NOTES ON NURSERY PRACTICE IN SCOTLAND

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The influence of a damp, cool climate is very apparent in most nurseries in western Scotland. Artificial watering is rarely essential, and a cover over seedbeds may be needed for a short time only. Weed growth is less rank and rapid than in warmer climates. All these facts contribute to easing the lot of the nurseryman, but on the other hand there is greater need for good drainage and maintenance of fertility.

Many private estates maintain their own small nurseries, and here one finds some excellent stock being grown in an intensive way with no labor-saving devices, to be sure, but by gardeners who have inherited a "green thumb" from their fathers and grandfathers. An example of the Dunneman seedbed may be seen at Murthly Castle in Perthshire (fig. 1).

The method used on this estate was developed by a forester in the Harz Mountains of Germany and will delight the organic gardener for it is merely growing trees in their own humus. The bed is prepared by turning over the soil, then building a frame 12 to 18 inches high of boards which is filled to the top with duff from the forest (i.e., Norway spruce), mixed with some mineral soil. Seeds are sown on the top and covered with grit. Obviously, such a bed is well drained and in a less damp climate would need shading and constant watering. The advantages claimed are a longer growing season (warmer soil), less weeding, and a saving of 1 year in producing stock. One-year seedlings are sometimes transplanted to ordinary soil so that they will not become too spindly. Because of rapid shoot and root growth in the box plant, density must be kept low.

At the other extreme the large nurseries operated by the Forestry Commission for supplying stock to government reforestation projects are highly mechanized. Ledyard Nursery is a good example with 56 acres in seed and transplant beds. Seeding is done in drills with a special tractor-drawn machine, which prepares the furrows, rolls them, deposits the seeds, and covers them with grit (ground stone) (figs. 2 and 3). Rows are 300-500 feet long. These seeded rows are undercut to prune the roots instead of transplanting.

Figure 1.--Dünneman seedbeds, Murthly Castle, Perthshire, Scotland.

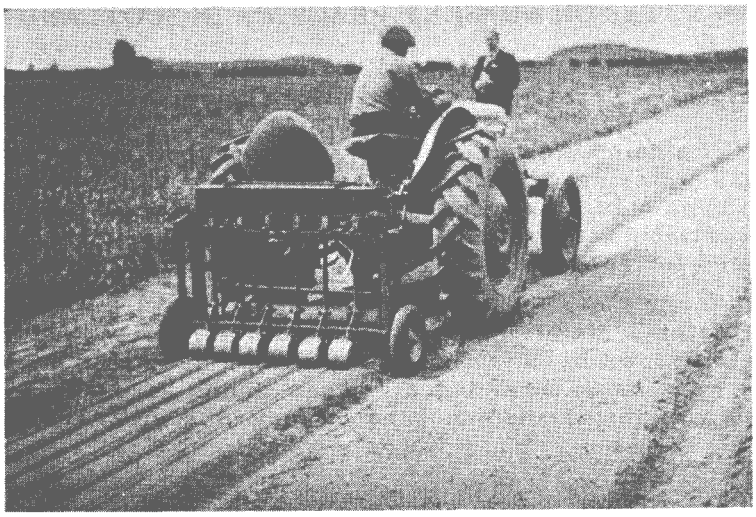

Figure 2.--Woodburn's seeder that prepares and rolls furrows; drills seed and covers them with grit.

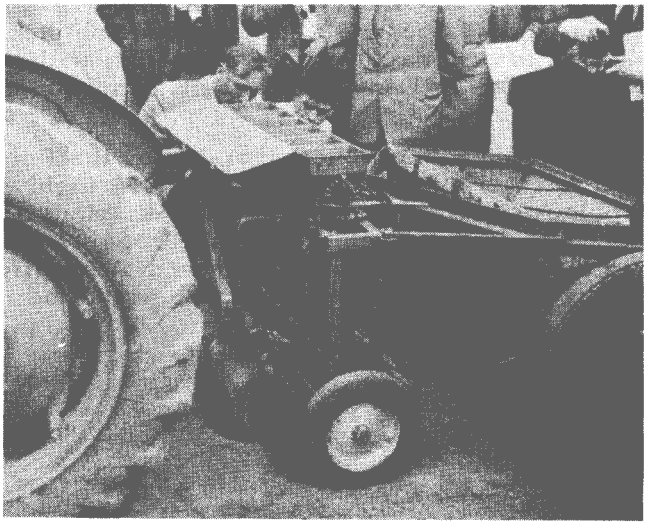

Figure 3.--Woodburn's seeder with covering machine, Ledmore Nursery, Perthshire, Scotland.

