

places of sepulture for their dead babies; a hole was cut with a tomahawk into the hollow, the body was then pushed in, and the hole filled with sticks, which was the only monument their art could supply. By the settler the hollow trunks are often sawed into lengths of from two to four feet, which are then like barrels without heads, and are used as "ash leaches," dog kennels, hen and goose nests, and many other of the requirements of a backwoods farm. In the forest, the hollow basswood affords shelter to wild animals, such as the bear, lynx, racoon, fisher, porcupine, and squirrel. Basswood ranges from the Middle States to north of the Saskatchewan plains.

Xanthoxylum Americanum, PRICKLY ASH.—A prickly shrub, from two to six feet high, of upright, dense and graceful habit. The flowers, which are yellowish green, appear with the leaves in spring. This is one of our native shrubs, which might do well as a hedge; it grows very dense, the stems are rigid and tough; it holds the ground well, is not eaten by insects nor domestic animals, stands cutting well, and the extreme sprays are not injured by the hardest frost. A spirituous infusion of the bark of prickly ash has been used as a stimulant, as also the fresh juice of the root: a decoction of the bark makes an excellent wash for foul ulcers. Common in Southern and Middle Ontario.

(To be continued.)

Cross-Drilling Grain.

A Farmer in the neighboring town of Henrietta is making an involuntary but none the less interesting experiment this season. In drilling his barley the first week in May, by mistake the orifices through which the grain was distributed were made the same as for drilling wheat, thus sowing only a trifle more than a bushel per acre instead of 2 or 2½ bushels. Several rounds were drilled before the mistake was noticed, and instead of going back and re-sowing the thin portion, the field was drilled at the rate of one bushel per acre, and then cross-drilled with the same amount of seed. The result is a great success. A little superphosphate was drilled in the first day, and a heavy rain coming a few days after, the barley was soon up and growing vigorously. Now, June 21st, it is heading, and a better stand of barley I never saw. The ground is entirely filled, and yet every plant seems to have plenty of room. The barley is of the 6-rowed variety, and many of the heads are set for seventy to ninety grains. The only danger is that the rank growth may cause the straw to fall and not fill well. Barring this, the chance is good for the largest yield of barley on record. Where two or two and a half bushels of seed are drilled in one drill mark, the plants crowd each other so as to stunt their growth. This may be an advantage on very rich land, though of that I am doubtful, but for poor soil cross-drilling with one-half the usual amount of seed each way must be much preferable. Even on rich land I should be inclined to try cross-drilling, but using ashes or German potash salts to stiffen the straw. On very poor land some well tested commercial manure should be used each way, giving the crop a double dressing. With 150 lbs. of superphosphate each way, at \$4 per ton, the cost of manuring a crop would still be less than \$7 per acre. Of course where spring grains are cross drilled, it is not worth while to sow grass seed. Everything except the most rampant weeds will be smothered by the luxuriant growth of grain.

Mr Geo B Terry of Henrietta has for years practised cross-drilling his wheat and he has never failed of securing a good crop. He sows one bushel per acre each way. Some other good farmers drag their wheat fields across the drills, and this displaces some of the grains and leaves them farther apart. They first tried dragging their drilled wheat from having the stubble catch in the drill tube and leave the grain uncovered. To their surprise this dragged wheat stood the winter better and gave a better yield than that on land in better tilth. They now cross-drag wheat even on summer fallows, but I think cross-drilling is every way preferable, as it leaves the seed more evenly distributed.

