

the cocks over so that the bottom may be aired for a time, but usually it may be drawn without. In case of very hard rain it will be necessary to spread out the cocks, but with only ordinary showers they will dry without this labor. If clover is cocked the same day that it is cut, and is cured without opening, it may be drawn when quite heavy to handle and still keep perfectly in the mow. Such hay is of the highest value for cows or other stock, but over-ripe or mouldy clover is almost worthless. I like to see the clover blossoms retain their red color until they are placed before the cows. Such hay will be greedily eaten and there will be no refuse to remove from the manger.—[C. S. RICE, in Country Gentleman.]

Economy of Labor.

With the low price of all farm products, and the high price of help, it is the duty of every farmer to economize labor in every possible way. This can best be accomplished by procuring good implements. The old narrow, wooden harrow, and other old-fashioned implements that did good service ten or twenty years ago will not do now, but only such tools as will do the greatest amount of work in the best possible way, require the least human labor. In many sections sulky plows are coming into use, which turn a furrow ten to sixteen inches wide. With a good implement, which will cut and turn a twelve-inch furrow, one man with two or three horses—depending on the condition of the land and the depth of the furrow—will plow from two to two-and-a-half acres per day, and do the work better than it can be done by hand. Several manufacturers of sulkies are building plows turning two ten-inch furrows at a time, and doing good work. With these one man and three horses can easily plow three acres a day, doing better work with more ease to man and beast than when plowing one-and-a-half acres with an ordinary walking plow drawn by one team. A saving of one horse and man is therefore made in accomplishing a given amount of work. In harrowing also a like saving may be made in using wider harrows drawn by three horses. For ordinary work the harrows commonly made are not heavy enough.

In the counties immediately east of Toronto, many of the farmers are using what is known there as the chisel or "duck-foot" harrow, to which they attach three horses. This implement is not as wide as the ordinary harrow, but is somewhat heavier, and has hooked teeth with a chisel-shaped point. With this tool three horses and one man will thoroughly prepare from ten to twelve acres per day, making an excellent seed-bed, quite equal to one which has been gang-plowed and harrowed twice in the usual way with the common iron harrow. In fact, that prepared by the chisel-tooth harrow will be a better and finer seed bed, not costing half what it would to gang-plow and harrow. This tool works best when the ground is somewhat dry, or, in other words, when the land is in the best condition to till. It will accomplish wonders on sod, doing on it as much good by one going over as an ordinary harrow will in four or five times.

Sod, as well as stubble land, should always be plowed with a skimmer, or jointer, which are now made like coulter, attachable to any plow, and do good work. They will pay their cost in less than a week, rendering the land so much more easily worked. For burying clover, long manure, &c., they surpass any other devices.

When the land is very wet and sticky, the chisel-tooth harrow may clog. Where it does, a spring-tooth cultivator will be found very serviceable, cultivating about ten acres a day. It will work the land when quite wet, but it is necessary to give it a subsequent harrowing. We prefer this tool to a gang-plow. For spring use it is very much superior, and lessens the cost of preparation about one-half when the land is too wet to work the aforesaid harrow successfully. There are several different patterns of this tool. Some of them are very good, others are worthless. Those having a wheel and a lever on both sides are best. In the section previously mentioned, a good many use a drill or seeder having from twelve to fourteen hoes. On well-prepared land a team can handle them easily. A drill or seeder should never be put on land that is not well prepared. A fair day's work with a ten-spout drill is twelve acres. A team walking at the same speed with twelve-spout would seed 14 2-5 acres. Fourteen hoes would sow nearly seventeen acres. Besides doing more in a given time, there are other important considerations in favor of the wide drills. These can be used very well where the horses are strong and well fed, and the land is level. On hilly land the ten-spout drill had better be retained. The manure-spreader, when it works well, will effect a considerable saving of time.

[To be continued.]

Fodder and Edible Corn.

Those sowing corn for fodder will find the Mammoth Southern Sweet much better than any other variety. It grows quite as large, if not larger, than the common American varieties. The stalks are more juicy, have more leaves, which remain green much longer than those of the common kinds. It produces large ears, which will not ripen in this latitude, but may be used for table purposes.

