to this control and to give information as to origin of seed on invoices. The Station also co-operates with the State Seed Testing Station (established in 1871) which is administered by a similar Committee appointed by the Minister of Agriculture.

Forest Tree Breeding

221. A visit to Horsholm Arboretum enabled the writer to renew contact with Dr. Syrach Larsen, who was at the Helsinki Congress, and had recently been in New Zealand. A scientist of great modesty and personal charm, Dr. Larsen is a recognized world authority on genetical improvement of forest tree types.

Nominally Curator of the Arboretum, Dr. Larsen has concentrated on tree breeding research since 1924, and since 1937 his work has been increasingly supported by grants, partly from the State and partly from the Danish Forest Society and other private sources. His views on the importance of tree breeding expressed at the third World Forestry Congress, and surveys of the results which he has achieved have been published in English and are now available in New Zealand, and consequently it is only necessary to express personal impressions gained whilst in his company.

222. The technique of grafting both broad-leaf and coniferous species has been developed to a fine art at the Arboretum, and Dr. Larsen emphasized that this is routine work which can readily be taught to intelligent workmen. Glasshouse grafting was not recommended under normal circumstances, Dr. Larsen affirming that the best of his trained nurserymen have completed 100 successful *Pinus* grafts in the nursery lines in one working-day.

223. Several " seed gardens " of larch, ash, Douglas fir, and spruce which had reached or were about to reach the stage of seed production were inspected. Of particular interest were a 1-acre larch " seed-garden " consisting of widely spaced alternate rows of—

(*a*) European larch (*Larix decidue*) grafts from a single elite tree planted by Von Langen in 1769 of uncertain origin. (The grove from which this tree was selected was subsequently visited; the average total height was 110 ft., the crowns being flat with no sign of over-maturity; the diameters at breast height averaged 36 in.)

(*b*) Japanese larch (*Larix leptolepis*), offspring (F_1 generation), from one controlled pollination between two well-formed trees.

The objective was to obtain a commercial yield of controlled hybrid (***Larix eurolepis***) seed, by pollination of the European by the Japanese larch; the former, being a " clone," was immune from self-pollination. The first yield was expected in the coming year.

224. A feature of a seed-yielding ash " seed garden " inspected was the visible vegetative difference between the alternate rows of " male " and " female " grafted plants; the growth of the female plants were slower than the male, this being attributed to the physiological effect of seed production. Dr. Larsen has observed that narrow annual rings coincided with ash seed years and that in older Danish stands of ash the final crop often consisted almost entirely of dioecious male trees, the majority of seed-bearing trees having been removed in thinning or suppressed on account of their slower growth.

The Danish Forest Service Tree Breeding Station at Krogerup:

225. In the company of Dr. Larsen this Station was visited, as a natural sequence to the pioneer work at Horsholm. Recognizing the practical importance of Dr. Larsen's results and their direct application to Danish State forests, the Department has recently