

most part cut clean and replanted. The trees are allowed to grow to an age of 110 to 125 years. The forests are gone over once in five or ten years and cleaned of all poor, sickly trees, and opened up where the trees are too dense, so that in the older stands the trees practically are perfect, standing straight and a joy to any lover of good timber. The amount of timber per acre in these hundred-year-old stands is simply enormous, and the amount which has to be cut into fuel or cheap woods is very small, rarely over ten per cent of the total yield. All timber is cut in winter, peeled at once and hauled with team. All work is done by contract. The care which these forests receive is such that when I asked the forester about fires he looked at me in surprise and simply said, "We have no fires."

'As a matter of fact, in all my travels last summer I did not see one acre of woods which showed any signs of ever having been touched by fire. When one compares this with Michigan, where it is hard to find an acre that does not show such signs one wonders where the trouble lies. Here they see to it that law really is law. Roaming in the woods is forbidden; people are expected to mind their business.

'To my great surprise I found that even here, in a good agricultural district, the forest is being extended at the expense of agricultural lands. For example, a farm of 170 acres, which is large for this country, had been in possession of one family for over four hundred years, and was offered for sale. After several years it was bought by the king as a private property and was reforested. The land cost only \$60 an acre, contained a gravel pit valued at \$2,500, and was in good farming condition. Similar conditions were found in Baden, the explanation being that farm land does not produce the income which can be had from forests. Renting farms is generally by cash rentals of \$2 to \$3 an acre, while the forests make a secure net cash rental of over \$10. Since this is an old country, fortified by the Romans, well settled in the days of Charlemagne and densely populated today by one of the most frugal, industrious peoples in the world, these facts will serve to show how utterly nonsensical are the claims of opponents, who would have us believe there is no room for forests, since all land is needed for farming.

'I visited the forestry school at the University of Tuebingen, several districts of the Black Forest in Wurttemberg, also a district of hardwoods in the Rhine valley near Strassburg. In this latter district the black walnut is planted extensively on fertile valley land near the city, again a sign that forests have a place, even in fertile regions. In the Black Forest districts I found many interesting facts. In the higher locations — 2,400 feet altitude, with rainfall of over

seventy inches, heavy snows and much frost — agriculture is on the decline and even the farmers are planting forests. Some of the villages and towns own large forests. Bayersbrom has 6,000 acres of woods, worth over \$200 an acre. Here the fir and spruce predominate. The timber is cut in summer and is peeled. The bark of spruce is sold as tanbark at about \$4 a cord. The forests are reproduced naturally, but everywhere a little planting is done to prevent delay. The stands of timber are certainly fine. Near Obendorf I saw stands which contain over 20,000 cubic feet of timber an acre. Since this stuff is worth fully 15 cents a cubic foot, we have values of \$1,200 to \$3,000 an acre. But this is not rubbish or old pine stubs. It is a body of timber produced by careful treatment and decent protection against all kinds of injury. In such stands there is often not a single tree that needs culling on account of crook or other defect. A fine telephone pole sixty feet long, with ten inches as its upper diameter, is cheaper here than in Ann Arbor, Mich. While generally the small forests of farmers are not in especially good condition, several of the private forests about Freudenstadt are fine and these farmers are becoming really timber growers and are growing rich.'

## THE MOUNTAIN PINE BEETLE.

As a result of experiments carried out under the direction of the Department of Agriculture of the United States, a method of combatting the ravages of the mountain pine beetle has been found, according to a recent departmental report. The experiments were undertaken in northeastern Oregon, where beetles had worked havoc over more than one million acres of valuable timber land. The pest had destroyed more than 8,000 trees.

In conjunction with the forest service and private owners of timber, the department's experts confined their efforts to an area of 20,000 acres with such success that while surrounding territory suffered heavily the experiment ground's loss was 80 per cent. less. The march of the beetle to the south and southeast, it is believed, will be checked as a result of the knowledge gained from the tests which have been continued over a space of nearly five years.