

\$49 per acre for ditching. As one foot of the top of this bog is moss, valueless for fuel, and 6 inches at the bottom contains too much ash, but 3 feet remains for good fuel, with which thickness the bog it is estimated will yield 645 tons finished fuel per acre. The cost of ditching the Welland bog is therefore equal to \$0.0759 per ton.

Physical conditions, to a large extent, govern the expense of ditching, and at the Beaverton bog the expense is considerably less. A few main drains 400 to 600 yards apart, and cross ditches 100 feet apart, are all that is necessary, involving 420 feet of ditching per acre. It was ascertained that a man at a wage of \$1.40 per day can shovel 26 cubic yards of peat per day, so that, these ditches being 3 feet wide and 3 feet deep, 140 cubic yards per acre are removed at a cost of \$7.53. An acre of this bog $2\frac{1}{2}$ feet deep will yield 535 tons finished fuel, and the cost of ditching the bog per ton of fuel is therefore \$0.0141.

At nearly all of the other bogs in the Province where peat fuel manufacture has been attempted, drainage has been necessary, the expense per acre varying with the depth and size of the drains.

CLEARING THE SURFACE.

After draining, the light, growing or undecomposed moss is removed, together with protruding stumps and roots of trees, and a level surface is prepared for the digging or excavating process, which comes next in order.

In some European countries the moss is manufactured into litter for bedding cattle and horses, for which its high powers of absorbing moisture render it peculiarly suitable. An attempt was made at the Welland bog some years ago to establish a moss litter industry, but though there was no difficulty in preparing a first-class article, the business languished and did not succeed, presumably through lack of demand.

On a 10-acre plot at Welland \$25 was paid for extracting stumps and roots, and \$50 for removing the covering of moss. For one acre, the cost therefore was \$7.50, or \$0.0116 per ton of finished fuel. The moss and roots are allowed to dry in the air and are subsequently used for fuel at the peat works. At Beaverton, the cost of clearing the bog is estimated at \$0.0052 per ton of briquettes.

LAYING DOWN TRAMWAYS.

The bog being drained, levelled, and sufficiently consolidated to be worked, the laying of light tramways on which to haul the peat into the factory is the next preliminary. The tracks are sometimes laid along the ditches, as on the Welland bog, in order to bring the trucks on a level with the surface and so facilitate loading; but this is a temporary advantage only, for as the peat is removed the height of the bog decreases. It is more satisfactory to lay them on the surface, where they may be quickly shifted to any place or in any direction desired. The bottom of the ditch is too wet and soft for the tram horse, which is obliged to walk along the top, playing havoc with the crumbling sides of the trench.

At Welland a track runs down each of the 13 cross ditches in a 10-acre plot, involving the laying of 860 feet of track per acre. The track being constructed in short sections is easily and quickly handled, two men at \$1.20 laying 300 feet per day. The cost of track-laying therefore amounts to \$6.86 per acre or \$0.0106 per ton of finished fuel.

At Beaverton a single tram line is constructed down the centre of each 100-foot section, leaving a 50-foot strip of bog on either side. About 400 feet of track per acre is required, the cost of laying which is \$3.73, or \$0.0070 per ton of finished fuel. The ordinary method of hauling the peat is by horse, but at Beaverton the motive power is electricity.