

without live stock our farms become depleted in fertility?

Too many of us are short sighted. There is a possibility of cattle being even higher than at the present. He is a wise man who thinks twice and looks carefully into the future before selling his young stock, even if prices are above the average.

Middlesex Co., Ontario.

Live Stock Imports Prohibited.

Editor "The Farmer's Advocate":

I have the honor to inform you that, owing to a recent outbreak of foot-and-mouth disease in Great Britain, no permits to import cattle, sheep and other ruminants and swine from the United Kingdom will be issued until you are further notified.

F. TORRANCE, Veterinary Director General.

THE FARM.

Attractiveness in Marketing.

Editor "The Farmer's Advocate":

At nearly every plowing match and fall fair a prize is offered for the best farmer's turnout. This is as it should be, for the day has come when the farmer must pay attention to the appearance of himself and his product, or take second place in the procession. Grocers, hardwaremen, railroadmen and steamboatmen have been driven to this by sheer pressure of public opinion. The more alert farmers have already learned that it is good business, not only to produce goods of high quality but attractive in appearance as well. One farmer I know has provided a special wagon for marketing purposes, that he washes regularly and treats as often as need be to a good coat of paint well applied. He offers his potatoes for sale in clean bags, and sells his other vegetables in clean boxes. His harness is well oiled, and his personal appearance neat and cleanly. This farmer rarely goes to the market with his produce, but he goes directly to his private customers, whether they be private citizens or businessmen. All this season he has received from ten to fifteen cents per bushel more than his neighbors. On a load of potatoes this means an advance on his less careful neighbors of from four to six dollars, not a bad day's wages in itself, and, in a season, not an inconsiderable addition to his income.

The other day one of the meat dealers in Toronto remarked of one of the farmers from whom he was accustomed to purchase supplies wholesale, "I cannot buy from Brown any longer. He came in here the other day with a quarter of beef, with his boots dirty and his clothes even dirtier, and I was glad to get him out of the shop before any of my regular customers came in." That farmer wonders why he has lost a customer, but the dealer may scarcely tell him.

It is especially important to be careful of appearances just at this time of year. The holiday spirit is in the air. Other businessmen are putting in place their Christmas decorations, and the farmer who brightens up his produce will draw the trade to his wagon or sleigh. There are some who do not set any value upon appearances, but they are so scarce that they need not be considered. The lesson of merit in goods and of honesty in salesmanship has been well learned. Insanitary products need not be offered. The leaders have learned that to merit must be added attractiveness, and all will do well to study the art of making a fine appearance in marketing.

York Co., Ont.

O. C.

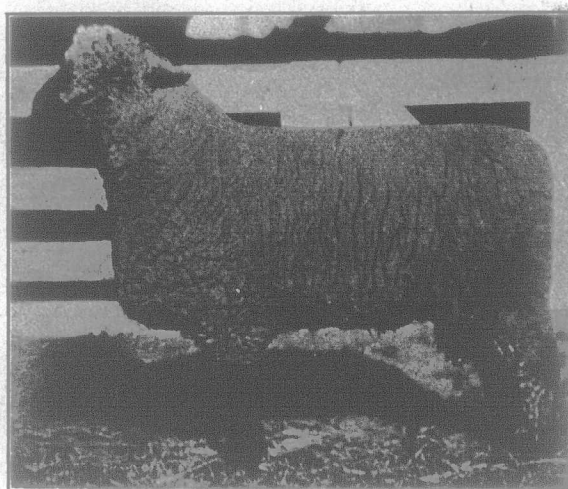
"Results" from Farmers' Clubs.

A farmers' club carrying on co-operative transactions to the extent of \$20,000 annually is the outcome of the club movement in Ontario. This flourishing club in the last five months has handled seed corn, oats, clover seed, salt, feeding stuffs, flour, sugar, binder twine and other farm necessities. Stock has been handled co-operatively, and in one transaction horses valued at \$3,600 were sold to one man. Each week the members load their stock in common cars for Toronto, and now they are shipping their own poultry. The strong point in connection with a farmers' club is the discussion regarding local subjects by local men. A man of experience is qualified to talk in his own community, but he must have a very extended experience to be able to speak in every or any district. An application of up-to-date practices and an unrestrained, unbiased report of the results by the one who put them into vogue, is one way of helping the neighborhood. This, with a co-operative spirit will force any locality to the front and make for better times.

Artificial Fertilizers; Their Nature and Use. -- I

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

Under the above title a series of articles by the present writer appeared in the columns of "The Farmer's Advocate" during the early part of the year 1908, which it has now been deemed advisable to reproduce in revised and supplemented form to meet the growing desire for information on this subject. During the intervening period the advancement of agricultural science has kept pace with the remarkable development of our country and in our Federal and Provincial Legislative Assemblies many laudable measures for the benefit of agriculture have been enacted. As prominent examples of these, we note the Dominion Government's Conservation Commission, whose agricultural committee conceived the idea of the district demonstration



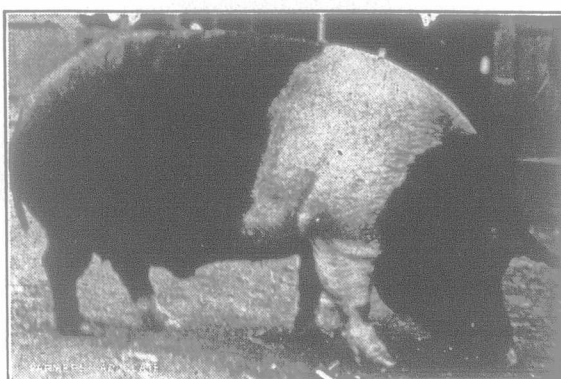
Yearling Oxford Ram.

