

help with the yearly revenue. Well managed, should produce an average of 15,000 feet of lumber and 20 cords of firewood per year. There are instances where white-pine wood lots have returned as much actual profit per acre as would 30 bushels of wheat, after allowing for the expenses of cultivation. You could probably count on your wood-lot, if it is kept thrifty and well stocked with pine, ash and maple, to produce \$5 per acre profit per year. This, with the shelter and other incidental advantages, should make it worth while to maintain 25 acres on a 200-acre farm.

H. R. McHILLAN.

### Corn for Ensilage: Cultivation, and Cost.

Address by John Fister, Farm Foreman, Macdonald College, at the Ontario Winter Fair, 1910.

**Place in Rotation.**—Corn does best when sown on an overturned clover sod. If possible, select a field that has had but one season's hay crop taken off it. The corn will then have the benefit of the fertilizing elements of the clover roots, which in the average clover sod should contain as much nitrogen, phosphoric acid and potash as 12 to 15 tons of barnyard manure.

**Soil.**—Corn is especially adapted to warm, deep loam soils, rich in humus, but it may be grown with more or less success on almost any kind of soil not too low in available plant food, if the water line does not come too close to the surface.

**Preparation of the Soil.**—If the land is clean, allow the clover roots to make as much growth as possible in spring time. The extra growth in spring time, when turned under, appears to heat, and act as a hotbed to the growing corn.

If the land is full of weeds and seeds, immediately after removing the hay crop, plow very shallow. Roll, disk harrow, and harrow sufficient to make a fine surface and keep down all growth. This can be accomplished by keeping the cultivator going at intervals on very warm, sunny days. Later in the autumn the land should be thoroughly plowed, and well set up to the winter's frost. Another and more profitable way of killing the weeds after the hay crop is removed is to plow the land. Roll with a heavy roller, then disk harrow, and harrow thoroughly; then sow the field with rape or white turnips, in rows sufficiently wide enough to cultivate thoroughly and keep down all other growth between the plants by an occasional hoeing. By this method, the land will be returning a handsome profit, as well as cleaning the field for the corn crop. As soon as the turnips or rape is fed off, the land should be thoroughly plowed for the winter frost to do its part.

**Manuring.**—For corn land, green or fresh manure is advisable. If possible, draw direct from the stable to the field, as fast as it is made; do not allow the manure to heat or get mouldy. Should there be no snow, or little snow, spread direct from the wagon, or the manure spreader is preferable, as it will do the work much more evenly than can be done by hand. Should the snow be deep, put the manure in small piles about eight yards apart, and spread as soon as the snow is gone in spring time. The manure should be plowed under very shallow just before the planting season.

**Time to Sow.**—As the corn plant is rather tender, it is not wise to sow too early. There are seasons that are warm and dry, in which, if the corn were sown early, it would give good results, but the safer plan for the majority of seasons is to hold back the planting until about the 24th of May, and if the soil is then not warm and dry, sow the first week in June.

**Planting or Sowing.**—Best results are obtained when planted in hills, the distance apart to be gauged by the amount of work to be put on the crop and the quality of the soil. The hills may be from thirty-six to forty-two inches apart, each way, and from four to five grains to the hill, to be thinned later to three or four good strong plants to each hill. In the Eastern part of the Province the majority of farmers sow with the ordinary grain seed drill. The distance of the rows apart can be regulated by blocking the feed runs to suit. Care must be taken to have the rows at equal distance for convenience in cultivating. The rows may be sown from thirty-five to forty-two inches apart, according to the richness of the soil, the gauge on the seed drill to be regulated before entering the field, in some convenient place where the corn can be seen. Don't fail to sow plenty of seed and to thin it out when the plants are about eight to twelve inches high, leaving a good strong plant every eight to twelve inches apart in the row.

