omnibus horses do not always occupy the same stall and wear the same harness. Harness, of course, offers the most favorable means of infection, because the spores are pressed into the victim while hot and the skin is "open," as it is said. Ringworm is one of the diseases which ought to be got rid of, and would be if greater care were taken by all stock-raisers and horsekeepers, but there will probably be always a few careless people who know not the value of hygiene, but fly to a quack remedy or nostrum. The grooming, which is so valuable in preventing diseases due to parasitic invasion, positively spreads ringworm when once an animal is affected, and should be discontinued. This does not seem to be generally known, and we have found men industriously strapping and hissing behind a dandy when they had better be in bed. Although some four varieties of the Tricophyton have been found on horses, there is no objection on their part to transfer themselves to other animals and to their attendants, especially to young persons, the ringworm of children being frequently traced to animals of the farm, and often presenting great difficulties in the way of complete eradication. More than one boy of our acquaintance has been refused for a public school, and the Royal Navy, after eighteen months' treatment for ringworm about the forehead—and cured by a penny bottle of black ink from the village grocer's shop at last; but that was when sulphate or iron and decoction of logwood were used to make cheap inks, and not the chemical fluids of to-day. The tannate of iron thus produced is still, in the writer's experience, the best remedy for ringworm of cattle transferred to the child. On cattle themselves it is not so valuable, because there is an accumulation of sebaceous material, or natural grease, which is not constant on the child, who reluctantly submits to washing once a day, at least. Dogs of the pet breeds have four varieties of Trycophytosis, and the town child gets infected that way. We will not afflict the lay reader with any more long names on this occasion, but use the rest of our space to describe the most suitable measures for getting rid of the pest. First, we would isolate a ringworm case as soon as seen. If a horse or other animal upon which brushes are used, or clothing—even a dog collar—we must wash and disinfect, and for this purpose an abundance of soft soap is recommended, as the alkali lifts the superficial layers of the skin and allows the medicament or destroyer to penetrate to the spores, which may otherwise obtain sufficient protection from the scurf. In the case of cattle, the white masses, sometimes called white flaw, should be burned, or they hold future trouble, and the person who handles them should take care that his skin shares in the disinfecting, or he may get the disease himself, or carry it to the more susceptible members of his household. The risk is very considerable, and the writer has known most serious consequences. It is perhaps a better plan to soak the crusts with soft soap, plastered thickly, for an hour or two before washing, when the masses come away with comparatively little persuasion from the washing brush or dandy brush. When only a few rings are found, we may dispose of them by painting with tincture of iodine (made with methylated spirit for economy's sake), or with oil of tar one part and train oil six parts, or creosote one part, oil seven parts, or flowers of sulphur one part, train oil four parts, spirit of tar one part, or with the sulphur ointment of the pharmacopœia. For recent and superficial cases, the carbolics or coal-tar series and tincture of iodine answer well enough; but for cases of some standing an ointment should be used and well rubbed in. The iodine ointment of the B. P. or sulphur iodine may be used.

The favus or cup-shaped ringworm has been more than usually prevalent among fowls during the past two comparatively sunless and cold summers, and sometimes affects animals, particularly rodents. The terrier gets it about the lips in seizing the infected rat, and the child suffers through cuddling the dog. Strong remedies are needed, solutions of the caustics being generally employed.—[Harold Leeney, M.R.C.V.S., etc., in the English Live-stock Journal.

West Can Raise Good Horses.

When Geo. B. Hulme, the noted horse judge, was in Winnipeg, recently, placing the ribbons on choice animals in many of the horse classes, he took advantage of an opportunity at the stock luncheon to tell farmers of the Canadian West that they should go in extensively for raising horses of all kinds, including army remounts. "In Western Canada," he said, "you have the best climate in the world, and an abundance of food and water that the horse wants."

There are men in the Prairie Provinces who are making money from breeding mares of the proper type—and they are becoming more numerous year by year. They have realized that it should not be necessary to bring thousands of dray and farm horses from the East every year. They have found out that there is profit in a horse at three or four years, when he can be exchanged for cash totalling almost as many hundred dollars

THE FARM.

Fall Fertilizing.

By B. Leslie Emslie, P. A. S. I., F. C. S., etc.