But some transplanting is still done using a locally designed machine called a lining-out plough. This lining-out plough pushes the soil against a line of 10-foot transplant boards in place and at the same time opens another furrow for the next row, spreading a stream of fertilizer in the bottom of the furrow as it goes (fig. 4). Two of these ploughs permit 250,000 seedlings to be transplanted per day at an average cost of 4 shillings per thousand.

The nursery now produces 6 to 7 million trees per year (fig. 5), but will have three times that output when all the ground is in production. About 30 workers, mostly women and boys, are employed at peak seasons; 20 at other times. At the present time Sitka spruce, Douglas-fir, and Japanese larch are the chief species produced; lesser quantities of Norway spruce, Scotch pine, and European larch are also produced. Fertility is maintained largely by crop rotation and cover crops plus manure.

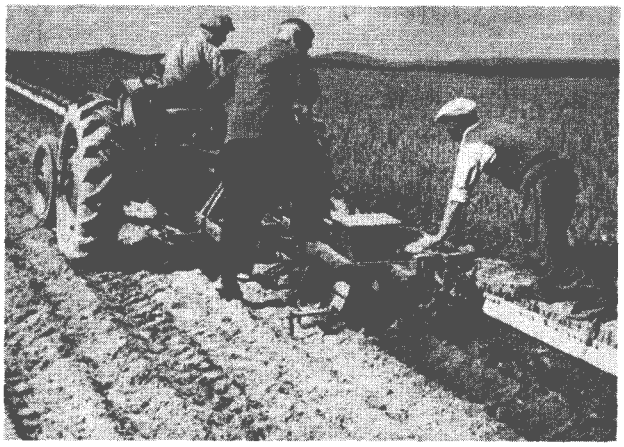

Figure 4: -Woodburn's transplanter opening furrow and spreading fertilizer; transplant boards in place.

Figure 5.--Douglas-fir transplants set with Woodburn's transplanting machine, Ledmore Nursery.

Some of the machines used at this nursery are the lining-out plough, the drill sowing machine, the twin-bladed undercutter for root pruning, the "Gunn" plant lifter, and the Steerage weeding hoe. The plant lifter has semicircular tines that travel between the rows to reduce root damage; and the weeding hoe cultivates between the rows (fig. 6).

The person who developed the various machines is T. A. Woodburn, District Forest Officer of the East Scotland Conservancy in which the nursery lies. His imagination and inventive ingenuity are so great that sometimes models of his machines become obsolete before being fully perfected.

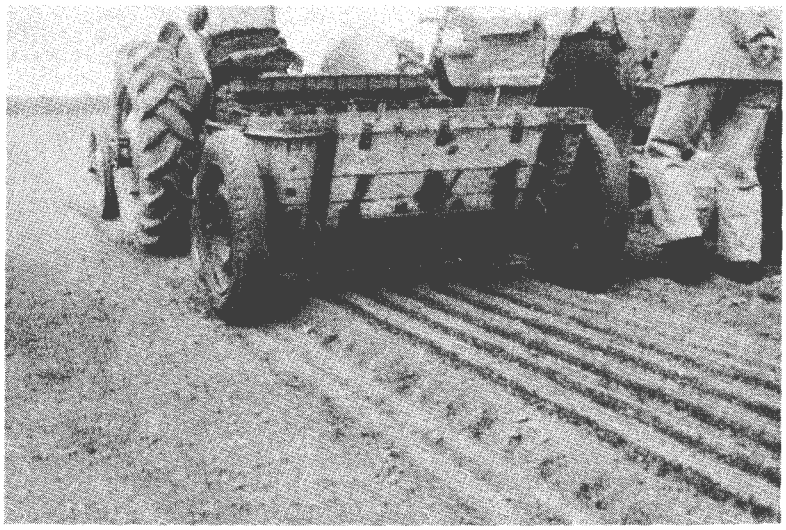

Figure 6.--Woodburn's row cultivator, drill marker, and fertilizer.