

Report on Excursion to "Trench 14," Clonsast Bog.

THE unusual subject of this outing brought a very large number of members to the assembly point at Portarlington on 20th April, 1958 from which they drove to the north side of Clonsast Bog near Clonbologue.

Mr. Mangan (President) welcomed all those present and introduced Mr. de Bruc, Forester who, in the unavoidable absence of Mr. Cronin, Head Forester, represented the Minister. He also introduced Mr. Barry, Research Officer, Bórd na Móna, who was the leader of the party for the day.

Mr. Barry gave us some general information on our surroundings and details of Trench 14. He said that the total area of Clonsast Bog under Bórd na Móna was about 4,200 acres and it had been producing machine won turf for the last fifteen years. He explained how the bog was developed in a series of trenches running North to South and how each year's cut ate into the sides of the trenches and widened them. Trench 14 was one of many such trenches in the bog which were at 250 yard centres and about 4 miles long. It had been passed over to the Forestry Division by Bórd na Móna on nominal lease for tree-growing experiments in 1954. Bórd na Móna had to sacrifice something, he said, to make this trench available. It was about one mile long, 30 yards wide and covered $9\frac{1}{2}$ acres when taken over by the Forestry Division.

The Forestry Division had planted 17 different species in half-acre plots which were divided into equal parts, manured and unmanured. The bottom of the trench was levelled off with various admixtures of peat resulting from the machine cutting, and planting was done on the flat, Ground Mineral Phosphate being the manure used. The banks of turf now flanking the trench are from about 6 ft. to 10 ft. high and the bottom of the trench varies from about 2 ft. over the bog bottom at the south end to as much as 12 ft. at the north end. The maximum depth of the virgin bog was about 24 ft. Underneath the surface at the north end is a basal depression of *phragmites* marsh peat overlain by forest peat with pine and birch remains. The bog floor, however, gradually rises until, towards the south end, the subsoil is quite near the surface and appears in the spoil. Remains of pine and birch were evident throughout, while yew is also found in the mid-way parts of the trench.

In emphasising the significance of this experiment in its relation to cut-away bog usage on a national scale when Bórd na Móna turf-harvesting will have concluded Mr. Barry said that as the members would have the opportunity of examining the performance of the various tree species during their walk he felt that he might underline the fact that they would be looking at a unique experiment—something for which there was no comparison in Europe.

In beautiful weather the members proceeded through plots of seventeen species in the following order:—Lawson cypress, Sitka spruce, Norway spruce, Serbian spruce, Monterey pine, Scots pine, *Pinus contorta*, Douglas fir, *Populus gelrica*, *P. serotina*, *P. robusta*, hybrid larch, Japanese larch, Jap. larch and Sitka spruce, Jap. larch and Norway spruce, *Thuja plicata*, *Tsuga*, grand fir, noble fir. The manured plots of each species had received 3 ozs. of G.M.P. per plant except *Pinus contorta* which got only 2 ozs. Planting was carried out in Spring 1955 but considerable beating up was done in the Monterey pine plot the following year.

Interest was first expressed in the peculiar development of the Lawson cypress which had grown quite vigorously but in an abnormal fashion with the stem very thick at the base, the shoots drooping and with a stiff woody growth at the top. Here an average total height of $32\frac{1}{2}$ ins. in the manured half compared with $26\frac{1}{2}$ ins. in the unmanured half.

The most remarkable feature was the superior performance of the pines so far. Monterey pine had grown to an average total height of 28 ins. in the manured half with a maximum of 60 ins. but had only made an average of

8½ ins. in the unmanured section. Manured sections of Scots pine and *Pinus contorta* looked well and had given average total height growths of 27½ ins. and 29 ins. respectively the unmanured P.C. giving only 8½ ins. average. Sitka and Norway spruces have given average height growths of 29½ ins. and 22½ ins. respectively, the latter looking very well. The larches have given very good results but some members were of the belief that the apparent improvement in the vegetation type rendered comparisons invalid in this case.

Throughout, manured plots gave better results than unmanured but this appeared far less clear-cut in some species than in others, notably the larches.

None of the three poplars looked at home and die-back of the leading shoot was evident in all three plots.

Mr. Barry gave us some comparative figures which were of considerable interest. Plantations of similar age in Bangor Erris district, Co. Mayo though not established by the same planting methods gave smaller figures in respect of annual leader-shoot growth. The figures are as follows:—

		Trench 14 inches	Bangor Erris inches
Sitka spruce	1956	3½	2
	1957	5½	3
Monterey pine	1956	9	4
	1957	19	4
<i>Pinus contorta</i>	1956	7½	5½
	1957	16	7½

Many members expressed doubts as to effect wind will have on the trees when they rise above the existing protection provided by the marginal turf-bank faces. Fire was also discussed as a hazard if planting should develop on a big scale.

A discussion also developed on the possibility of planting on bogs from which the peat is won by the milling method. It was pointed out that such bogs would be very different from Trench 14. There would only be about 2 ft. of undisturbed peat over the mineral subsoil on the milled-peat subject as compared with the throw-down and mixture from machines levelled off in Trench 14. It was said that bottom peat was chemically attractive but physically very difficult. The milled-peat surface might be capable of absorbing 900 times its own weight in water. At the southern end of the trench which ran on to the Esker ridge the mineral subsoil was heavily turned up on the surface. This seemed to have an adverse effect on tree growth and there was much talk of chlorosis.

On this important point some thought that the ideal would be the development of machinery which would mix the mineral soil with the peat. It should, some thought, improve the physical condition and chemical balance of the root-feeding medium and might be the secret of success.

With this point of view Mr. Barry said he agreed entirely and visualised a "system of eskers provided by nature for the fertilisation of our peat bogs."

The discussions ended on this note and our President thanked the Minister for Lands and his representative for the facilities provided and regaled the party with the story of the Gobán Saor and the appropriate analogy.

He paid tribute to Mr. Barry for the manner in which he had lead the party and for the generous and masterly way he had given information on all possible points. Great credit was indeed due to Mr. Barry who had been associated with Trench 14 since the work began and who must be, scientifically speaking, the first authority on this project which may yet be of great national importance.

O. V. MOONEY.

Report on other afternoon study tours held during Summer 1958 will appear in our next issue.—Editor.