

sand-drifting will cease, and, instead, there will be rising a forest of beauty and utility.

Photogravure No. 2 affords a good idea of the long, narrow nursery-bed lines where the seedlings are grown. No. 3 shows the method of reforesting land by setting the seedling trees in trenches thrown out by the plow, as done on the watershed by the City of Guelph. This planting was done as a protection to the water supply, as well as to the land. The trees are set the same way on the Norfolk area. No. 4 presents a really beautiful view of white pines growing in nursery rows, preparatory to being permanently transplanted.

When it is remembered that the work was transferred from Guelph to St. Williams only last year, the results accomplished are remarkable, and Prof. E. J. Zavitz, M. S. F., Forester, of the O. A. C., is deserving of the heartiest congratulations upon the substantial progress made. The work is under the faithful and efficient local superintendence of Geo. Lane, who previously had some two years' valuable experience in the Guelph plantations, prior to that being a farmer. The tree seeds are first sown in specially-prepared beds, surfaced with rich mold, in rows, lengthwise, a few inches apart. These beds are watered by the hose attached to pipes supplied from a huge windmill-filled tank in a central location on the farm. The seedlings, as they come up, are protected from the sun by slatted coverings which can be rolled up when not required. Norway or Red Pine, sowed in May of last year, was in May of 1910 already several inches high, and other varieties were making excellent growth. After a sufficient start in the original lines, the seedlings are transferred to nursery rows, where they are cultivated further apart until ready for distribution to farmers and schools, or for planting on the adjacent waste lands, being pulled in the fall, packed in bundles of about 25 each, and heeled in. Heretofore, a great many seedlings have been imported from Germany, but it is believed now that white-pine seedlings can be grown at the Norfolk Station at a cost very close to those imported, and with less liability to losses. In addition to others mentioned, some nut trees are being cultivated. The last of the nursery material at Guelph, 200,000 white pine, were transferred to St. Williams this spring. About half the seedlings thus far were grown at Guelph, and the rest imported.

Seedlings are distributed free to applicants who undertake to grow them according to directions from the Forestry Department at the Guelph College, but two acres is the largest area for which planting material will be furnished in any one year. A start of one acre the first season is advised. The distribution of packages for school gardens is also most commendable. This season, during April and May, there were sent out in the general distribution no less than about 250,000 plants, composed chiefly of Scotch Pine, Jack Pine, White Ash, Elm, and Black Locust, and about sixty collections of evergreen seedlings to be used in school-garden work or other suitable situations about school grounds. These collections were composed of twelve each of White Pine, White Cedar, Norway Spruce, and Scotch Pine. Teachers and trustees throughout the Province should certainly avail themselves of this splendid opportunity to secure planting material, as too many school-grounds are still lamentably destitute of trees, not to mention the educational value to the scholars of knowing the names and habits of such collections in the school garden. Since the work commenced at Guelph, five years ago, the distribution has reached the grand total of about one and a half million trees, the benefits of which to the people of the Province are beyond all computation.

### When One Head is Brown.

"Early-cut clover makes far more palatable hay than late-cut," declared N. P. Hull before the Western Ontario Dairymen's Convention, in January last. "I asked a neighbor once when was the proper time to cut clover for hay. 'When two-thirds of the heads are brown,' he replied. I asked another, who answered, 'When one-third of the heads are brown.' Later, I met another man, one for whose opinion I had considerable respect. 'Uncle,' I asked him, 'how many brown heads should there be in a clover field when I cut it?' 'Boy,' he replied, 'there should be one brown head in the field, and that should be on the shoulders of the lad driving the mower.'"

The Seed Commissioner, Ottawa, advises farmers who have clean land to take the first cut of early red clover as soon as possible after June 20th, and thus provide the best conditions for a good second growth for seed crop. The best way to clean clover, he says, is to pull the weeds before the crop is harvested. The increased market value of the seed will more than pay the labor detailed.

### Making Hay.

The time of making hay is at hand. In some regions, already, the business of saving the alfalfa or clover crop has begun, and those who most have studied the art will save the crop in appetizing shape, while others wonder why they cannot make good hay. Haymaking is an art whose object is to so cure and store hay that it may resemble as nearly as possible the natural grass of the field, in color, food nutrients, palatability, and digestibility. The practices of the art depend on the kind of crop being handled; i. e., alfalfa, clovers, or timothy, but in all cases the work must be done with precision and promptness.



No. 3.—Reforesting Land Near Guelph, Ont. Setting Seedling Trees in Trenches.

Weather, of course, is a very important factor in haying operations, and to its exigencies each haymaker must adapt himself. The directions given below apply rather to normal conditions. For bad weather, it is absurd to offer precise suggestions.

The acreage of hay crop, its kind, and the contour of the land, determine largely what implements shall be used. Generally speaking, those implements which will make the hay quickest should be employed. Where the land is sufficiently level, a seven-foot mower should be used; few lands, unless very new, demand a mower narrower than six feet. Every man who makes as much as ten acres of hay should have a tedder. Of all implements used in haymaking after the hay is down, this is one of the most indispensable. Of it, more later. Where the crop handled is largely timothy, and of considerable area, the side-delivery rake and hay-loader contribute greatly to lessen the expense, and increase the quickness of han-

dling the crop. When these are not used a 10-foot or 12-foot dump-rake completes the outfit in the field. At the barn, either horse-forks, slings or rack-lifters facilitate the quick unloading of the hay. As yet, there is no device contrived for the even mowing of the crop, though a pole has been used with much advantage to spread the hay in the mow.

Cutting should usually begin in the morning, as soon as the dew is off. Time is saved by cutting when the dew is still on, but the quality of the hay deteriorates. Great quantities should not be put down at once, but rather only what can be handled in that day. How often men have been seen cutting all day, perhaps two days, with never a stop, and about the third day it rained.

Usually, three hours' cutting with a smart team and a good mower will be enough for one day on an average farm. After the hay has lain two hours in the swath, the tedder should be run over it. If it is a timothy crop, or a light crop of any variety, one teddering is sufficient. If the crop is heavy, or only medium, the tedder can be kept going advantageously until it is ready to rake, the purpose being to get the moisture out of the hay as quickly as possible. If we were assured of dry

weather, such haste would not be necessary. Rain, or even dew, damages hay greatly, especially the leguminous hays, and the more nearly cured the hay is, the greater the damage. Consequently, from the time the mower starts until the hay reaches the barn, haste is the watchword. Hay cut in the morning, teddered continuously during the middle of a drying day, should, if possible, be raked and cocked before dew begins to fall that night. This reduces the damage by dew to a minimum. Preferably, the cocks should be well built, and if the weather is favorable, the hay may be left in this for one or two days, where it cures admirably. If the weather is threatening, as soon as the dew is off the next morning, the cocks should be opened out to allow the escape of the moisture collected from the sweating process, and in an hour may be put in the barns. By this method of almost continuous handling, the hay is dried and cured uniformly, and the leaves and heads, the most valued parts,



No. 4.—White Pine in Nursery Rows.