Champion at Toronto and London, 1913. Bred and exhibited by Peter Arkell & Sons, Teeswater.

farms to serve as object lessons to the farmers of the communities in which they are placed, the selection and supervision of the farms being made under the able direction of John Fixter; also the popular "Burrell Bill," providing for an expenditure of ten million dollars, within a period of ten years, to aid agricultural education in the various Provinces. It seems peculiarly fitting that the Hon. Martin Burrell should have selected, as administrator of this grant, Dr. C. C. James, who instituted in Ontario the now well-known system of District Representatives of the Department of Agriculture, the success of which has led to its adoption in other Provinces.

FERTILIZERS A FACTOR.

In the improvement of our agricultural methods, the use of artificial fertilizers plays an important part. Many, who five years ago decried their use, are now amongst the most ardent advocates of the practice, while some otherwise apparently intelligent men persist in denouncing the same. The expression of such views is prompted either by ignorance or prejudice, since a denial of the merits of fertilizing



Hampshire Boar.

Champion at Toronto, 1913. Owned by Porter Bros., Appleby, Ont.

implies a deplorable lack of familiarity with agricultural history or indicates a mind biased from causes, which may be evident or problematical.

CAUSES OF PREJUDICE.

The apparent cause in many cases is unwillingness to admit a previous error in judgment. That there may be other causes suggests an incident, related in a well-known book in the writer's "mither tongue," dealing with rural life in the early part of the nineteenth century. Two farmers, going to the "kirk" one Sabbath morning took a "short cut" through a neighbor's

field, where they discovered some "manure in bags," which their neighbor (evidently a progressive farmer of his day) had procured for application to his turnip land. Never having seen "guano" before, they became deeply interested and closely inspected the wonderful stuff. One of them, familiarly known as Peter, not anticipating the consequences of his rash act, placed a handful of the guano in his pocket for future reference, and the two hurried off to church, where they took their places beside their respective spouses, who had arrived some time previously in a wheeled conveyance. Now, guano, unlike the more popular concentrated fertilizers of to-day, has a very strong and decided odor, which does not require a particularly refined sense of smell to detect. The sample in Peter's pocket, being true to kind, emitted a stench, which pervaded the whole building and seriously interrupted the attempts at devotion on the part of the congregation. Peter's better half, being ready at any time to lay blame on her husband for misfortunes, of which he was, of course, not always the cause, was not kept long in doubt as to the origin of the disturbance, and on reaching home her righteous indignation held full sway in the most awful curtain lecture which Peter ever endured. As Mrs. Peter held the purse-strings, it is extremely unlikely that her spouse ever summoned up sufficient courage to suggest the purchase of some guano for the farm, and to those, without "inside information," he would have been known as "prejudiced"; which all goes to show the futility of endeavoring to fathom "private opinion."

SOILS AND THEIR FORMATION.

"The moaning of the homeless sea,
The sound of streams that swift or slow
Draw down Aeolian hills and sow
The dust of continents to be."

—Tennyson.

The soil, whereon the farmer's home is founded and from which, by means of brain and brawn, he derives his livelihood, must necessarily be the beginning and ending of the present discourse. Soil formation may be said to take place in two ways, either by a process of disintegration or breaking-down, or by a process of construction or building-up. Both these processes of natural change are in constant operation, yet so slow and gradual in their progress that their effects are scarcely perceptible within the comparatively short span of a human life. The physical character and chemical composition of a soil will naturally depend on the manner and origin of its formation. Soils formed by a process of disintegration will partake of the nature of the rock from which they were derived, modified by conditions attendant on their formation. Others formed by a process of construction will likewise vary in character for similar reasons. In the latter class are included the alluvial deposits formed by the silt of rivers, etc., excellent illustrations of which may be found in the fertile deltas and the muck or peat soils, which have been gradually built up through organic agencies, by the successful growth and decay of various forms of plant life.

PHYSICAL CHARACTERS OF SOILS.

Muck soils, of which large areas occur in Canada, particularly in the Provinces of Ontario and Quebec, are essentially rich in humus (decaying vegetable matter) and poor in the mineral constituents. All productive agricultural soils contain from one to three or more per cent. of humus. The rest is made up of sand and powdery matter of varying degrees of fineness, together with a certain proportion of clay, which may vary from one to as much as fifty per cent. of the whole. Soils are defined as "light" or "heavy," according to the proportion of these ingredients. Generally speaking, light soils represent those in which sand or humus predominate, while heavy soils are those containing a large amount of clay. Loams are intermediate in character between sand and clay soils.

ELEMENTS OF FERTILITY.

Now, the farmer's object is to make his soil grow plants of various kinds and the substances entering into the composition of the plant will indicate approximately what substances must be present in a "fertile" soil. If we take any living plant and reduce it to its elements, we find only a small range of substances. Water forms the greatest portion of the plant; the remainder is almost wholly composed of compounds of carbon with hydrogen and oxygen.

Nitrogen constitutes, on an average, about two per cent. of the dry matter; the others, found in the ash when the plant is burnt, make up a further two per cent.

The ash constituents comprise potassium, sodium, calcium, magnesium, sulphur, silicon, chlorine and a little iron and manganese. Traces of other substances occasionally occur in the ash of plants, grown on soils happening to contain them, but they are not essential.