It is a mistake to suppose that winter grain is always better to be left in the furrow of a drill tube. In cold, dry winters this ridge of earth on either side is a protection: but on heavy soils in a wet winter, like the last winter was, water remains in the drill furrows, and freezing and thawing speedily kill the plant. In such winters it is better to have the wheat on the ridges, instead of in the hollows. By dividing the seed and drilling both ways the wheat is prepared for either contingency. Half is in

the furrows and half on the ridge. If the soil is rich and two bushels are sown per acre, either half the seed is enough for a good crop. By cross-drilling winter grain, especially if manure is used, the plants get a much stronger root, and are prepared to stand the winter. Good farmers are growing more and more careful to get their crops in the ground in the best way, and either for spring or winter grain, I think the extra labor in cross-drilling the seed will be as well paid as any labor given in cultivating the crop. In the barley field first mentioned, I have little doubt that on six acres there will be at least fifty bushels more barley than there would have been if all the seed had been sown one way. This is pretty good pay for the labor of man and team with drill, for something less than a day.—*Cor. Country Gentleman.*

Digging Ditches Economically.

A ditch is an open channel for conducting water, while a drain consists of a subterraneous passage for water. When ditches are excavated with hand tools only, the work is laborious and the cost more expensive than when teams and machinery can be employed to perform a part of the work. Many years ago, when we were in the possession of a farm, much of which required draining, we performed a large portion of this irksome drudgery by the aid of the team and the common plough. Setting stakes for the line of the drain, the plough was run along this line, turning a furrow, which was then thrown back out of the way by hand with shovels. The plough was then put through back again down the drain, the near horse walking in the furrow; this loosened dirt was also thrown back. We found, however, that this opened the ditch rather too narrow, and in cutting one since, proceeding in the same way, allowed the off horse to walk back in the cleared furrow, which, if the plough is set for a narrow furrow in common ploughing, will cut about the right width. The ploughing and clearing was continued (the near horse in the furrow) through three times more, when we found we could go no deeper because the double whiffletree dragged on the ground.

The clovis was then raised above the top of the beam and one horse put on, which by walking in the ditch drew the plough up and down once more, thus loosening the hard soil about one foot in depth. This work was done in less than half a day, and saved at least two-thirds the labor had it been dug by hand. Our ground is full of small stone, making the use of a pick requisite, and increasing the work of ditching to some extent above that of a simply clayey soil. After this experiment a long double whiffletree was employed (say six feet in length), with a horse at each end. Then the subsoil plough was drawn by a chain three or four feet long, extending from the whiffletree to the plough. With a subsoil plough the earth could be broken up to the depth of three feet. When laying small drain tile in a ditch, it is a nice job to get a level surface among the stone and over the occasional soft spots of sandy clay found along the bottom. When laying tile of any size we first place them within reach along the bank, and then, facing the head of the drain, stand upon each one, and with one foot stamp it down until it will not rock or tap either way. On ground free from stones the work is simple and easy, but here we often come to a spot where a stone of some size had to be removed to get a level bottom. Here the tile will not lie firm without the hole is filled up with small stone and a flat one placed under the end of this tile, and the next one just low enough to keep the watercourse level. When the tile lies firm under our feet, as we stand upon it, we proceed to the next, and not before. In the sandy bottom soft spots larger flat stones are filled in to keep the course of tile to its proper place, so that they may not sink into the mud and thus become obstructed. When these soft sandy places are over two feet in length we lay in a good sound board to keep the tiles in the proper place.

As a covering for tile before putting on the dirt we have used straw, small stone and pieces of sod; but it is only the larger cracks which need anything, and sods are generally most easily got, and, we think, will answer every purpose. After shovelling in a few inches of dirt, and treading it down, the remainder may be filled in by a plough, with a long whiffletree, to allow one horse to walk each side of the drain. Or some use one horse to a plough and require the animal to travel over the tile. But this is a practice not to be commended, as there are numerous liabilities to displacement of the tile and crushing tender ones. The first dirt should be shovelled in the ditch by a man who will be exceedingly careful to avoid breaking tile by allowing stones to fall on them. If hard tile are properly laid, the drain will remain serviceable for ages to come.—*N. Y. Herald.*

Clawson Wheat.

