Dragging Muddy Clay Roads.

The system of either dragging or scraping clay roads bids fair to become more general. On the extensive highways of this country, maintained as they must be by a comparatively small population, macadamizing or even gravelling is, in many cases, so expensive as to be out of the question. It is, therefore, imperative to adopt some cheap, effective means of keeping the dirt roads in good condition, and the plan which, according to the Farmer's Review, is being followed in many parts of the American West, is one originated by a Missourian, D. Ward King, who about ten years ago, made a drag consisting of two halves of a split log nine feet long, placed parallel on edge, one about thirty inches behind the other, with flat sides to the front. They are connected with three strong oak or hedge bars, the ends of which are wedged in two-inch auger holes bored through the timbers. Near the ends of the front log are attached the ends of a chain, to which the doubletree is attached, nearer the right side than the left, so that when in motion the drag is angling, and thus draws the dirt to the center of the road. After wearing a few months the lower edges of the drag may be shod with iron. The entire cost of making is estimated at $1.25.

This implement is used when the roads are yet muddy after a rain. The strong point claimed for it is that, by puddling the clay at this time it quickly becomes hard, making a first-class road. So satisfactory have been the results of its use that neighbors have adopted it generally, and the Chicago & Western Railway, feeling the need of better roads along its line, hired Mr. King this spring, and equipped a train to go over much of its trackage in Iowa, making stops at various points to hold good roads conventions and to make demonstrations with the drag. According to reports, the plan commended itself universally, and the farmers in that State are likely to adopt it generally.

The principle of this drag differs from that of the scraper recently described, in that the former is intended to be used when the roads are at their worst, the latter when they are just getting dry enough to crumble. As to how they compare in effectiveness we cannot say, having had no experience with the latter; but as both are cheap, we trust some of our readers may see fit to try them and report results to us.

Frequent Cultivation Pays.

In reply to your enquiry re our experience in corn cultivation, I will briefly outline the system we have found to be very satisfactory for the past number of years.

Our soil is a friable clay loam, which we find very suitable for growing heavy crops of corn. After the ground has been thoroughly prepared and the soil sufficiently warmed, we sow the corn in drills, 36 inches apart, sowing about 24 pounds of seed per acre. As a precaution against crows, we find it very effective to stir the seed with a stick coated with coal tar, or by mixing a small amount of coal oil amongst the seed.

Immediately after sowing, the ground is harrowed, and is harrowed every second day until the plants appear above ground. A weeder serves the purpose probably better than the ordinary harrow. After the plants appear the ground is harrowed again, and yet another time when the plants are about three inches high. After that, until the corn is about a foot high, the two-horse cultivator may be used, removing the teeth opposite the rows. Following this, the one-horse hoe, or scuffler, is used at intervals of two or three weeks, until the corn is about five feet high. We cultivate deeply in the beginning, gradually getting shallower with each succeeding cultivation toward the end of the season. The objects sought to be gained by this constant cultivation are: Rapid growth of the corn, destruction of weeds and grass, and conservation of soil moisture.

We also hand hoe our corn twice; the first time when the plants are about eight inches high, and again when the plants are about two feet high, each time loosening the soil right around each plant.

I am a firm advocate of constant cultivation of the corn crop throughout most of the season, and I believe that for every additional cultivation there is an increase in yield far in advance of the value of the time spent in cultivating.

JOHN M. McCALLUM.

Perth Co., Ont.

Corn Cultivation in Brief.

I find that corn does best on sandy loam, well manured. I plant about a peck per acre, in hills. For the benefit of the crows, I place in the field a number of eggs seasoned with strychnine, and also put sheets of paper here and there, one end being fastened and the other allowed to flap. If the ground gets hard before the corn comes up, I go over it once with a light harrow. After this I cultivate once a week, about three inches deep, with a one-horse cultivator, until it begins to tassel out. My objects in cultivating are to kill weeds and keep the moisture in the ground. We hand-hoe twice when about six or eight inches up, and in August go through to cut out weeds, if any.

W. B. ROBERTS.

Elgin Co., Ont.

Preventive Measures Against Corn Smut.

