and plant food will produce larger yields, especially in dry weather, than will the poorer, unfertilized soils. If no cash gain were made on the stock, the manure returned to the soil would increase the yield of succeeding crops to such an extent as to more than pay for the labor and time expended. But while the manure is an important item in favor of the live stock, it is not always the first consideration, because the actual returns from the sale of live stock should show that the stock itself has paid larger prices for the food consumed than could have been obtained by disposing of this feed.

Stockmen have the advantage over the grain farmer in many ways and in most seasons, but

the very dry season usually gives them an increased advantage, because a season of this kind hits the very root of the grain-grower's business, while the stockman has many chances to avoid disaster by his different classes of stock and the variety of crops which he grows for their benefit. It is quite evident that the man who keeps stock is better prepared for bad seasons than he who is relying on his grain crop. If the grain crop fails, such a person had a bad year, whereas the stockman has such a variety of stock and of crops to feed them that he is sure of success with some of them, and the manure resulting from keeping the stock places his farm in a state of fertility which enables it to produce good stands of crops, even under unfavorable weather conditions; while the grain-grower's farm, if all that is produced is sold in the raw state, and is not fed on the premises, grows less fertile year after year, and bad seasons are more severely felt as time goes on. The one is a fortification against adverse conditions, while the other is a means of using up the already diminishing plant food and of placing the soil in a poor condition to produce large yields, especially in dry or unfavorable seasons. The live stock surely is a great advantage to the farmer; in fact, it is the backbone of the business, and there is no better demonstration of this fact than a few exceptionally dry or otherwise unfavorable seasons. The live-stock men have the advantage under these conditions, as they also have under ideal conditions, and this will always be the case. Therefore, those who are breeding live stock would do well to continue it, while those who have not made stock-breeding a strong point in connection with their agricultural operations can do nothing better than give it an extended trial.

#### Weak Spot in Cattle Industry.

The weak spot in the cattle industry of Canada, both East and West, is that our cattle, when young and growing, are not fed liberally enough. Calves in most places are fairly well fed the first winter. Bullocks are crowded with feed the last three or four months of their life, to fit and finish them for market; but in the growing period, especially the second winter, many promising young bullocks are stunted from underfeeding. Farmers must realize the cardinal principle in profitable cattle-raising, that when an animal is young and growing it makes greater gains in weight to the food consumed than at any other time. If fed the second winter on straw only, steers will go on grass in such low condition that it will require the most of the summer to regain and make up lost flesh; but, if along with the straw and roughage, two pounds of ground oats per day were fed, this grain would invigorate and strengthen the animal, so that it would eat more roughage and hold the flesh and growth of the previous summer.—Duncan Anderson.

## THE FARM

### Drainage and After-Harvest Cultivation.

Editor "The Farmer's Advocate":

Periods of drouth such as have lately been experienced throughout a large portion of Ontario cause the farmers to think seriously as to what system of operation will, under all conditions, and more particularly dry-weather conditions, give the best returns for our farm labor.

As you, in your issue of July 13th, so appropriately stated, the first requisite, under all conditions, is to have a well-drained soil. If the soil is not naturally so drained, we must make it so by artificial means.

The next consideration is to adopt a short rotation, and keep the clover plants growing in the soil as much as possible. These will greatly aid subsoiling and pulverizing the surface soil, as well as enable us to keep therein a suitable supply of humus and the most valuable plant-food elements.

With the soil in the condition already outlined, every effort must be made to break the surface of our grain fields (which are not seeded to clover) directly after the crop is removed, thereby establishing a surface mulch which will draw, absorb and retain the moisture, thus making of such soil a suitable reservoir and seed-bed for the crops that are to follow.

By observing this method, and also plowing such land a good furrow in depth, later in the fall, but before the very wet weather sets in, the surest means is being followed to guard against the ill effects of such a dry period as is now being experienced.

As the result of following such a system of operation for years, I may say (unless the hot weather to date has had an injurious effect upon the quality of the grain) I have now growing one of the finest crops of spring grain it has been my pleasure to see growing on my farm in recent years.

Huron Co., Ont.

THOS. McMILLAN.