

second year of the growth of the plant, and when it has been twice mowed, the first time for hay, and the second time for feed. No doubt he is correct so far as analysis goes, but experience seems to show that in every-day farming the land is more benefited by the ploughing under of the crop of growing clover, than by the cutting the two crops (the hay and the seed) and then ploughing in the roots alone with what remains of the crown of the plant. If this is so, it merely shows that the ploughed in crop of clover adds more nitrogen to the soil for the coming crop, and that the root even in its earlier stages affords a large portion of mineral elements as to be of the greatest importance. This effect of the cultivation of deep rooted plants is a matter that requires and deserves to be well thought over by our practical farmers, and adapted to the circumstances of each farm.

#### The Osier, or Basket Willow.

The cultivation of the willow is very simple. It requires a rich, moist soil, which is not too wet, such as our alluvial bottoms, or the low, damp meadows that lie between hills. A light soil is preferable to one that is too compact, and where the moisture is in excess, the land should be so drained as to carry off the surplus water without leaving the soil too dry.

In preparing the ground for a willow plantation, the first consideration is that it shall be cleared of all underbrush and weeds, and deeply ploughed and well harrowed. When this work is done, the land should be lightly worked off in rows three feet apart and the willow cuttings, which should be 9 inches long and of the last year's growth, should be planted along the rows at a distance of a foot apart. During the first year, in order to give the young willows a vigorous start, the soil should be loosened with the shovel plough and the cultivator, taking care to leave the surface flat at the last working. Any one who knows how to cultivate corn will understand what amount of cultivation is required in an osier plantation during the first season after planting. After the first year, a single hoeing, in May or June to keep down weeds and briars and bushes, will be all that the plantation will require. Some willows may be cut the second year; but it is much better not to touch them until the third season; after which they may be cut annually, with the certainty of an increased product each year.

When the plantation is at its best, two tons of peeled willows to the acre is an average crop. The time of cutting varies. Some cut and strip as soon as the bark will peel freely in early summer; but this plan, though frequently followed, is objectionable, inasmuch as whilst it leaves the season of peeling very short, it also tends to the injury of the plantation. The plan which is more approved in the Northern States, is to cut the willows in the fall of the year, as soon as the leaves are off, and stack them in bundles on the field until winter sets in. They are then hauled off to a low piece of ground, which is capable of being flooded, and set butt downwards. As soon as the spring has fairly opened, the piece of land, which is banked up all round and only occupies a small space, is flooded to the depth of six or eight inches. This flooding starts the sap in the willows, and they are then peeled at leisure. The process of stripping is, however, a tedious operation, and costs ordinarily from two to four cents a pound of dry willow. A Kentucky planter, some time since, in speaking of peeling the willow, said: "When I was a young gardener we used to make a great many baskets, and the best way we knew to get off the bark of the willows was to boil them in some kind of an old pot, it is a very easy way, and very simple." This plan might be improved where the willow is extensively grown. Long troughs, through which hot water or steam could be forced, might do the work of many days scraping, without injury to the willows. Machinery is now used for this purpose, which is said to partly economize the labor of stripping and to do its work well. Of this machine we have no personal knowledge.

In selecting Osiers for planting, care should be taken to choose none but the best varieties. For heavy work where *Populus nigra* is used, Mr. C. Downing recommends 'Forbes' willow, *S. E. Forbesiana*. It is very tough and healthy; but when peeled does not whiten well. For general use, he regards the purple willow, *Salix purpurea*, as decidedly the best, although it does not tolerate excess of wetness. Its productive powers are said to be remarkable, and for fine whole work, it is preferred to have no

superior. The next best willow is the long leaved Triandrone willow, *Salix triandra*, which whitens beautifully, is very tough and pliable, and grows vigorously with less drainage than any other of good quality. For split basket work it is a general favorite.

Finally, we say to those who contemplate setting out an Osier plantation, that before doing so it is advisable they should visit the best of those that are already established, so as to glean all the information that is necessary to carry on the plantation economically, and therefore successfully. We have no personal experience as to the profits arising from its cultivation, or manufacture at home or elsewhere. We only presume it pays from the fact that throughout the country a large quantity is raised. A gentleman in the State of Vermont, some years since, stated that he had tried the *Salix Riminali*, and rated the produce the second year after planting (at five cents per pound) at \$750 per acre.—*Maryland Farmer*.

#### Conquering Canada Thistles.

My neighbor M. owns an excellent farm, in which he takes great pride, seldom ever failing to raise good crops of whatever he plants; doing a hearty share of the work himself, and thoroughly superintending all, there are few things but what are kept in trim order, and we call his the best farm in the district. But the best regulated machinery will go wrong sometimes; a screw gets loose, a cog breaks, or a belt flies and causes temporary derangement. So an atom deranged the usually smoothly-moving machinery of Mr. M's farm. In passing over one of his outlying pasture-fields one day, he came across a few curious looking thistles. Now M. is a man of good intelligence and fair education, but a knowledge of the science of botany was not among his accomplishments, so he did not suspect the real nature of his newly-found pests, but like a careful husbandman, had them grubbed out immediately. Chancing around that way some time later, he was surprised to find his thistles thriving wonderfully and extending their area on all sides. This was attended to by another course of grubbing out, which, however, failed, as the first had done, to more than temporarily arrest their progress, for a week or so found them more thrifty than ever. So the war went on for two seasons, till the patch from the space of a few yards, had extended over somewhere about the fifth of an acre. Meanwhile Mr. M. had found out the true nature of this trouble from a visitor from a region where Canada thistles abound; and thoroughly alarmed, had redoubled his efforts to exterminate them, trying various suggestions from different sources, all to no purpose. On a part of the patch, salt was spread at the rate of over three hundred bushels to the acre. This, while completely destroying all other vegetation, seemed to scarcely affect the thistles at all. Grubbing them out became a hopeless task, so mowing them off was resorted to to keep them from going to seed, till some means for their destruction could be found, and so thickly had they occupied the ground and so rank was their growth in the rich, deep soil, that great swaths were rolled up in mowing like mounds.