The soil on my farm is a clay loam, tile drained. Tile draining makes the land warm and dry for corn. I plant in hills 3 feet 4 inches each way. I mark the field with a folding marker, having four plank runners. I plant with a hand-planter, five grains to the hill, about 25 or 30 lbs. seed per acre. A man can plant five acres per day, and make a good job. We tar the seed before planting, to discourage the crows from pulling it up. A good scarecrow is a dead crow hung up on a pole in the center of the field.

As soon as through planting I go over the field with a very light set of diamond harrows made for the corn field, and if there is any corn not covered the harrow will cover it, and keep the crows from getting at it. It is an important point not to let the crows get any grains before the corn is up. Harrow again in about five days after planting. This keeps the ground mellow and the weeds down. Harrow once more as soon as the plants are through the ground, and at intervals thereafter till it is four inches high. Some may think it will harrow out some of the corn, but this is not so. The after cultivation consists in keeping the cultivator at work till the last week in August. Go through it once every week. Cultivate deeply while the corn is small—say till the first of July—then gradually more shallowly to the end. Be sure not to cut any of the fibrous roots.

You can't get corn without cultivation. It keeps the moisture in the soil and makes the corn grow. We hand-hoe all our corn twice. Hand-hoed and cultivated as above, the field will be sure to yield a good crop if the season is at all favorable.

Another point in corn culture is the smut occasionally found on tassel, stem and leaf. No very effective remedy has yet been discovered for dealing with this particular species of smut, but present knowledge of the disease enables us to apply the following preventive measures: (1) Do not plant corn after corn; (2) destroy as much of the smut as possible before it comes to maturity; (3) do not allow domestic animals to eat smut masses in the field, and thereby distribute living spores. It seems evident to me, however, that the smut may remain in the soil from year to year and affect succeeding crops.

ROBT. ARMSTRONG.

Kent Co., Ont.

Five Dollars a Day in the Corn-field.

With a favorable season, a nice loamy soil gives the best profits for us. It takes the least work, and doesn't take so much to keep up the land. In a wet season a clay soil gives very good results, but when we have what we call a corn season, the clay soil is too hard. Sand, as a rule, has to be made very rich to produce a good corn crop.

I prefer planting in hills, so that I can cultivate each way. I would plant about 3 ft. 9 in. apart, and would use from six to eight quarts of seed per acre; three stalks in a hill are enough, if you can get it regular.

We are not bothered so much with crows as we used to be here in our district. The best plan is to shoot two or three and hang them up around in the field where they will be seen. Bright pieces of tin hung up around, so that the sun will shine on them, will also help to drive them away.

Soil should be in a good condition before planting, and I would harrow once with light iron harrow just as it peeps through the soil. Don't let the corn get too big before harrowing. I would cultivate each piece once a week; that is to say, go through it one way each week. We practice shallow cultivation, and don't cultivate when the soil is wet—it just seems to hoe the weeds, if there are any. We are going to use the Massey-Harris two-horse corn cultivator this year. I know of some who use the one-horse shovel-plow from start to finish, and their corn always looks clean and good. We have always used before the single cultivator and shovel-plow. If you can get through your corn once a week for six weeks, you will have a very nice piece of corn at the end. It depends a great deal on the soil as to how long you can cultivate. You can cultivate longer in sand than in any other soil. In sand the brace-roots of the stalk quite often run out into the center of the row, and need cutting off with the cultivator so that more strength will go up into the stalk or plant. In clay or loam soil the brace roots will keep in closer to the hill, and if these roots are cut off there it will be apt to injure the plant.

As for results of summer cultivation, I consider that I gain most of my crop, besides keeping the land in high state of cultivation and keeping the weeds down.

Hand hoeing is practically gone out of date. Farmers have too much to do to hand hoe, when they can do nearly as well with machinery by keeping steadily at it. If you had only a small piece of corn, and lots of time, I think it would pay to hoe once or twice.

I think by keeping my field well attended to, I can easily make 75% of the whole crop, without a bit of stretching. I think we would scarcely have a corn crop at all if we did not cultivate it. I believe that a man's time is worth five dollars a day easily in a corn field, and sometimes a larger loss is sustained if you can't get in when it needs attention.

ORRIN ROGERS.

Essex Co., Ont.

[Note.—The old idea was to "run the cultivator down until the roots crack"—as if that were a benefit to the crop. The modern conception is that root mutilation is not the object of cultivation. Any root-cutting done is an incidental evil, excepting that in the early season pruning of surface roots may help to induce deeper rooting, thus lessening the danger of injury by a succeeding period of drouth.—Ed.]