In treating here of this subject, we assume that the reader has already recognized the value of artificial fertilizers, and accorded them their place in modern agricultural practice. Should there be some, however, who are yet unfamiliar with the fundamental principles of fertilizing, we would refer them to a series of articles, entitled, "Artificial Fertilizers: Their Nature and Use," which originally appeared in "The Farmer's Advocate," and has since been compiled in pamphlet form. A copy of the pamphlet may be had on application to the writer, at 1105 Temple Bldg., Toronto.

Our present object, then, is to briefly discuss: (1) The Time to Apply Fertilizers, with special attention to (2) The Advantages of Fall Fertilizing, and (3) Choice of Fertilizer Materials, suitable for Fall Application.

1. TIME TO APPLY FERTILIZERS. — This would, to some extent, be decided by (a) The Nature of the Crop, (b) Character of the Soil, (c) Climatic Conditions, and (d) Availability of Labor and Material.

(a) NATURE OF THE CROP.—For late spring-sown crops, such as roots, potatoes and corn, the fertilizers may, as a rule, be applied in early spring, but for such as fall wheat, pastures, hay and orchards, the fall is usually the most suitable time to apply the phosphatic and potassic fertilizers.

(b) CHARACTER OF THE SOIL. — Heavy clay, clay loam and humus-rich soils are retentive of moisture, and, incidentally, of "plant foods," and this characteristic specially adapts them for fall fertilizing. Very light sandy soils, however, should not, as a general rule, be fertilized in the fall, until they have been brought into such physical condition, by applications of manure or plowing under of cover crops, as to render them sufficiently retentive of moisture and plant-food constituents.

(c) CLIMATIC CONDITIONS. — In localities where the rainfall is very light, fall application of fertilizers is to be specially recommended, but where the rainfall is heavy, as on some parts of the Pacific Coast, the fall application would not possess the same advantages, and there would also be a possibility of some loss of fertility by leaching.

(d) AVAILABILITY OF LABOR AND MATERIAL.—The time of application will probably depend to some extent on the help, and also, more or less, on materials available. If a farmer, e.g., is in a better position to procure basic slag than acid phosphate, as a source of phosphoric acid (presumably having in mind the suitability of that particular form of phosphate for his soil), then he will do well to apply the basic slag in the fall.

