

sooner available than that of the coarser bone products. Bone also contains lime, which ultimately exerts a favorable effect in the soil, but is not so quickly effective as the "free" lime in the basic slag. For the lighter class of soils, bone fertilizers are suitable for fall application.

POTASSIC FERTILIZERS.—These are muriate of potash, sulphate of potash, kainit and wood ashes. All potash fertilizers may, with advantage, be applied in the fall, but are also suitable for early spring application. The abode, excepting wood ashes, are products of the Stassfurt Potash mines. Sulphate and muriate of potash are concentrated materials, with little or no impurities, but kainit is a crude potash salt, containing 12½% actual potash, or only one-quarter as much as is contained in the concentrated salts. In Europe kainit is very largely used, but its low potash content and correspondingly high cost of transport precludes its extensive use in this country. Much experimenting has been done in Europe to determine the comparative effect of kainit applied in the fall or winter season and in the spring, and the results obtained were so conclusive as to leave no room for doubt that the fall application of kainit was preferable. In this case the object was, not only to insure the early availability of the potash, but also to allow the impurities in the kainit to be washed down from the top soil. The potash is available to plant assimilation, but immune from the danger of leaching from the soil, and owing to this fact any of the potash fertilizer, as well as phosphatic fertilizers, may be applied in the fall without fear of loss in this way. In Europe a popular fertilizer for application to pasture and hay lands in the fall is a mixture of basic slag and kainit.

Handling Corn for the Silo.

As the grain crop has been disposed of for another year, it reminds us that the season for harvesting the corn crop is again very near at hand. Each successive year sees an ever-increasing area devoted to this very valuable fodder crop, and fortunate, indeed, is he who, as a result of his foresight, has an abundant supply of heavy-cobbed, well-matured corn, with the proper facilities for storage in the shape of a good silo. I question if there is any other feed that has ever done as much to add stability to cattle-feeding operations as corn silage. Even the pasture grass, that has been with us from time immemorial, seems doomed to take second place to King Corn, and I venture to prophesy, in possibly the very near future, on the improved farms of Ontario, at least, the pasture field, as we know it, will be reduced to a mere exercise plot, and the herped stock of our farms will for 12 months, instead of 7 or 8, depend almost entirely on corn silage, alfalfa hay and other soiling crops for their sustenance.

To the man who is filling his silo for the first time, it might prove helpful to have a few of the problems connected with this operation discussed in "The Farmer's Advocate." In all branches of agriculture we notice the question of quality is modifying and in many cases superseding the mere demand for quantity, but nowhere do we see a greater advance than in the type of corn grown for the silo. It is quite within the recollection of all of us when the Mammoth Southern Sweet and other varieties of like nature, with their immense stalks, but immature grain, held sway. As this type of corn required a very long growing season, it was nearly always placed in the silo in a very immature state, resulting in the production of a fodder supply which contained comparatively little nutriment, and, on account of its extreme acidity, very little palatability.

Here again, however, the feeder, with increased experience, came to realize the very great importance of quality in the production of silage, and to-day we find the most up-to-date corn-growers willing to sacrifice, if necessary, considerable quantity of stalk for the sake of having ensilage produced from heavy-cobbed, well-matured corn. From time to time, instructions have been handed out as to stage as which to harvest corn for silo purposes, embracing "late milk," "dough," "beginning to dent," etc., but modern opinion seems to have simmered these down to the one stage for all conditions, viz., when the corn is ripe.

In order to get it at this stage, it is much better to chance injury by frost, rather than hurry corn into silo before fully matured. We doubt very much if corn for silo purposes is injured very materially by the few early frosts. If the corn is very green, a heavy frost will extract some of that surplus moisture that only proves a damage in the silo; while, if nearly mature, it can be cut down, and, if put into silo at once, will lose but little in value. If impossible to get into silo at once, the introduction of a half-inch stream of water through a rubber hose into machine at filling time, will fix silage up all right.

In handling this crop, entailing considerable work at a time when the horses are needed for the fall cultivation of the land, it were well that all machinery be of such capacity as to make the harvesting of the corn and filling the silo as speedy as possible. For this reason, the corn binder for

cutting, and large-sized cutting-box, with blower attachment, driven by a heavy engine, has the call. If the farmer refrains from throwing too high a hill around his corn, and is careful to run machine as low as smoothness of the ground will permit, much of the objection to the corn binder, on the plea of long stubble, may be overcome. There seems to be a wide difference of opinion as to the make of cutting-box to use, some preferring the cylinder type, on the ground that the corn is smashed up finer, while others prefer knives in the fly-wheel, on account of economy of power, etc. With any make, however, it were well to cut corn as short as possible, on account of the advantage gained in increased capacity of silo and better quality of silage. In this respect it will generally be apparent that the machine requiring the excess of power for running it will in large measure counterbalance this defect by the finer grade of silage it turns out.

