usually such that it can be given frequently, and the horse should not be stinted to water three times daily. He should be given water both before and after meals, and when convenient between meals, and especially should he be watered after the evening feed when he is generally "fixed up" for the night. Of course, all food and water should be of first-class quality, or at least of fair quality It is wiser to allow him to go hungry or thirsty for a few hours than to allow him to eat food or drink water of decidedly poor quality. The former will cause some temporary suffering, while the latter is very liable to cause serious digestive trouble. All practising veterinarians have noticed that stallions on the route are much more liable to digestive diseases than those which stand at home, and they have also noticed that such cases are very hard to treat and frequently end fatally. These facts are largely due to mistaken kindness on the part of the groom, who overfeeds, or gives food of poor quality to travel him from stand to stand on a hot day too soon after a hearty meal. Sexual excitement, frequent changes in food and water, and travelling in hot weather tend to weaken the digestive organs and predisposing to disease of them, hence the groom should recognize the danger and endeavor to avoid exciting causes, even if by doing so his horse should fail in condition. As in horses in general such diseases are more frequently caused by over-feeding than by under-feeding.

The satisfactory regulation of the number of mares to which a sire should be bred in a given time, is probably the most difficult question for the groom to arrange. If stallions were limited to two services daily, there would be a larger percentage of foals and much fewer return services. We know that it is hard for a groom to refuse a mare because his horse has bred twice during the day, and provided he has been without service for a day or two he may be excused for breeding him to four mares in a day, with an interval of at least three hours between services. The average groom considers that one hour between services is sufficient, and this may take place indefinitely, sometimes well on into the night, but if he values the reputation of the horse as a sire he must recognize that even a stallion has his limits, and that breeding him to too many mares in a limited time, while it affords grounds for present boasting, cannot fail to eventually injure his reputation. Under such conditions a horse frequently refuses to serve and this is a great humiliation to the groom.

In other cases a horse that is not over-worked is very slow. The veterinarian is quite familiar with such tales of woe from grooms, who want drugs that will act as stimulants to the generative organs (called aphrodisiacs). The reputable practitioner refuses to accommodate him, as while drugs of this nature will cause the stallion to apparently perform the functions of a sire he will not reproduce, and the practice is doing an injustice to the owners of the mares, who otherwise would seek the services of another horse. In addition to this, the repeated administration of aphrodisiacs has a tendency to exhaust the organs from over-stimulation, and produce permanent impotency. Unfortunately, some grooms know the drugs which act this way and use them without consulting their employers or their veterinarians, and cases are not uncommon where over-doses or too often repeated doses have done serious harm. WHIP.

# LIVE STOCK.

No flock-master should neglect to dock all his lambs, nor should he neglect to castrate all males not intended for breeding purposes.

Experiments carried on at the Central Experiment Farm, Ottawa, indicate that feed flour may be fed to swine as a substitute for oats and barley with good results.

"It is an undisputed fact that the manure of sheep is much richer than that of other live stock with the exception of that of chickens, and furthermore, they themselves spread their manure more evenly on the land than any manure spreader can do that has as yet been invented. A good heavy crop of grain, corn or vegetables may be expected when a coat of sheep manure has been applied to the land."—Frank Kleinheinz.

"Keep enough stock of some kind to consume the products of the farm on the farm; keep enough, but not more than you can keep well. Keep the best. Do not think you must raise everything; things that do not pay are best left to someone else." This is a bit of excellent advice given by a well-known Farmers' Institute lecturer of Wisconsin. It applies to Wisconsin and everywhere else where stock-farming or mixed farming are carried on.

A correspondent discussing sheep on the grain farm in our Western contemporary "The Farmer's Advocate and Home Journal," of Winnipeg, states that, as far as his experience goes, they have no disadvantages, he considering them the "backbone" of his grain farm. On his farm of 260 acres he produced, previous to getting a flock of sheep, 2,000 bushels of wheat per year, since purchasing a flock he has been able to produce 2,000 bushels of wheat each year, and has the sheep profits besides. Another writer on the same subject says: "The man with a flock of sheep on his farm is on the way to the true goal of every good farmer—more crops and better crops."

## Care of the Brood Sow and Her Litter.

Editor "The Farmer's Advocate.":

A great deal of the success in pig rearing depends on the care and management of the brood sow before and after her farrowing period. Improperly fed sows have weak litters, and they make poor mothers. If the sow is properly fed and handled before and after farrowing, the difficulties that occur at this time should be reduced to a minimum. In feeding the pregnant sow, it is necessary to remember that a ration must be provided that will grow muscle, bone and tissue besides maintaining her bodily needs. Young brood sows require a ration containing more protein and mineral matter than older ones because they are still developing, and in addition to foetal growth they have to provide material for the growth of their body. Highly concentrated food such as corn should be avoided, and only fed in limited quantities. A light grain ration consisting of equal parts of corn, oats, barley and shorts does well. In addition to the grain they should receive a considerable amount of roots, as roots tend to aid digestion and assimilation. Alfalfa and clover hay are excellent, being much relished besides supplying protein.

