

seedlings can be inserted intact into the ground at a rate of about 250 per man-hour. Limited testing has proved that this method is practicable and, during the summer months of 1966, a large-scale project (27,000,000) was conducted across the province.

For half a century, Ontario has had enabling legislation that permits municipalities to place abandoned and submarginal agricultural lands, to which they have acquired title, under agreement with the Department of Lands and Forests, which undertakes to plant and manage the properties for a specified period of time—usually 50 years. Nearly 200,000 acres currently under such agreements have been managed intensively, the plantations receiving regular thinnings. The trees removed are in demand for pulpwood, posts, poles and sawlogs, making the undertakings financially attractive. In addition, the properties that are close to centres of population are acquiring tremendous value as recreational areas.

Owners of private land may purchase planting stock for forestry purposes from government nurseries at nominal prices and may also receive free professional advice on any forestry matter, including silviculture, harvesting and marketing. Under new legislation (the Woodlands Improvement Act, 1966) the service to owners is greatly expanded and it is now possible to have planting and improvement work carried out completely under government direction and mainly at its expense. In return, the owner is required to meet a few modest demands that ensure his good faith.

A new but small group developing within the Timber Branch—the Economics Unit—is undertaking, in co-operation with other specialists, feasibility studies to lead to the establishment of forest-based manufacturers in under-developed areas, to expand and improve the statistical information of the forestry sector, to provide market information, and to analyse the economic implications of Departmental practices and proposals as a means of strengthening the value of services provided.

Expansion currently under way or completed within 1965-66 by major firms dependent upon timber products, permits a prediction that wood utilization in Ontario will increase by at least 1,000,000 cords a year by 1968. This very favourable rate of capital formation, together with the present dynamic approach to forest management, is assurance that a viable, broadly based forest industry is developing on a sound business basis.

*Protection.*—The area under organized forest protection in Ontario totals 176,000 sq. miles and includes the main central band of accessible forests. This area is organized into 21 fire districts and further subdivided into 54 chief ranger divisions for the purpose of forest protection. South of this area, in the highly developed agricultural counties of southern Ontario, the municipalities are responsible for fire control; the vast inaccessible areas to the north of the fire districts, totalling some 190,000 sq. miles, do not support significant stands of merchantable timber and, except for communities or other special values, are not protected. Within the fire districts, agreements were in effect in 1965 with 214 municipalities and 225 timber licensees for the prevention and control of forest fires. An agreement was also in effect with the Federal Government for the protection by the Ontario Department of Lands and Forests of 873,000 acres of Indian lands in the province. The average annual number of fires for the 1950-64 period was 1,360 and the average annual burn was 152,623 acres.

Forest fire detection is accomplished through a 310-lookout-tower system and through aerial patrols as well as public reports. During the autumn of 1965, an infra-red aerial detection system was evaluated and will be further appraised in 1966 for the detection of lightning fires. Also in 1965, 300 northern Ontario Indians were recruited and trained to provide a readily available body of skilled forest fire fighters at various key centres. Prescribed burning for hazard reduction and site preparation purposes was carried out on 12 burns covering 1,560 acres, a program scheduled to be increased to 7,000 acres in 1966. A new water-bombing system utilizing the interior of aircraft floats to carry the water load was developed in 1965, a design that increases the water concentration in the drop pattern by several times over the existing external tank system on Beaver and Otter aircraft.