Early Shearing of Sheep.

The leading sheep breeders in this country now make it a rule to shear their yearling sheep in March or early in April, and the breeding ewes before going out to grass. There is practically no risk of ill effects in the case of sheep in good condition, from shearing during a mild spell of weather in March, if kept in a closed pen free from cold drafts for a few days after shearing. The writer saw a flock of young sheep in January this year that were shorn in that month, and were thrifty and comfortable looking. The advantages of early shearing are that the sheep thrive better in the warm days of spring divest of their winter coats, they are less liable to get cast upon their backs, and are better fitted for show purposes, and more salable in the summer and fall, owing to their having more wool and looking larger at those seasons when buyers are generally looking for sheep. Any loss sustained from selling the wool unwashed is more than made up in the more rapid growth of the next crop of wool during the spring months, when the sheep are improving in condition on the fresh pastures. There are generally fewer "cotted" fleeces when the sheep are shorn early, and less loss of wool from rubbing against fences, as sheep will in warm spring days, especially if troubled with ticks. The work may be done before work upon the land is practicable, and when time is not of so much account. If delayed till after seeding is commenced, it is liable to be left till that season is over, and the sheep may suffer from the heat with their full fleeces on. There is often considerable loss of wool in the shape of tags, in the case of sheep feeding on the early grass, and there is often the loss of a sheep or two from creek washing, to say nothing of the risk to the health of the men who do the work in cold water. Many farmers have to drive their sheep a considerable distance to wash them in a river or creek, and the sheep, being heated by driving, are more liable to illness from being plunged into cold water.

Shearing may be done piecemeal, a few each day between feeding hours, by having a platform about the size of a barn door made of a few boards held together by cross cleats, and which may be stood up and tacked against the wall of the pen when not in use. It is a good plan to trim the hoofs of each sheep with a knife while in hand for shearing, as the hoofs are often overgrown in spring from standing on soft bedding, and they are liable to contract foot rot or other hoof ailments. When all the young sheep are shorn, it is good practice to dip them in a solution of one of the advertised sheep dips, to destroy any ticks that may be upon them and to leave the skin in a healthy condition. The lambs should also be dipped a few days after the ewes are shorn, and the ewes will also be the better for a dip, or for having some of the solution poured on them and rubbed in. If the ewes are in thin condition, we would not advise shearing them until the weather becomes quite warm, say near the end of April or early in May, as animals in their condition are more liable to catch cold than those in good flesh.

Contagious Abortion.

I have a herd of dairy cows that have become badly affected with contagious abortion. Can you tell me where I can get a treatment that is effective and practicable?