Stowell's Evergreen Sweet, which though not as early as some other varieties, is the best corn we have ever used for cooking, canning or drying, and will mature here, if sown early. It is suitable for the table from the time it is large enough to use until late in the fall. A number of the earlier ears should be allowed to remain for seed. The fodder from this corn makes excellent feed. When planting, select a warm soil and exposure, which will make a difference of a week in the time of ripening.

The Mammoth Sweet (a separate variety not to be confounded with the Mammoth Southern Sweet), is very highly spoken of for family use.

Corn that is planted early is always the best; better have it frozen twice in the spring than once in the fall. This crop may be rapidly and efficaciously sown in drills, with an ordinary grain drill, by stopping up some of the spouts. The drills may be made twenty-one to twenty-eight inches apart, to allow cultivation. The quantity of seed can be regulated as desired, and if the plants are hoed out in the rows to one foot apart, they will yield as well as if in hills, and are much more cheaply planted, when a quantity is put in. Great care should be taken in selecting seed.

Some trust to an examination of the germs. This is not reliable. Corn germs have a greater tendency to loss of vitality than many other seeds. A sure way to test its quality is to put an inch of soil in a common milkpan or other shallow vessel; take a certain number of grains

from as many different ears and place them on this, covering them an inch deep with earth; keep all warm and moist, and if inside of ten days nine-tenths of the kernels do not germinate and come through the ground, the seed should be rejected if better can be obtained. The test-pan should be so placed to receive as much sunshine as possible. The sounder the seed the quicker it will sprout, and it is less liable to rot in the ground when conditions are unfavorable. As the entire crop depends so much upon quality of seed it is wisdom to make the above easy test where there is any doubt, and thus be relieved of anxiety on that score.

Second Prize Essay on Farm Drainage.

BY JAMES LAIDLAW, JR., GUELPH, ONT.

Few who have not tried it, have any idea of the improvement to be effected on a piece of low-lying or springy soil, or even on land that is fairly dry, by laying tile through it. On very wet land it makes the difference between no crop and—in an average year—a fair, and often a very good one. The object in draining is to remove the surplus water, which, if allowed to remain, would become stagnant, sour the land, and, after it had passed away by evaporation, it would leave the land hard and in such a state as to be wholly unfit for a crop; whereas, by draining, we draw off the water from below, and if by this means we do not increase the fertility of the soil, we at least render available that portion of it, which, under existing conditions, is simply lost. It is generally conceded that tile is the cheapest as well as the most lasting material that can be used in the construction of drains. Other forms of drain, such as cobblestones thrown in loosely, and covered with straw and clay, or stone laid in such a way as to form an arch, are much more liable to choke and be filled up by vermin. Wooden pipes or boxes are not so lasting, and more expensive both in cost of the material and construction, for they require a much larger trench to accommodate them, which means more digging. In these days good tile can be had in almost unlimited quantities at the kilns in this section, and be hauled in winter when roads are good and teams often idle, at the following prices, which every one who knows anything about the value of such articles will agree in saying is cheap:—6 inch, \$24 per thousand; 5 inch, \$16 per thousand; 4 inch, \$11.20 per thousand; 3 inch, \$8 per thousand; 2½ inch, \$6.40 per thousand; 2 inch, \$4.80 per thousand. Surely it would be a better investment to sink our surplus funds in a clay-bank in the shape of a tile drain, than in such rotten institutions as the Central Bank and others of a similar character. No one should be deterred from making a start at draining, because his means are too limited to admit of his doing so in so thorough a manner as he would like.

It is a mistake in draining to begin and lay tile at random, touching a wet spot here and running to a spongy hole yonder. Begin with some well-defined plan, taking care to have as good an outlet as possible, and as few of them as possible, as there are then fewer places to protect and keep clear. Before beginning to drain levels should be taken to ascertain the amount of fall available. This, in most cases, is an easy matter, almost anyone being possessed of sufficient skill to do so himself without going to