Corn-growing in Oxford Co.

My soil is sandy loam, but I would prefer a gravelly loam for corn. I always check-row ear corn 3 ft. 4 in. each way, and sow fodder corn with an ordinary grain drill, stopping up all the grain tubes but two. I sow fodder corn at the rate of one and a half pecks per acre, and ear corn one bushel to seven acres. The ground should be deeply worked before planting; a good dressing of stable manure on sod land is preferable. After working up it should be rolled and harrowed, and on our soil we roll again, as our system of marking out requires either rolling or harrowing diagonally; the marking being done with a long pole, to which is attached light wires at proper distances, on which are suspended chains about one and a half feet long, to drag over the field both ways, then plant where the checks cross. If rolled before marking we harrow immediately.

I erect a number of poles with a bright piece of tin suspended on a strong twine to sway in the wind, and find it the cheapest and most effective scarecrow I have ever seen. The system of tarring the seed corn, in vogue in some localities, is not only filthy to handle, but very ineffective, as the crows will dig it up after the earth has taken off the effects of the tar.

Immediately after the corn is up so that the rows are plainly distinguished, harrow again—this is more quickly done than with any cultivator—then give frequent but shallow cultivation until the corn is in tassel; keep the surface of the ground clean and mellow; kill weeds if possible before they are up. The importance of frequent cultivation cannot be overestimated, even in extremely dry weather, and the land should always be stirred up after a rain.

We hoe twice during the season, drawing the earth each time towards the plants. Weeds should never be suffered to get any size in a corn field.

It is difficult to estimate the direct money value of cultivation. It depends upon the yield. Thorough cultivation will always give a crop, but the crop will vary with the best of cultivation, according to the season.

Corn must have heat above and below. I have seen corn turning yellow before it was in ear for want of moisture, which turned to a beautiful healthy green a few days after a thorough cultivation.

C. T. MIDGLEY.

Oxford Co., Ont.

Elgin Co. Cultivation Methods.

Silos are very scarce in this neighborhood, and, consequently, very little corn is grown for that purpose, but a great deal is grown for the grain.

Our farm of one hundred acres is a clay loam soil, and well tile drained. As to methods of cultivating the field ready for corn, we always make it a point to fall-plow a stand of clover, not necessarily the first crop, but maybe a field from which a crop of hay has been taken. During the winter we top-dress, if it is not new land.

As soon as possible in the spring (after oats and barley have been sown) we start to work at our future corn field with disk, spring-tooth harrow and peg-tooth harrow, giving it a thorough cultivation, and working it as deeply as the implements will go. This extra work saves a lot of trouble after the seed has been sown.

After rolling the land we drill the corn in, in rows forty-two inches apart, sowing the seed at the rate of one-half bushel to the acre of Flint corn, and again we roll it. After it has sprouted we harrow it with a light harrow once only, and generally crosswise.

A great difference of opinion exists as to planting in hills or drills, but having tried both plans we prefer the drills, as we find it no harder to keep in good order, and the yield, both in fodder and grain, is much greater.

After the rows are distinguishable, we start the spring-tooth cultivator and the scufflers at work, and keep them going, getting through the field generally twice a week, until the corn gets to be such a size as to close in between the rows. Beside this cultivation, we hand-hoe it two or three times. All this cultivation means a great deal of work, but were we to dispense with that part of it, I think we would not need to look for any more than half a crop, particularly if the land is not new. I consider that a man and horse working in my corn field earns from two and one-half to three dollars a day every day they work. Besides, there is the pleasure of seeing a field entirely free from anything but what is intended to grow there. As to variety grown, our favorite is the flint variety—Compron's Early, Smutnose, or, maybe, the King Philip.

DUNCAN CARMICHAEL.

Elgin Co., Ont.

Corn Cultivation in Grey Co., Ont.

My corn land is a sandy loam; method of planting, hills; quantity of seed per acre, one-half bushel or less. Cultivation consists of a light harrowing before the plants are up, and three or four scufflings three inches deep after they are above ground. I hand hoe once; this method requires very little hoeing. Objects in cultivating are to kill weeds and retain moisture.

W. L. DIXON.

Grey Co., Ont.