Finally it was suggested that if they could be kept from seeing the light for a season, it would kill them; but the materials for this smothering-out process not being at hand, it was concluded as the next best plan to cultivate the ground so thoroughly that none could grow. So last spring the field was planted with corn, and as soon as the thistles began to make their appearance, the cultivator was started and kept almost constantly going, with a man following with a hoe to clean out such shoots as were missed. Soon a triple hoe was substituted, and more, where the thistles grew several times between each row, forcing the shovels deeply into the earth. This was continued till the corn, which grew very rapidly, was too large, after which hoeing was kept up as often as any thistles showed themselves, throughout the season. And towards the last, after an interval of two weeks, but two or three feeble plants would be found, and Mr. M. feels very certain that next season will finish them with less than half the labor that it took this season.—*Conn. Pen. Telegraph*.

NOTE BY ED. C. F.—There is no cure for Canada thistles like planting an Indian corn crop 3½ feet at least apart, and keeping the cultivator going while one thistle is to be seen. The corn crop will repay the labor, and the thistles will be killed. If any survive, repeat the operation the following year and that will settle the matter.

#### Evergreens for Rural Improvement.

One of the much needed rural improvements could become universal at small cost to any one family, that is, to plant six evergreen trees around every farm homestead. They may be enclosed with rails for a few years after being planted; when they grow large they will shelter the homestead from cold gusts in winter, give it a lively look all the year, and beautify the country at large. How warm and comely evergreen trees look, when the deciduous species are naked and bare. Turkeys and hens prefer roosting on evergreen trees, to being shut up in filthy coops all night; the branches are arranged to suit fowls to roost upon; there they are sheltered and are beyond the reach of foxes and other animals that prey upon them; they keep free of vermin, enjoy good health, and are generally more profitable. In the heat of summer they get under the trees for shade and the lower branches being near the ground and widely spread out, afford large, shady and airy coops. A good mastiff watch dog will protect the fowls from man thieves in the night time. Farmers should consider how greatly evergreen trees soften the hard and cold winter gusts and tame the force of summer tornadoes, and by the shelter they afford, thereby save animals from sudden chills, and buildings from destruction. Being more dense and massy than deciduous trees, they are doubly valuable for shelter. If farmers grow deciduous trees for summer shade near their buildings, they should grow the large growing fruit trees, apples and cherries. These are at once profitable and beautiful. The species of evergreens are numerous. For every kind of soil, sandy, loamy, and clayey, we have species to suit. In no other country do farm homesteads look so bleak in winter as in America, reminding us of "pelicans in a wilderness and owls in a desert." Farmers rather glory more in the destruction of trees than in growing them. Our wealthy and discerning agriculturists will have to take the lead in thus beautifying their farmsteads with evergreen trees, as they have done in introducing so many superior breeds of domestic animals.—*Practical Farmer*.

#### Corn in Hills and Drills.

At the Michigan Agricultural College in 1866, two plots of land were set apart, substantially equal in character of soil, each measuring forty-eight rods in width. The ground was ploughed May 3, and manure was spread evenly and worked in by cultivator and harrow. Yellow Dent corn was planted May 21, in rows four feet apart; one of the plots being planted in hills, the other in drills. The plots were cultivated and hoed June 15, and again July 7; the plants being thinned so as to leave the same number of stalks on each plot, including the equal distribution of plants throughout the subdivision of the plots. As nearly as possible, each of the two plots received the same amount of labor and cultivation. The stalks were cut Sept. 17, and stacked in good order; three weeks afterwards the corn was husked and weighed. The stalks then again carefully stacked, and were hauled and weighed, in good condition, Oct. 12. The corn on the portion planted in hills was better in quality than on that planted in drills. But the drilled portion produced seventy-four and one-sixth bushels of shelled corn, and three tons of stalk to the acre, against sixty-five and one-half bushels of shelled corn, and two and two-thirds tons of stalks per acre produced by the portion in hills.—*Rural World*.

#### Broom Corn.

The Baltimore American Farmer says:—"The land should be prepared as for a common corn crop; and upon this, in proper order, open a furrow with a shovel-plough (or drill will be best, to save labor); let the furrows be three and a half to four feet apart, according to the strength of the land, then sow the seed in the drill, and follow with the plough to cover the seed. In other respects, cultivate as for corn, keeping it clear of weeds. Land rich, or highly-manured, will produce one thousand pounds of the brush to the acre, besides the seed, which is equal to corn, with a little salt thrown upon it, for fattening hogs, and is highly relished by horses and cows. It will furnish more seed or grain than oats.

AUSTRALIAN CORN.—A correspondent of the *Western Farmer*, writing from Baraboo, Wisconsin, says he has found Australian corn one of the best for fodder that he has met with. He had 300 pounds of shelled corn from a quarter of a pound of seed, planted two kernels in a hill four feet apart one way and two feet the other. Many of the stalks had six ears, and none had less than two.