Maryland's Forestry Extension Program

F. B. Trenk, '23

The legal machinery creating forestry extension as we know it today is indeed modern, yet in a strict application of the term, extension work in forestry may well be considered as antedating the whole agricultural extension idea. Even before Dr. Knapp inaugurated his remarkable system among the southern planters and agriculturists, of teaching by field demonstrations, the old Bureau of Forestry was carrying on activities far more along extension than administrative lines. But the reorganization of the Forestry Service in 1905 brought about a new order, and not until the passage of the Smith-Lever Act in 1914 were adequate plans laid for building up an efficient organization to be known as Extension Farm Forestry.

This new order has put forestry extension directly up to the states, and the extension organizations of the several states are rapidly finding a place for forestry in their programs. Today, ten states are numbered among those who have one or more foresters on the regular extension service staff.

Beginning of Forestry Extension in Maryland. The present status of the forestry extension in Maryland is largely the outgrowth of a meeting of State Directors of Extension, State Foresters and State Specialists in Forestry from the ten northeastern states—Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, and Maryland—assembled in New Haven, Connecticut, on February 22 and 23, 1923. The legal machinery for putting Farm Forestry Extension in practice in the states where Forestry Extension was not held was already in existence. It was simply a matter of linking up forestry with the state agricultural extension service, although this conference went so far as to recommend the employment of an agent in each woodland county or group of counties. The conference further recommended that the state program should be conducted under an agreement to be worked out jointly by the State Director of Extension and the State Forester.

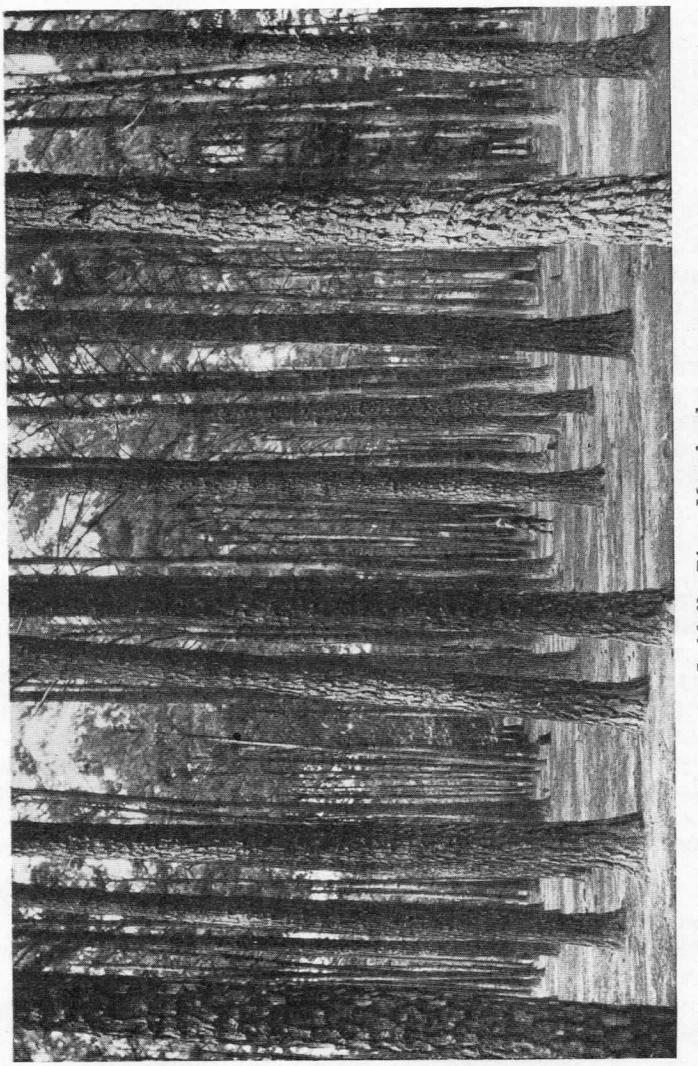
That is the basis of Extension Forestry in Maryland as it now operates. Late in 1923, an agreement was entered

into between the Extension Director, Dr. T. B. Symons, and the State Forester, Mr. F. W. Besley, and field work was begun. Later, during the summer of 1924, a more detailed plan of work was agreed upon by the two organizations concerned, though the general policy remained unaffected.

