

known sorts when first grown on the farms upon which they are now so successful gave little promise, but selection and acclimatization have made them favorites in yield and quality.

There is a wholesome rivalry among potato growers in Caradoc. Never did we see such interest in a Field Crop Competition as was manifested by those entered in this competition in potatoes in Caradoc Township. Some great yields will be recorded when the final summing up comes. Such interest augurs well for the future of Dooley, and the success of the growers.

Driving to the station through long lanes of golden and purple maple trees, from which October had harvested only a part of the luxuriant foliage, and passing load after load of potatoes on the way to the siding to be loaded in the cars, while countless diggers unearthed more potatoes, and hustling pickers with aching backs yet light hearts filled more crates and loaded more wagons, we came to the conclusion that it was a good thing when Dooley came to Caradoc, and still better when growers started to select typical tubers for seed. From three pounds ten or twelve years ago to 200 acres and 60,000 bushels in 1914 is pretty good progress for even such a name as "Dooley," a potato which has put Caradoc on the map, and converted what was once put down as the poorest township in the county into one of the richest.

Wood Ashes, Their Constituents and value as a Fertilizer.

Editor "The Farmer's Advocate":

Early in the last century when it was discovered that potassium was one of the main constituents of plant food, wood ashes were the chief source of this material. By the middle of the century the demand for wood ashes was so great that as high as fifty cents per bushel was paid for them, and large quantities were exported from the country. About that time, the potash mines in Germany were discovered, and practically the whole of the world's supply has since been got from this source. To-day, owing to our war with Germany, this supply, both for industrial and agricultural purposes, is not available.

We have an unlimited amount of potassium in our igneous rocks, but no way has as yet been devised whereby it can be separated cheaply enough to allow it to compete with the German potash. Now that this supply is cut off, it remains to be seen whether, at the increased prices that are bound to prevail, potash from this source will be put on the market. Some forms of seaweeds also carry large quantities of potash, and endeavors will probably be made to supply some of the demand from this source. Wood ashes contain a very soluble form of potash, so that it may be readily extracted for industrial purposes, or it is at once available to the plant as food when the ashes are applied as a fertilizer. In this respect the potash of ashes is superior to that in any of the potash salt imported from Germany. Under our present circumstances it is particularly important that wood ashes be carefully preserved.

Agriculturally, wood ashes are valuable because they contain potash, phosphoric acid and lime, or, more correctly, carbonate of lime. The amount of potash present depends upon the wood they were derived from, and the amount of leaching to which they have been subjected. Ashes from hard woods, such as maple and beech, contain more potash than those from oak, elm, ash, etc., and these again contain more than those derived from pine, cedar, or other of the softer woods; and the ashes from the smaller branches and twigs are richer in this constituent than the body of the trees. Good average ashes should contain at least 6 per cent. of potash, and 1.5 to 2 per cent. of phosphoric acid. Then nearly one-half this weight will be lime (carbonate of calcium and magnesium) which is sorely needed by some of our soils. Coal ashes are of little value, as they do not contain much of any of these constituents.

Last spring potash in the form of muriate of potash, and phosphoric acid in the form of acid phosphate, were worth about five cents per pound. Supposing ashes contain 6 per cent. of potash and 2 per cent. of phosphoric acid, they would be worth at the above price \$8.00 per ton, without allowing anything for the lime. At the present time it is doubtful if potash can be purchased for double the price mentioned. When ashes have been exposed to the weather the water dissolves the soluble potash and it is leached out. Such leached ashes may not contain more than 1.5 to 2 per cent. of potash, and their value is very much decreased. The phosphoric acid and lime content will not, however, be affected and they are still valuable, but care should be exercised to keep the ashes in a dry place to prevent the loss of the constituent which is so valuable at the present time.

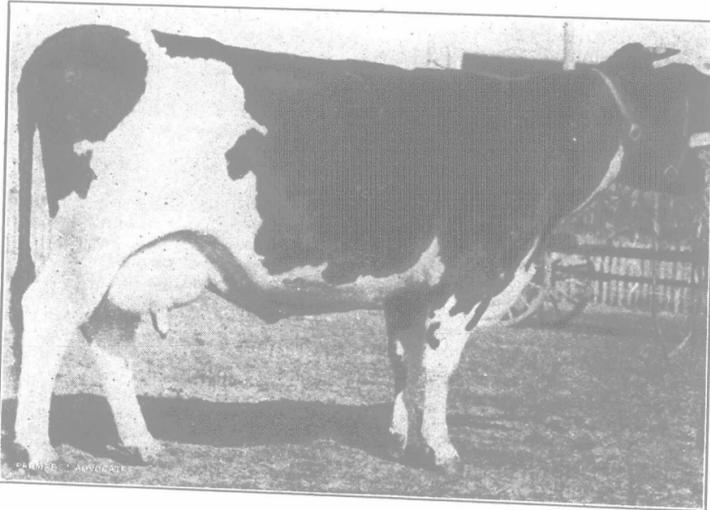
Wood ashes may be profitably applied as a top dressing to grass lands, and to pastures where they will encourage the growth of clover and the better grasses and crowd out the weeds. They may also be used as a fertilizer for root and corn crops, and for legumes, in general they are espe-

cially valuable. Furthermore, ashes increase the availability of nitrogen by hastening the decay of the organic matter in soils. Because of this they are valuable on muck or swamp soils, and they supply the mineral matter in which these soils are naturally deficient. They contain enough lime to make them useful in correcting the acidity of sour or acid soils. On clay lands the lime tends to render available the insoluble form of potash salts present in abundance, and on sandy soils they supply the phosphoric acid and lime in which these soils are usually deficient. Thus, wood ashes are agriculturally of great value, and every farmer, and especially every fruit grower and gardener, will do well under present conditions to carefully preserve all the ashes he can, and gather all that his less provident neighbors will let him have.