Low-wheeled trucks or wagons, with reach replaced by long poles connecting holsters, on which to throw the corn, lessen the work of getting corn to the silo. It is economy to have sufficient teams to keep an extra one at the silo always ready to move in. It pays well to have at least two men (heavy-weights) in silo, keeping it well tramped, especially around the edges. It is very important that cobs, stalks and leaves be thoroughly mixed. This may be done by a man with scoop-shovel at mouth of blower, or by the men in the silo, but there should always be sufficient

Wheat Prices Ruled High.

The British Board of Agriculture has an interesting return of the prices and supplies of wheat, live stock, and other agricultural produce for 1909. A striking feature of the year's prices was the average of 36s. 11d. per quarter for wheat—the highest recorded since 1891. Oversea supplies of wheat and flour were larger than in the previous year. The home crops of both 1908 and 1909 were above the average. The average price of foreign wheat was 39s. 2d., but Colonial and Indian wheat brought the highest price of all—an average of 40s. 3d. Barley at 26s. 10d. was 1s. higher than in 1908, and oats at 18s. 11d. were 1s. 1d. higher.

Tile Drains Increase Yields.

It is difficult to find one man who has a satisfactory system of tile drains on low or wet fields who makes the claim that it does not pay. On the average, the entire cost seems to be wiped out by increased yields in about three years. Many have profited by experience, and are putting in larger mains, and keeping a definite plan of the entire system.

"There is nothing on the farm that pays better than tile drainage," said Wm. Woods, of Garafaxa Township, Dufferin County, to a member of "The Farmer's Advocate" staff. "My soil is a clay loam, with clay bottom, and I have a good outlet. Three-inch tile was used for a main drain along the lowest part, but, if I were putting it in again, I would use four-inch main, and also make the branch drains more numerous. On the average, we get the crop in at least a week earlier. In a wet season we gain two weeks or more, and in some instances it would have been impossible to get the crop in before it was too late to have a crop."

"Besides making great increases in yield, we must consider the satisfaction and ease in working the land. Places that formerly could not be cultivated or sown at the same time as the rest of the field, without putting the seed into mud, and having less than half a crop, can now be attended to without delay. Generally speaking, it was impossible to have the land in as good condition for seeding."



First-prize Two-year-old Dorset Horn Ewe, and Pair of Fall Lambs. Bred and exhibited by R. H. Harding, Thorndale, Ont. (Photo taken at Toronto Exhibition, Sept. 5, 1910.)

help to guarantee it being well done. When full, the silo may be covered with chaff, well-wetted alsike clover straw, or any cheap material which will take the place of the covering of corn. If no foreign covering is used, the corn for the top of the silo should be selected from that part of field which is the most deficient in quality of stalks and cobs, as the top layer of corn will be a total loss. Have seen an oiled-cloth covering recommended, but have had no experience with this form of protection from mold.

Corn may be used immediately upon completion of filling, but I believe it pays to sow enough extra corn to provide at least a month's feeding, other than that in silo. This gives the ensilage time to cure and settle, and, although you may lose a little on the top, I believe it pays to refrain from disturbing silo, as in my experience, the silage during period of fermentation or heating is not very palatable to the cattle, and may prove a hindrance to proper curing of the silage. Peterboro Co., Ont. G. A. BRETHEN.

Spring-tooth for Grassy Alfalfa Fields.

A spring-tooth harrow, with the ends of the teeth sloped down to about ¾ inches in width, and the points rounded, is recommended in the Breeders' Gazette as preferable to a disk harrow by one who claims to have used it successfully fighting crab grass, blue grass and foxtail in his alfalfa fields. With this implement he harrowed alfalfa fields just after the first cutting had been removed, going in some cases two, three and four times. Little or no injury to the crowns seemed to result, while the alfalfa, following this effective fight against the grass, made luxuriant growth. He does not advise the use of the harrow till the alfalfa is nearly a year old. Readers who have been troubled with grass in their alfalfa fields might find it worth while to purchase an old spring tooth, have the teeth sharpened by a blacksmith, and give the idea a trial. Understand, we are merely recording this party's experience, and assume no responsibility for the results.

THE DAIRY.

What Does it Cost to Produce 100 Pounds of Milk?

Milking cows has been a leading line of Canadian farming for a third of a century. Some years ago many farmers gave up feeding beef cattle for the more arduous and trying work of dairying, because its returns were believed to be better, more steady and certain. Cheesemaking is a great Canadian industry, capturing the British market. In other sections, butter factories or creameries have forged to the front. On yet other farms, home buttermaking is the practice. The city and town demand for milk and cream is growing enormously. A reduction in the United States cream tariff has diverted large quantities by tempting prices across the line. Here and there condensed-milk factories are patronized, and milk-powder establishments or factories, where the fat of the milk is extracted, and the casein reduced to a powder.

Observant and careful readers of "The Farmer's Advocate" have been milking herds of cows for one or more of all these plans. Many have also been testing their cows by weighing and sampling the milk. All know more or less definitely what returns in cash they get in a season for milk and calves, and approximately what value they put upon the manure, skim milk or whey. What does it cost to pasture a cow? And what to feed and care for her through the winter? What is the cost of milking her twice per day for the season? What does it cost to care for the milk