Briefly, the essential features of the present agreement are these: The State Forester details one of his assistants as Extension Forester, his salary being paid by the State Forestry Department. Expenses incident to field work of the specialist are paid by the Extension Service. All work in the field is done in cooperation with the county agents, the same as other extension activities; but a wider interpretation is placed on "individual service". Making examinations of private woodlands and drawing up plans for managing such woodlands are considered as entirely within the right of the Extension Forester, while the marking of timber for a timber sale is wholly a matter for the State Forestry Department.

Before entering into a specific discussion of the forestry extension program, it might not be out of place to summarize some of the condtions which have given rise to a diversified line of work.

Extension Problems Determined by Physiography. Geologically, Maryland embraces three major regions; the plant life, including the forests in each of these regions, is consequently quite distinct and separate; and the forest growth necessitates, therefore, separate silvicultural systems of management. The coastal plain region, embracing all of that portion of the state commonly known as the Eastern Shore, and the western shore of the Chesapeake Bay from the mouth of the Susquehanna River southwestward to the District of Columbia and Potomac River, is characterized by a coastal plain sylva, chief among which are the loblolly pine, sweet gum, pin and Spanish oak, spruce, pine, and red maple, though practically all of these are found at higher elevations as one proceeds southward. The Piedmont plateau, bordering the coastal plain on the east and the Blue Ridge Mountains on the west—a strip about one hundred miles wide at its greatest width—is almost exclusively forested with hardwoods White oaks, chestnut oats, and tulip poplar are the dominant trees, but the Piedmont Plateau is intensively farmed, and the woodlot forms but a very small part of the average farm. Lastly, there are the mountain ranges with their intervening valleys; the former presenting a problem of forestry on a large scale, such as can be carried on best only by national or state governments; the



Loblolly Pine, Maryland.

latter, because of the agricultural pursuits of their owners, presenting woodlot problems not so widely different from those of the Piedmont Plateaus.

From its very geographical position, Maryland presents a many-sided forestry problem. Its mountain ranges support a truly northern type of forest, characterized by the white pine, black and red spruce, and hemlocks; its warmer Eastern Shore is a bit of a southern pinery made possible through the abundance of loblolly pine with some short-leaved pine in mixture; while the gum-maple-oak forests of the better drained portions of the coastal plain and Piedmont Plateau are vastly similar in silvicultural needs to the hardwood stands of states further west and south.

The prevailing species of timber trees in each region, then, and the varying proportions of woodland to agricultural land, must of necessity give rise to forestry extension problems quite restricted to each region; and incidentally, it should be mentioned, the attention of farmers to farm forestry is much more easily secured because of more tangible financial benefits in some regions than in others. A brief discussion of the status of each of these problems is the chief purpose of this article.

The Program by Regions

The Eastern Shore. The recognition of loblolly pine as the most valuable timber tree of the region and the adoption of silvicultural systems to bring about pure stands producing maximum annual yields of this favored tree, underlie all farm forestry practices. The profits which may be had by growing loblolly pine are quite generally recognized; its response to good management is very pronounced, so that forestry extension work involving this tree is a matter of applying in a rather intensive way some fine silvicultural methods. In general, however, extension forestry work embraces three activities:

(a) Thinning of pure stands of pine ranging from fifteen to thirty years in age.
(b) Releasing pine seedlings from hardwood sprout competition.
(c) Planting abandoned farm lands and cut-over lands to two or three-year-old pine stock.

The rapid growth made by loblolly pine in the coastal plain region, its adaptabiltiy to sandy and worn-out farm lands, and an excellent market for its products in the form of mine props, piling, crates, barrels, and boxes so necessary

as containers for the truck crops of this region, all tend to make popular the growing of this tree. Indeed, extension work in farm forestry finds here an almost ideal field; and since the inception of forestry extension in Maryland this region has practically held the "center of the stage" in the work.

The Western Shore (Commonly known as Southern Maryland). Although this region is in the coastal plain, geologically, it is much older than the Eastern Shore; its elevation is considerably higher above sea level; and its drainage systems are much more pronounced. These conditions have had a direct effect upon the forest types which now prevail, but it should be remarked here that the existing forest types in the region are in the main vastly different from those which the early colonists found three centuries ago. Settlement was begun in Southern Maryland about 1640, and it is interesting to note that in a representative county the State Department of Forestry found 59% of the area wooded, yet less than 5% of the area, excluding salt marsh, had never been broken for agricultural use. Varying economic conditions have caused the gradual abandonment of a large percentage of land once tilled; and at the present time, the percentage of forested land is on the increase.