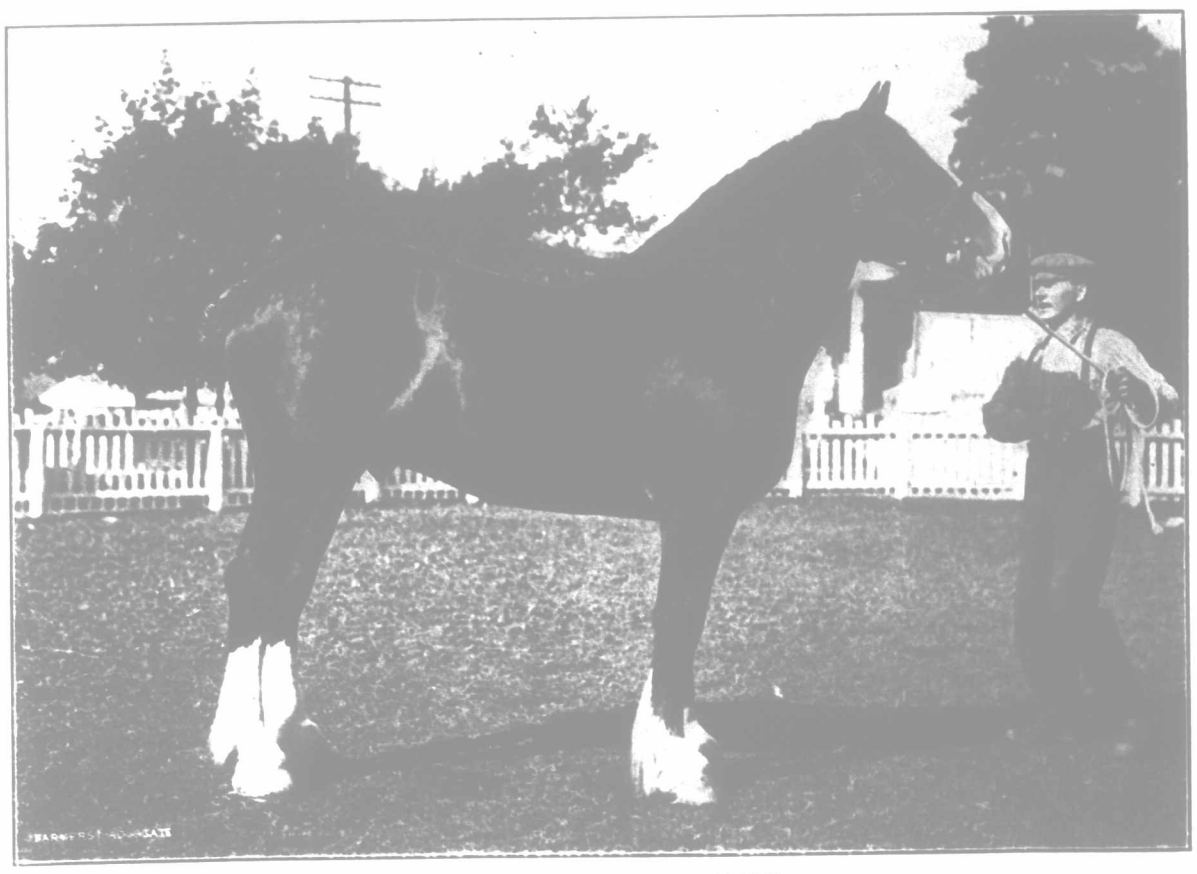
2. ADVANTAGES OF FALL FERTILIZING.—Fall fertilizing has the special advantage over spring fertilizing, in that the plant-food ingredients of the fertilizer materials have become readily assimilable by the plant roots by the time growth commences, thus insuring a stronger and more rapid development of the plants during the early and subsequent periods of the growing season. When a farmer delays the application of fertilizers, say to a root crop, until seeding time, and a dry summer ensues, he may not be able to account for much increase in crop due to the fertilizing, and, consequently, will most likely complain that the use of fertilizers is unprofitable. But, since all elements of plant nutrition have first of all to be converted in the soil into forms capable of assimilation by plants, for which process a certain amount of moisture is essential, the reason of failure, in such an instance as above depicted, can be readily understood. Fortunately for the farmer, in such a case the fertilizer applied, with the exception probably of some of the nitrogen, has not been lost. The soil is wonderfully retentive of potash and phosphoric acid, and these will be available for succeeding crops. The principal object, then, of fall fertilizing is to secure the maximum amount of increase from the first crop grown after the application of the fertilizers.

We have already indicated that fall fertilizing may not be so necessary for late spring-sown crops, such as roots, potatoes and corn, but when not applied in the fall, the phosphatic and potassic fertilizers ought to be applied just as soon as it is possible to get on the land in spring. Another argument which might be urged in favor of fall fertilizing is that fertilizers act, to some extent, as insecticides, and would be calculated to seriously inconvenience any "bugs" intending to hibernate in the soil during the winter season.

2. CHOICE OF MATERIALS FOR FALL APPLICATION:

NITROGENOUS FERTILIZERS.—The chief fertilizers in this class are nitrate of soda, sulphate of ammonia and dried blood. The latter is the only one at all suited for fall application, and, in our opinion, ought only at this time to be applied in a "mixture" for the heavier class of soils. As a rule, however, we do not advocate the application of any nitrogenous fertilizer in the fall, owing to the extreme tendency of nitrogen to leach from the top soil. The nitrogen of the above-mentioned fertilizers soon becomes "available." Especially is this true of nitrate of soda, which ought seldom to be applied before growth has commenced.

PHOSPHATIC FERTILIZERS.—The principle carriers of phosphoric acid are acid phosphate, basic slag, bone meal, steamed bone flour, and other bone products. Of these acid phosphate yields its phosphoric acid most readily, and is, on that account, more suitable for spring application. Basic slag and bone fertilizers are slower in their action, and therefore more adapted to fall application. The character of the soil will be the chief determining factor in choosing between these materials. Soils which are inclined to be sour, or clay soils, will benefit from an application of basic slag by virtue of the high lime content of the slag, since lime tends to sweeten a sour soil, by providing more favorable conditions for the action of nitrifying bacteria, and renders clay soils more friable. In fact, all soils deficient in lime will benefit by an application of basic slag. Of the bone fertilizers, steamed bone flour is one of the best, its phosphoric acid being



Toward Chief (imp.) [11469].

Clydesdale stallion; brown; foaled 1908. Third in class, Toronto, 1910. Imported and owned by Smith & Richardson, Columbus, Ont. Sire Baron's Chief.