Unfortunately, the supply of ashes is limited. Under the present conditions of the potash market lime may be used as a substitute. Most of our heavy potash consuming crops also take up large quantities of lime. Furthermore, as lime liberates potash from its insoluble forms of combination, it will, to a certain extent, take the place of potash. However, where this practice is followed it must not be forgotten that the lime is only a liberator of potash and does not supply any of this constituent, and will thus hasten the depletion of the soil in this plant food material. Fortunately, most of our soils contain a fairly liberal supply of the insoluble forms of potash, and the stimulating effect of the lime will not prove harmful, provided it is supplied, as all constituents should be, in moderation.

R. HARCOURT.

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Lady Francis Schuiling.

Champion Holstein cow at Ottawa, 1914. Owned by Haley Bros., Springford Ont.

Increasing the Output in Eastern Canada.

Editor "The Farmer's Advocate":

In every Province of the Dominion appeals have been made to the farmers to make provision for producing more food from their farms in the year 1915 than ever before, a policy which everyone is bound to endorse, even if the present state of affairs is terminated and an early peace declared. There are some features of this matter which, however, call for special attention in the Eastern Provinces, and which it is our intention to refer to in this short article.

First of all, when we urge our farmers to cultivate more soil and produce more grain, potatoes, vegetables, etc., we are even more interested in having plans made to feed these products to animals of various kinds whose flesh is required for food purposes, than in having them ready to be sold in their natural, or, if we may term it, unmanufactured form. In fact any other course is bound to lead to a depletion of the fertility of our farm lands, and although we should be ready to sacrifice our lands as well as our lives, it is well that we should not do so until circumstances compel us. In any case the land should be cultivated and more food grown. The subsequent disposition of this food can be settled when it is ready.

The greatest obstacle to the carrying out of the ideal policy for the East, namely of growing more products from the soil, and feeding these to live stock of all kinds, and feeding these to abnormally high prices for hay and oats, as well as live stock, are leading farmers to part with such an extent that the farms are bound to be depleted of fertility, and the numbers of live stock reduced far below a right standard. It seems difficult to prevent this development of affairs, and we can only counsel our best farmers, in their own interests as well as in the interests of the Empire, to hold on to as much live stock

this fall, and to feed as much hay, oats, etc., on their own farms as they possibly can.

In regard to the policy of growing more field products, it naturally occurs to everyone that this should be brought about by the plowing up of back pastures and other fields which have not been plowed for many years. While this is very necessary, if a maximum product is to be grown, farmers must not lose sight of the fact that, up to a certain extent, it is better policy to cultivate the fields at present under crop more thoroughly, and to sow better seed on them so that they may produce maximum results. It is only after this has been done that the matter of plowing up new fields should receive consideration.

In regard to these new fields, farmers must not lose sight of the fact that a large proportion of these fields in the Maritime Provinces will give very indifferent results unless they are thoroughly cultivated and have a reasonable amount of manure or fertilizer added to them. Furthermore, in order that the farms may benefit from this extra area of land plowed, it is important that all fields now plowed, it is important that they should be seeded down to oats or wheat or four or five pounds of clover seed, and preferably double that amount per acre. By this means, fields that would otherwise be depleted of fertility will be built up in humus and nitrogen, and a permanent basis will be laid for the carrying on of a rotation of crops in future years. This purchasing of fertilizer and clover seed means an outlay of money which, however, should be fully returned when the crop is fed or sold. Nevertheless, everything should be done to reduce this outlay, and farmers will do well to take a leaf

out of the pages of such co-operative bodies as the United Fruit Companies in Nova Scotia, who through co-operation have purchased their seeds and fertilizer during the past two years at nearly 25 per cent. less than farmers who have bought individually.

Finally, the work should be under way at once. Fall plowing not only expedites work in the spring, but with few exceptions ensures bigger crops.

Our message to the farmers of the East, therefore, is: give the lands at present under crop the best cultivation they have ever received; use on them the best seed available. Plow up at once new fields, but plan to give them all the cultivation possible; use if you can a barnyard

manure, otherwise commercial fertilizer, and do not forget the clover next spring.
N. S. Agricultural College. M. CUMMING.

THE DAIRY.

More Light on Testing Cream.

Editor "The Farmer's Advocate":

New problems arise each week in connection with the testing of milk and cream—more particularly the latter. In spite of all that has been said and written about testing, there are yet many persons looking for light on one or more phases of testing. Recently we were asked two questions on rather new points—at least we have not seen them put in this form elsewhere. The first question was something like this: Which is more correct to use, the Babcock test or the scales when testing cream? I have been told that it is better to use the scales if the cream tests over 25 per cent. fat.

The second question was stated somewhat like this: When a test of cream is given in figures like this, 28.2 per cent., what does this mean in words, as I do not understand decimals very well?

No one need be ashamed to admit he does not know. The wisest men are confronted with problems which they are unable to solve. It is related of Sir Isaac Newton and a philosopher who were driving in the country, that they came to a small inn, where they proposed to feed the horse and have dinner. As there was no hostler, the philosopher (having to unhitch their horse, being desirous of giving the horse as much rest as possible, they thought it would be humane to remove the harness from the tired beast, which they proceeded to do. They got on very well until they came to the collar, which was of the closed-top variety. This they could not remove. After exhausting their own patience and that of the horse in the vain attempt to get