C. W. H.

Ans.—When contagious abortion begins to play havoc in a herd, the dairyman has an unpleasant task before him. Nothing calls for more patience and courage. Abortion being a germ disease, germs will lurk about the stable and fields and infect animals for some years, so that a herd is not to be cured in a day, or yet a year, but calls for eternal watchfulness. Disinfectants should be used in all stock stables, as prevention is better than cure. In order to be helpful and plain as possible, I will give just what I should do in the case. If practicable, it would be better to separate the infected cows from the rest of the herd, but I do not think this absolutely essential, as I recommend using disinfectant very freely, spraying gutters, mangers and stalls with some of the advertised preparations—Zenoleum, etc. (directions are always given how to dilute with water for sprinkling), or creolin and water may be used, 1 to 1,000; besides, every animal in the herd should be given, internally, 25 drops of pure carbolic acid, diluted in about a pint of water, and this mixed with bran; or it can be given in the drinking water. To those that have aborted, I would give this 25-drop dose three times a day, or 75 drops a day for each animal for three days, then skip two or three days, and repeat for two or three days, and keep this up for about two weeks. When an animal has aborted or retained the afterbirth, this treatment will clean that animal out, so that the putrid discharge will cease in from two to three weeks, and the organs will remain healthy, and the animal will breed all right again. Without this internal treatment the discharge will continue for months, and the organs will be destroyed in many cases so that the animal will not breed again. In the case of a cow not cleaning, I never attempt now to remove it by hand, nor would I allow anyone to do so—not even a veterinarian. Experience has shown me it is better not to attempt to remove by hand, because it is impossible to remove all the afterbirth off the "buttons," and they are injured by the fingering. Give these doses of carbolic acid to kill the germs, and nature will do the rest. It looks queer how this carbolic acid gets its work in on that part of the animal's system, I admit, but I know that it does, and knowledge is worth more than theories. It is a tedious business at best, getting abortion out of a herd, and one must have faith in this treatment and not be easily discouraged. Give, then, every animal affected, 75 drops pure carbolic acid, divided into three doses, and dilute each dose in one pint of water. Give every other animal in the herd 50 drops daily, in two doses, diluted in water and mixed with feed, for two or three days; then repeat in three days, and continue to repeat for a couple of days. If there is any germ of that complaint in the cow the carbolic will find it. There are other things probably as good as carbolic, but this drug is so common and so well known as a poison that due care will be used in handling it. Given in doses between 20 and 30 drops, and diluted in water, it is perfectly safe. I give all my cows doses of it occasionally, before calving and after calving, to cleanse them out, and find it a good preventive to give the pregnant cows a few doses every two months or so after they have gone five months in calf. We can never tell when the "germ" is getting in its work on the cow, until we see signs of pending abortion, by swelling of udder or uneasiness, then treatment is of little avail. Keep up the internal treatment in the feed; never mind the other end—the drug works backward, not forward. Occasionally during the year keep using disinfectants liberally about the stable, and abortion will gradually disappear. Do not breed the cows for two months, better three months, after abortion. Those organs must get healthy and strong.

GEO. RICE.

A Study of Breeds of Swine.

YORKSHIRES.

The Improved Large Yorkshires, as they are known in America, or the Large White breed, as designated in England, are one of the three principal white breeds of that country—the Large White, the Middle White, and the Small Yorkshire or Small White. The general opinion is that these breeds have come originally from the Old English hog, a large white class of animals, inhabiting Yorkshire and other counties of England from a remote period. The Small Yorkshire owes

A Typical Yorkshire Sow.

its refinement in a measure to Chinese crosses, and the Middle Yorkshire is the outcome of a cross between the Large and the Small Yorkshire breeds. The Old Yorkshire was long in head, in body and legs, was narrow, had very large ears, and was coarse of bone. It was hardy and prolific, but slow in maturing. Their improvement commenced, it is thought, more than a century ago. The White Leicester, introduced early in the last century, and crossed on the Old Yorkshire, effected considerable improvement, and the blood of the Small Yorkshire has also had an influence in the improvement.

Yorkshires of a good size and type were imported to Canada as early as 1850, and probably much earlier. These were more of the type of the Middle White than the Large White of the present day. When, in the early eighties, Mr. Wm. Davies began the advocacy of the Large Yorkshires as the pig the farmers of Canada should raise to meet the demand of the British market for superior bacon, he and others imported to this country a class of Yorkshires that were coarse as well as large. They were coarse-boned, coarse-haired, and lacking in the quality found in the best herds of the present. But leading Canadian breeders, by selecting and breeding them with good judgment, have produced a superior class, combining, to a very satisfactory degree, the desirable qualities of size, with smoothness, strong bone without coarseness, early maturity and prolificacy. They do not mature as early as some of the smaller types, but they may be made ready for market without difficulty at the age of from six to nine months, weighing from 160 to 200 pounds. They graze well, though perhaps not as well as some other varieties, but, owing to their strong limbs and more lengthy bodies, they stand close confinement and pen-feeding better than most breeds. The quality of their meat is unexcelled, as their sides are long and thick, producing much bacon, with a large proportion of lean to fat. They are valuable in crossing with other breeds and the grade stock of the country, increasing the size, imparting vigor, and improving the quality of the meat, more especially the bacon, and increasing prolificacy, as the sows produce large litters, and are excellent nurses. For these reasons, and because of the demand for the bacon type, and owing to their being so persistently exploited by so many agencies as meeting that demand, they have increased very rapidly in Canada in recent years, and are now more largely raised than any other breed.

