

CULTIVATION OF FORESTRY.

THE annual report of the Clerk of Forestry of Ontario for 1899 diffuses much information bearing upon the important subject of tree culture. The preliminary remarks relate to the application of forestry methods by farmers. This is followed by an outline of the circumstances which led to the adoption by the Ontario Government of the Forestry Reserves Act. The immediate aim of the Commissioner of Crown Lands in proposing this Act was the reclamation of waste areas of Crown lands that had been burnt over after lumbering and were unsuited for settlement. The Crown lands agent at Plevna, in the township of Clarendon, having reported the presence of a large tract of burned over, unsettled land on which a fine crop of young trees was growing, Mr. Thomas Southworth, the Clerk of Forestry, was instructed to make a special report upon the territory.

Mr. Southworth visited the townships of Abinger, Miller, Barrie and Clarendon. The early operations in these townships were confined to taking out only the choicest and largest pine for square timber. This left a large quantity of debris in the woods, which almost invariably caused a forest fire. Now, years after the fires, the forest of dead pine stands so thick as to convey the idea of a great hop yard, and this effect is enhanced by the young green forest which conceals the bottom of the dead pines. The lumber industry in the district is now a thing of the past, but throughout the whole four townships where it is not ploughed, Mr. Southworth found a very vigorous growth of young timber. In the younger stages of this forest, poplar and birch, white and yellow, predominates; but where it is of larger growth, say twenty years, the white pine disputes with these trees for first place and in many instances is the most numerous. As pines and spruces grow only from seed deciduous trees get a start of the conifers. This fact, together with the more



YOUNG FOREST IN WHICH PINE HAS KILLED OUT THE HARDWOODS, AND IN WHICH NATURAL PRUNING, CAUSED BY SHADE, IS TAKING PLACE.

general distribution of the seed of poplars and birches, causes the young forest for the first few years to be largely composed of deciduous trees. The latter, however, are eventually killed out to a large extent by the more hardy pines, which grow more vigorously after this is accomplished. This will be seen by reference to the accompanying illustrations of a young forest in which pine has killed out the hardwoods.

Mr. Southworth found that the stand of young pine was heavy, 600 trees to the acre being not unusual, and 400 pines to the acre being a fair average. On two sample acres in the townships of

Clarendon and Abinger careful calculation showed the stand of young timber to be as follows:

Lot No. 1.		Lot No. 2	
White Pine.....	432	White Pine.....	440
Poplar.....	408	Poplar.....	832
Birch.....	208	Birch.....	216
White Cedar.....	160	Hard Maple.....	40
Spruce.....	32	Willow.....	40
Tamarac.....	16	Spruce.....	24
Red Pine.....	8	Tamarac.....	16
Total.....	1,264	Balsam fir.....	24
		Total.....	1,632

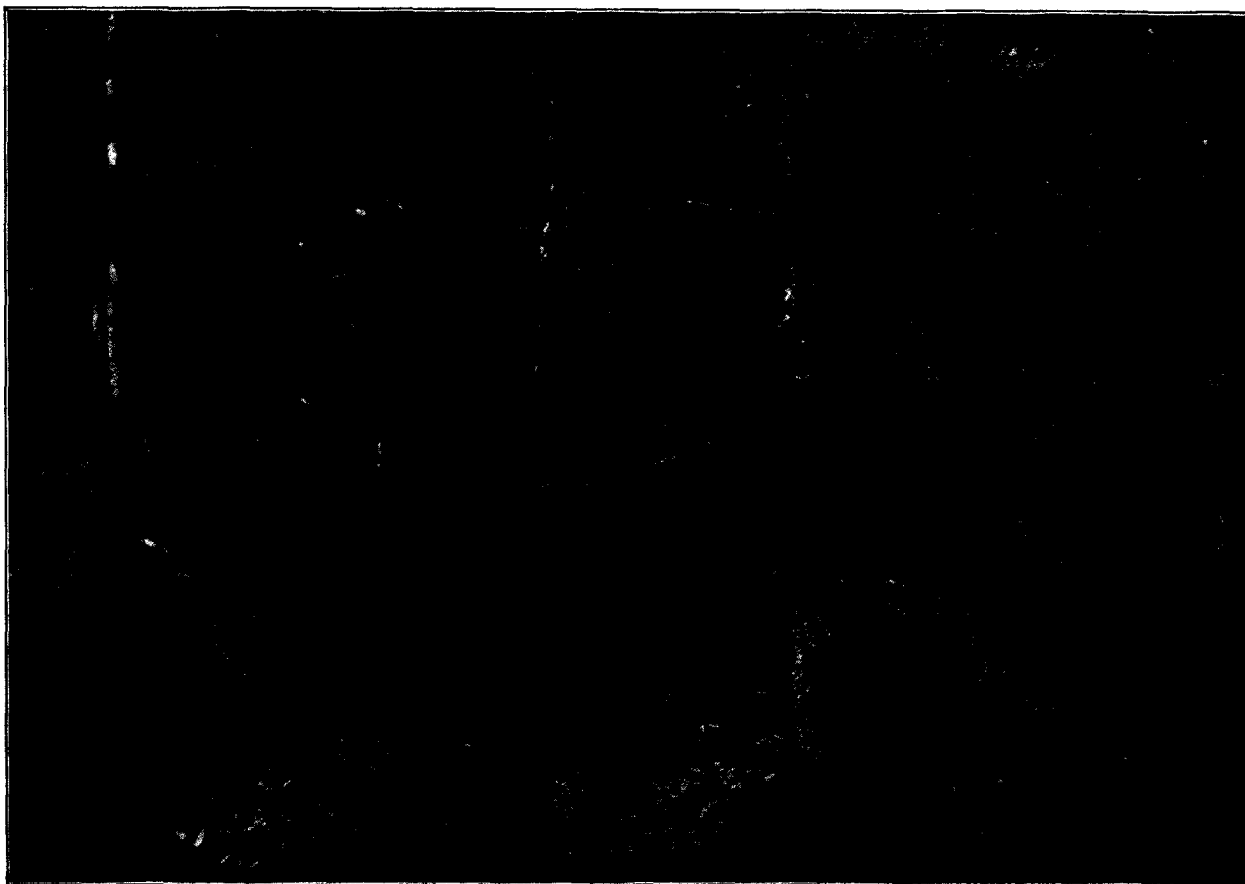
The pines throughout the district, he states, are making rapid growth. Four young trees gave the following measurements:

No.	Height.	Diameter.	Annual Rings.
1	22 feet	4½ inches	13
2	30 "	6½ "	16
3	22 "	3¾ "	10
4	25 "	5 "	14

These trees were only average ones for their particular locality, but are above the average in rapidity of growth for the whole area. They are increasing in diameter at the rate of an inch in 2.68 years, whereas the estimate of the Forestry Commission for the whole province was an inch in five years.

Mr. Southworth states that fifty years from now, under present conditions, it is fair to assume that only 200 of the 400 to 600 pines per acre now standing will still be growing, and it is not guess work to estimate that if fires can be kept out for fifty years longer much of this land will carry a crop of pine that will yield 50,000 feet board measure to the acre. This is not an extravagant estimate when it is considered that it is peculiarly a pine district, also that two years ago there was cut on the Rathbun Company's limit in this same section of the province 100,000 feet of pine to the acre, over a tract of land 10 acres in extent through which a tornado had swept.

The value of this land for timber purposes is next considered. The value of the standing timber fifty years from



YOUNG FOREST OF RED AND WHITE GROWN UP PINES AFTER FIRE HAD DESTROYED THE ORIGINAL GROWTH.