In this process of reversion from agricultural to forested land, there has been a more or less definite ecological succession. Almost without exception, the first tree to take possession of a field allowed to lie idle for a year or more is the spruce pine (**Pinus virginiana**). Along several low valleys, once kept in cultivation by the use of drainage ditches, but abandoned when it became impossible to get labor to keep the ditches in repair, dense stands of pure red gum or of river birch have come in; and these constitute virtually the only exception to the invasion of spruce pine just referred to. As the spruce pine nears maturity, an under-story of oaks and hickory come in, especially on the better-drained area. Within the past forty or fifty years, much of the spruce pine approaching maturity was removed, largely for firewood, but more recently for pulpwood, so that today two main types of forest occur: pure, extremely dense, even-aged stands of spruce pine; and mixed hardwood stands, which may or may not be even-aged, and which are seldom of sufficient age to produce little more than railroad ties and cordwood. Stands of spruce pine may be found ranging from seedling size to maturity.

Before arriving at a program of forestry extension in this region, several other items had to be taken into consid-

eration. The market for cordwood now, and for some time past, has been very poor because of poor transportation facilities. The market for railroad ties has been but little more promising; and for the last fifteen years, the value of pulpwood in one southern Maryland county has exceeded all other timber products. Except in the extreme southern part of the Western Shore, bordering the Potomac River, where loblolly pine occurs,, and the northern part, bordering on the Piedmont Plateau, there is very little timber of saw-log size. The occurrence of an occasional loblolly pine throughout the region in mixture with the spruce pine, and later, the hardwoods, seemed to give satisfactory assurance that, given a chance, loblolly pine would do almost as well on the Western Shore as on the Eastern Shore.

With these conditions in mind, the following phases of forestry extension work will be emphasized in the region under discussion:

(a) Planting recently abandoned fields to loblolly pine, before the spruce pine has much of an opportunity to seed up the ground. (It would be understood, of course, that the owner no longer planned to cultivate the land.)

(b) Grading thinnings in red gum stands.

(c) Grading thinnings in other hardwood stands, removing trees of inferior species and poor form. (This applies to culled hardwood stands as well as to hardwoods succeeding spruce pine.)

The Piedmont Plateau. It was pointed out earlier in this discussion that the Piedmont Plateau is well developed agriculturally, and that the average woodlot, though small, is always a valuable adjunct to the farm. Hardwoods of a great variety of species occur, and woodlands have been frequently culled of their more valuable timber trees. Such conditions will naturally call for a very broad plan of extension work. While the idea of demonstrations will undoubtedly be more difficult to incorporate in putting across good forestry practices, the following activities will be emphasized:

(a) Utilization of fuelwood, converting all dead and down timber, lops and tops from timbered acres, unmerchantable trees, and overtopped, suppressed, and inferior species of trees to cordwood.

(b)) Thinnings—differing from the above in that it

applies to stands directly in need of attention, regardless of the fuelwood requirements of the home, and selection of proper trees for felling for saw timber in order to allow reproduction to come in and perpetuate the forest.

(c) Plantings—introducing forest trees of desirable species on non-timbered areas which are too poor to give adequate returns from agriculture to the owner.

The Mountain Region. So far as farm forestry is concerned in this region, there is but little difference in its needs from those of the Piedmont Plateau. The broad valleys lying between the main ranges are well developed agriculturally, and the woodland on the average farm retains about the same relative importance, as well as being formed largely by the same species of trees. Forestry on the steeper mountain sides is quite evidently divorced from farm forestry in many cases, and to the present time has been cared for by the State Forestry Department. No extension forestry work has as yet been started in the mountain region.

Our middle-western friends will doubtless wonder where the fence-post project is to come in. It is no after-thought to say that it will receive attention later. While in some communities there is a very evident need for attention to this phase of the work, it is simply a case of attempting, as the program now stands, to do a few things well. However, plans are under way to develop the planting of black locust in those parts, particularly on the Eastern Shore, where it seldom or never occurs naturally. Preservation of posts and structural timbers will likewise be an integral part of the forestry program in Maryland in the not distant future, but attention to the existing woodlot, and putting waste or abandoned land to growing timber trees shall for the present be the main lines of endeavor.