Some of the principal points in the standard of excellence for the breed are as follows: Color, white, free from black hairs, and, as far as possible, from blue spots on skin; head moderately long; face slightly dished, wide between ears; ears large, moderately thin, slightly inclined forward, and fringed with fine hair; jowl of good width and muscular, but neat, with no accumulation of flabby fat; neck medium length, but muscular; shoulders smooth, no wider than back; breast wide and full; back medium width, rising slightly above the straight line, forming a very slight arch from neck to root of tail; loin wide as rest of back, strong and full, but not unduly arched; ribs good length and moderately arched; side fairly deep, long, smooth and straight between shoulder and ham; a straight-edge laid over shoulder-point and ham, should touch the side throughout; heart girth full, but not flabby at fore flanks, filled out even with side of shoulder, no tucked-up appearance back of fore legs, nor droop back of shoulder-top; flank full, low and thick; rump same width as back, long, and slightly rounded from a point above hips to tail, and somewhat rounded from side to side over top; ham full, without flabbiness; thigh tapering towards hock, without folds or wrinkles, and carrying flesh well down towards hock; hind legs medium length; hocks set well apart, but not bowed outward; bone clean and strong; pasterns upright; feet medium size, and strongly formed; form long, smooth, all parts proportionately developed, so as to give an impression of a well-balanced, strongly-built animal; top line strong; under line straight; belly trim and neat; action free, easy and graceful.

THE FARM.

The Function of Plant Nutrients.

By R. Harcourt, Professor of Chemistry, O. A. C.

As a food, we value grain or the seed of plants in proportion as it contains those constituents which support life. Animal life has no power to construct from simple substances the complicated compounds which form the different parts of the body. The plant gathers comparatively simple substances by means of its roots and leaves, and from these constructs the complex compounds we find in the most concentrated form in the seed. The animal simply transforms these to suit the needs of the body; consequently, it may be said that animal life preys upon plant life, in that it takes that which the plant has constructed for its own production and uses it to build up body tissues. The object of this article is to show some of the difficulties the plant may have in maturing its seed, and the part played in its development by the more important food constituents.

The seed contains an embyro or germ, which is always extremely rich in albuminoids, fat, phosphates, and potash. It also contains a store of concentrated plant food, intended to nourish the young plant until its root and leaf are developed and it can gather its own food. In cereals this reserve food supply is chiefly starch, while in linseed, turnip seed, etc., there is a large quantity of fat. When the seed is supplied with the essentials for germination, its solid ingredients gradually become soluble and nourish the young plant developed in the embryo until it can reach out into the soil and atmosphere for its food. If the seed is buried too deeply in the soil, it may not germinate for lack of air; or, if germination does take place, the little plant may exhaust the store of food in the seed before it reaches the surface, and must die of starvation.

The future health and vigor of the plant will depend on the supply of food available to the tiny rootlets sent out by the young plant. If the roots and leaves quickly come in contact with nourishment, the development will be rapid; but if the conditions are not favorable, the little plant may become so stunted that it may never make a vigorous growth. A clear conception of the fact that the infant plant, like the infant animal, requires warmth, air, sunshine and abundance of easily-absorbed food, will greatly aid in understanding the conditions under which it will make the best growth. It is only when the leaves are exposed to air and sunlight that they are able to gather the carbon dioxide from the atmosphere, from which, by means not wholly understood, they build up the complicated sugars and starchs. Associated with this assimilation of carbon dioxide there must always be a free absorption of nitrogen and the essential ash constituents by the roots. As these can be taken into the plant only when in solution it is important that they be in a soluble form, and that there is at sufficiency of water to dissolve them. Fortunately, the feeding power of roots is