**Varieties to Sow.**—Each farmer will have to be governed according to soil and climate. With corn, as with other grains, the farmer should experiment. In Western and Southern Ontario, a later and larger variety can be grown than can be in the Eastern and Northern parts of the Province. It is useless to grow a variety of silage corn which will not come to the glazing state by the 15th or 30th of September. The flint varieties earlier than the dent. For Northern Ont.

aries, when corn is grown for the grain crop, and the stage of seedling, I would suggest Quebec Yellow; for grain for silage, I would say Comstock's Early; all are flint corn. In Southern Ontario, the above named varieties, with the exception of Compton's Early, will give excellent results when grown for grain. When corn is grown for ensilage, Leaming will come to the glazing state in most seasons. Later varieties, such as Mastodon and Red Cob, have been tried, but cannot be depended on for making the best quality of silage.

**After Planting.** Cultivation.—This is one of the most important operations in growing corn. The land should be harrowed two or three times (after the corn is sown, and before it comes through the ground), the last harrowing to be just as the corn is appearing. Should the corn be very thick when it comes up, it may be again harrowed with a tilting harrow when about four to six inches high. The two-horse cultivator should be started when the corn is quite small; arrange the cultivator with narrow teeth, and the shields to prevent the small plants from being covered. At first, loosen the soil deep and quite close to the plants, gradually working shallower and further away, as the roots of the corn plant grow very rapidly. After the second cultivation, the protecting wings may be removed, and wider points put on the cultivator, throwing a little earth to the corn each time, thus encouraging new root-growth, the cultivation to be continued with the team cultivator as long as possible, then the single-horse cultivator or harrow cultivator should be brought into use and kept going at intervals, until the corn is well tasseled; then all cultivation may cease.

**Time to Cut for Ensilage.**—Corn that is intended for ensilage should be well advanced towards maturity before it is cut. Experience has shown that the best and sweetest silage is made when the corn has just passed the late-dough or is in the glazing stage. If put in the silo at an earlier period, the corn is less nutritious than it would otherwise be, and it is more likely to make silage unduly acid.

**Harvesting.**—The best implement is the corn harvester. With this implement, a man and three horses can cut and bind four to six acres per day. The bound corn can be loaded, unloaded, and run through the cutting-box with half the expense, as compared with loose corn.

**Drawing to Silo.**—I would advise a low-wheeled wagon or a low platform attached to the axle of the ordinary wagon, for with this arrangement the driver can load his own load if necessary. The ordinary three-tined hay fork will be found most useful for picking up the sheaves of the heaviest corn and placing it on the wagon.

**Ensilage Cutters.**—There are several styles. Any of the blowers will work more satisfactorily than carrier machines. About half-inch length gives best results.

**Distribution in the Silo.**—A chute should be arranged to receive the silage as it comes into the top of the silo. Have large bags, with the bottom cut out, attached to the chute in such a way that, as the silo fills up, one bag may be taken off at a time. With the bags extending from the chute to the bottom of the silo, one man will quite easily take the place of two, and the corn will be much more evenly distributed and better tramped, as the driver holds the bags directly in front of him.

**Covering the Silage.**—As soon as the silo is filled, or, say, all that is to be put in it at that time, the surface should be perfectly level and thoroughly tramped. Then cover with a few inches of straw, again tramp, and cover with a good thick, heavy layer of sand. The sand being slightly dampened, will greatly assist in excluding the air and packing the top layers of ensilage. This plan has been found the best and cheapest way of preserving silage on the top of the silo, of many ways tried.

The following figures give the cost of producing corn silage on the Macdonald College Farm.

Thirty-four acres yielded 640 tons.	
Rent of land, \$4 per acre	\$136.00
Manure, 18 tons per acre; 4 charged to each crop, at \$6 per acre	204.00
Plowing, 23 days, at \$3 per day	69.00
Disk harrowing and harrowing, 8 days	24.00
Seed, 17 bush., at \$1.50 per bush.	25.50
Sowing and planting	18.00
Cultivating six times	66.00
Hoeing and thinning, 43 days, at \$1.50	64.00
Cutting with binder, 10 days, at \$3	30.00
Twine, 204 pounds, at 11c	22.44
Teams drawing to silo, 34 days, at \$3	102.00
Men loading, unloading and tramping in silo, 115 days, at \$1.50	172.50
Use of engine and cut-box, 10 days, at \$7	70.00
Use of general farm machinery, at 30c per acre	10.20
Total crop, 640 tons; total cost	\$1,013.64
Cost per ton, \$1.58	
Yield per acre, 18 tons 1,657 pounds.	