The Clawson Wheat has become very popular, says a writer to the Boston Cultivator, as it has proved to be a very large yielder, and standing the winter better than any other variety. I had 44 bushels against 25 of the Dye and 26 of the Red Chaff White Wheat, with the same chance. One of my neighbours had 52 bushels per acre. Allen, one of our large farmers, had 40 acres which averaged him 40 bushels per acre, and he considers it the most profitable wheat to grow, as it is very hardy and a large yielder. There is a large demand for it wherever it is known. The Hon. Geo. Geddes, of Syracuse, N. Y., writes of the Clawson Wheat to the N. Y. Tribune as follows: "One of my friends harvested 35 bushels of this wheat to the acre, and that, too, in the same field and under the same conditions that gave of the Diehl and of the Treadwell only 20 bushels to the acre. Another of my neighbours had a little over 30 bushels, against less than 20 of the Mediterranean. These are men who are willing to make exact experiments, and test a new thing beside an old one, and learn whether the new is any better than the old, and they have sold their entire crops. I know of one man who, two years ago, procured one bushel of this variety of wheat at a great cost, as seed, some of his friends thought, but this single bushel of wheat has produced in increased yield and in increased price, more than \$200 profit."

Improvement of Grass Lands.

This has been a great season for grass, and the coming autumn will be most favorable for sowing the seeds, especially where it is needed, in the bare and thin spots in our meadows and pastures. If the grass sown with the wheat or oats is not thick enough, we may now sow the seeds upon the stubble, and follow with a heavy roller or light harrow. If this is attended to at once, the moisture in the ground will secure for us a good "catch." If a little well-rotted farm-yard manure is spread upon these thin places before the seeds are sown, we shall find it the most profitable use we can possibly make of such manure; and if the ground is thin, such an application is really essential, as, without it, we shall find it almost impossible to produce a good sod. Farmers who cut the second crop of clover for seed, will find that the most profitable use they can make of their clover straw and chaff will be to spread them upon these thin places in pastures and meadows, or upon their fall wheat, where they have sown grass seeds. This application may be made at any time after the clover is threshed; and it will be found as beneficial to the wheat as in thickening up the grass.

We have frequently urged the great importance of good pastures and meadows—that while, in case of a good thick stand of grass and clover, we have the most satisfactory profits that can be derived from the soil, thin pastures and light meadows are most especially unprofitable, because we are bound to have with them thin cattle, thin sheep, thin horses, and, ultimately, thin lands. We, therefore, again urge upon our readers not to neglect the present most favorable opportunity to get their grass lands in order—in the highest and best productive condition. Don't be afraid of wasting the seeds—sow enough—sow in every spot where grass is needed, and where the "stand" is not satisfactory, and you shall have your reward. On the young grass and clover, in wheat or oats stubble, 100 lbs. of plaster, (gypsum) to the acre may be sown, with great advantage and profit, where a stronger growth is desirable. This is the cheapest fertilizer that can be used, and its application should not be neglected where the land is thin, and the grass requires stimulating food.—*National Live Stock Journal.*

Sowing Clover on Grass.

Wishing to fertilize the undersoil of a piece of sod without breaking it up, I tried the experiment of sowing clover on it. The sod was a good one, covered with a good coat of aftermath in the fall. I gave it a thick seeding, and rolled it down well, as early as the ground would permit. The clover soon came up and began to grow; but the grass threatened to smother it. I now passed the mower over it, cutting it close to give the clover a chance; and to aid it farther, I sowed plaster. I feared that the vigorous grass (timothy and other native grasses, the sod being an old one) would be too much for the young clover. But it grew and thickened, and under the influence of the plaster got the advantage of the grass, except on one place where the grass was unusually thick and vigorous. After the plot, twenty-four by thirty feet, had obtained a few weeks' growth, it was mowed again, the clover decidedly predominating, except on the part mentioned. Here it seemed the clover would have to succumb, but it still retained life, and made some advance, which was increased decidedly at the third cutting, the rest of the piece fur-