A properly balanced ration is necessary for the sow, but she will not be in the most perfect health unless along with it she receives abundance of exercise. Every brood sow should have a yard to run in, and the barnyard on the average farm is perhaps the most satisfactory. Given access to the barnyard, the brood sow is quite contented and will move about freely. A small sleeping house may be provided, or a small corner closed off from an open shed will serve the purpose very well.

As farrowing time approaches, the sow requires special attention. The farrowing pen should be made ready, and at least a week before farrowing the sow should be moved to her new quarters. This gives her time to become accustomed to her new surroundings, and become acquainted with her attendant. She should now be fed lightly. Too liberal feeding at this period tends towards an excessive flow of milk at farrowing time the result being a caked and inflamed udder, the mother is irritable and thus more liable to injure her litter. The ration may be adjusted by reducing the amounts of grain, and increasing the nitrogenous roughage. Introduce bran into the grain ration. The increase in bulky foods satisfies the appetite and supplies the much needed protein.

Provided the sow is in perfect health there will be little difficulty at farrowing time, and she will require comparatively little attention further than to see that the young pigs are able to take their first meal, and that the amount of straw in the bed is limited and clean. A plank guard should be placed six inches to eight inches from the floor around the side of the pen to keep the mother from lying on the little pigs. After farrowing the sow should be left quiet for at least twenty-four hours. No food should be given, only an occasional drink of water that has had the chill removed from it. The second day a very light slop may be given, and from then on the feed gradually increased. Young sows may be placed on full feed in two weeks, older sows may be delayed longer. There is always a danger at this period of producing an oversupply of milk by over feeding. As the little pigs reach the age of from two to three weeks this danger is removed, and the sow may be placed on a full ration.

It should be remembered that at this period the food must be of a highly developing nature. The food must develop the bone, muscle and tissue of the young pigs through the agency of their mother.

At the age of three to four weeks the young pigs begin to eat a little of their mother's food, and as the mother's milk does not increase they should be encouraged to eat either with their mother or by themselves. A separate trough in which is placed a thin slop of skim milk, shorts and low-grade wheat flour is excellent.

At the age of six weeks the young pigs should have learned to eat for themselves, and may be weaned. This is the critical period in the young pig's life, and the change must be made cautiously and gradually. Remove them from their mother for a few hours every day, lengthening the period each time until in a few days they are removed entirely.

The sow should now be removed out of hearing, and in a few days she will dry up completely. Increase the amount of skim milk and meal for the little pigs to make up for the loss of the dam's milk. They will require to be fed three or four times a day for a couple of months. Pigs at this age require a high protein ration with considerable mineral matter. Some water should be added to the skim milk, and small amounts of tankage or animal meal will aid mineral matter to the meal ration of shorts and wheat flour. Skilled feeding at this period, combined with clean quarters, fresh air and exercise, go a long way to the production of cheap pork at six months of age.

Macdonald College, P. Q. A. A. MacMILLAN.

## Big Pigs and Young.

Editor "The Farmer's Advocate.":

Seeing that your columns are open for discussion on the pig-feeding question, my experience may be of interest. I notice that some of the feeders who have written feed chop dry, and would not think of feeding it any other way. I fed some in this way years ago, but gave it up, because I considered that the pigs wasted too much. One of the writers said he had pigs weigh 250 pounds at seven months of age, and thought he was doing pretty well. I nearly always get my hogs to weigh 250 pounds between six and seven months of age, and one lot sold recently, three in number, tipped the scales at 1,090, an average of 363 pounds at seven and a half months of age. These pigs were not fed any dry meal. They were fed three times a day, morning, one-third oats and two-thirds barley chop ground together, soaked from the night before: at noon, corn in ear, and at night chop again soaked from the morning. These pigs were not shut up in a pen that had an upstairs sleeping place, but had plenty of room in two pens eight feet by twelve feet. They were along with nine others, and all fed out of the same trough.

Middlesex Co., Ont. ROBERT WEBSTER.

[Note.—These contributions are becoming more a battle of weight at a certain age than outlines of feeding methods. Few correspondents have given any figures showing how much feed of the kind they were feeding it takes to make a hundredweight of pork, and few have outlined the amounts of feed required by pigs of various ages.—Editor.]

**Full and Contented.**

A roadside scene in P. E. I. The road is not the best place to pasture the cattle, but they keep down some weeds and unsightly herbage.