### DISCUSSION.

Q. Can you do as good work with the two-horse as with the one-horse cultivator?

A. Yes, the average hired man will probably do better work with the two-horse riding cultivator. Life is too short to use the single cultivator where the other can be employed. I never got a man who could go over more than five acres a day (once through each space) with one horse. With the two-horse cultivator, he can do ten acres as easily as five the other way.

Q. What would you do to protect seed corn where crows were very bad?

A. A few hen's eggs with the end off and a grain of strychnine in each one, set carefully in the rows, will poison the crows. Go out then and take the eggs away, but leave the dead crows.

[Note.—Unfortunately, we cannot vouch for the legality of this practice, or the following one, but one might justify himself in resorting to it in extreme cases, if care be exercised.—Editor.]

One man in the audience said he had cooked corn to a porridge, putting strychnine in it, and then scattered this about his field, and, after it had done its work, cultivated it into the ground. There was no poultry kept near the field.

Some discussion took place concerning the tramping of corn and method of distributing it in the silo. A. C. Hallman recommended a tin pipe in sections, attached by means of harness snaps. He found this more durable and satisfactory than a sack for distributing the cut corn from the blower pipe.

The greatest success in corn-growing will come to the man who plants the proper variety, on a manured, well-tilled clover sod, and gives each plant sufficient space to grow in; hoes his corn, as well as cultivates, to keep down all weed-growth; maintains a fine dust-blanket for the conservation of soil moisture, and continues cultivation for upwards of a month after the corn is too tall to cultivate to advantage with the two-horse cultivator.

## THE DAIRY

### Payment for Milk by the Test.

From an address by Frank Horns, Chief Dairy Instructor in Western Ontario, at the Ontario Winter Fair, 1910.

Why is it that, after twenty years' study and discussion of this question of the payment for milk, that only about 112 factories, out of 1,200 in the Province of Ontario, pay for milk according to quality? A campaign of education is certainly necessary, and it will need to be strenuous to cope with this condition.

#### UNIFORM SYSTEM OF PAYMENT.

All dairy experts agree that milk for cheesemaking should not be paid for by the pooling system, but that quality (represented by fat, or fat plus casein) should be recognized. We trust that in the near future authorities on this question will get together and arrive at some decision whereby a uniform system will be advocated. However, this is probably not so important as the adoption of some method of payment according to quality.

#### SANITARY CONDITION OF MILK IMPORTANT FACTOR IN QUALITY.

Although it is true that cheese made from normal milk, ranging in fat content from 3.4 to 4 per cent., may by judges be scored higher in favor of the cheese made from the richer milk, and, although the cheese made from the richer milk may be of superior quality, yet, when these cheese are offered for sale in the open market, we find that, provided the condition of the cheese, such as flavor, body, texture, color, closeness and appearance, is right, the buyer apparently does not make enough distinction in the price, so that evidently a great difference in the value of normal milk for cheesemaking arises through the increase in yield of the richer milk over the poorer milk. The sanitary condition of the milk is a very important factor in controlling the quality of cheese; in fact, perhaps as much so as the per cent. of fat, provided the milk is normal. It may be possible to make cheese from 3.4-per-cent. milk which will have a greater market value than cheese made from 4-per-cent. milk, if the sanitary condition of the 4-per-cent. milk is sufficiently inferior to that of the 3.4-per-cent. milk, while the reverse will be the case, and perhaps more so, if the 3.4-per-cent. milk is in bad condition; but there is no question that the quantity of cheese made from the richer milk is always greater, and, when the poor and rich milk are equal with respect to sanitary conditions, then not only the quantity, but the quality (including higher fat content) of the cheese from the rich milk is superior; so that, in any case, the extra yield from the richer milk should be recognized in payment.

#### PATRONS' OBJECTIONS IMPORTANT.

Many objections raised against payment by test may appear trivial to those who know, but assume importance at the annual meetings of pa-