Riding along the super-highways in the Bizone, one gets the idea that much of western Germany is covered with beautiful forests containing a vast amount of timber. Only small clear-cut areas are seen and in general much of the forest is old and contains large trees.

Actually the forest picture as a whole is not as good as that, because a special effort has been made to preserve the forests along these principle routes of auto travel. It was part of the super-highway plan not only to beautify with wooded parking spots and planting between and beside roadways but also to keep uncut the forests along the highways.

On narrow country roads in the forested regions however, it becomes clearer that the forests are being heavily cut to provide the necessary forest products for industry, for home consumption and for exports.

There are many clean-cut areas as well as places from which the timber was cut in the past but which now are covered with young trees to supply future timber needs. There are still beautiful forests but the close observer notices that they are much younger and the trees smaller than those along the super-highway.

One is impressed, too, with the large amount of cut timber lying in the forests, ready to be taken out. That again shows the intensive use to which the forests are being put.

That a country as old as Germany still has such magnificent forests is due to her appreciation of their importance, her thrift and the skill of her foresters over the past several centuries. Most of the very old and highly-developed forests, even those in present state ownership, were originally held in large estates maintained as hunting preserves by the nobility.

To the preservation and development of good hunting grounds in the middle ages can be attributed the foundation of present day German forest preservation and development. At that early time timber supplies were not particularly essential. There was more than enough timber to go around, but preservation of the forest for good hunting grounds was considered of prime importance.

As the population increased more and more pressure was exerted to clear the forests for agricultural land and to turn timber into forest products. Forests were cut and land converted to farm production. Most clearing, especially in the early days, was through trial and error until at present, Germany has arrived at a fairly stable land use. During the 24 years ending in 1937 the forest land area of the US Zone decreased only by 1.8 percent.

The second pressure gave rise to real forest management in order to make the forests produce more and more of the kinds of products which Germany needed. It also brought the profession of forestry and forestry education in schools.

The virgin forests disappeared several hundred years ago and were replaced by man made and developed forests. Thus today in Germany one sees well managed forests, most of which were actually planted by man. In many of them, even those over 100 years old, one can still see that the trees were planted in rows. Efficient forest management under the direction of technically-trained foresters, has brought the German forests to a high state of production.

By 1927 German foresters considered that they had their forests in satisfactory growth condition. The cut was in balance with growth and they considered the forests on a permanently productive basis. The German forests probably reached their maximum growth about 1933, when the annual growth was estimated at approximately 12,500,000 board feet.

(Continued on next page)

* In translating from the German measurement of festsomer, the equivalent of 250 board feet for one festmeter was used.
In that year, the Nazis who had come to power, ordered the cut increased to 150 percent of growth, probably in preparation for war. While the 150 percent was not fully reached, there was continuous overcutting, the pre-war cut having been estimated at an average of 140 percent of the annual growth. As a result, timber reserves were greatly reduced.

A FURTHER REDUCTION in timber volume occurred at the end of the war with the loss of East Prussia and the territory east of the Oder. This reduced the forest area of Germany by 25 percent. Present Germany has a forest area of 23,684,535 acres of which 19,536,197 acres are commercial forests. In 1946 the commercial forests were estimated to be growing annually 6,850,000,000 board feet of timber in trees of more than 2.75 inches in diameter.

Soon after the occupation, the Allies established the policy to cut forests for the first two years according to requirements without reference to growth and to make a complete survey during this period, as a basis for determining future cutting policy. A survey giving conditions as of Oct. 1, 1946, was completed late in 1947 and the statistics approved by the Quadrupartite Forestry Committee on Dec. 22, 1947. Unfortunately, because of suspension of quadrupartite matters in 1948, the committee did not make any recommendations for future forest policy for Germany as a whole.

IN CONTRAST to American forests with their rich flora of many tree species, the German forests have only a few. Undoubtedly a larger variety existed in the original forests. Apparently the Germans picked out a few tree species and specialized in them because they considered the best ones to produce the products most desired.

Thus the important commercial forests are composed of spruce, fir, scotch pine, larch, oak and beech which together make up 97 percent of the forests of the Bizon. The other three percent is composed largely of such hardwoods as poplar, ash, hornbeam, alder, birch, locust, maple, American red oak and a few American conifers like white pine, Douglas fir and Sitka spruce. All of these are used to some extent in mixture with other trees, although none of them are widely distributed or grown in pure stands.

Norway spruce is the most common tree in the Bizon and spruce forests cover 40 percent of the forest area. Originally a much greater proportion of the forests of this area were hardwoods—largely beech and oak. Early in the 19th century, however, it was discovered that spruce grew more rapidly than the hardwoods and produced a heavier volume of timber in a shorter time. Accordingly, large areas of forest were clear cut and planted with pure spruce.

Today’s older stands of spruce show the results of this early effort. Later it was considered better forestry to mix some other trees with spruce. Many of the younger plantations, therefore, consist of spruce with a strong mixture of pine or beech, occasionally fir and oak. On the better sites, spruce matures in about 80 years but to get the large valuable trees it requires 100 to 120 years.

Scotch pine forest cover 26 percent of the forest area of the Bizon. Much of it occurs on the poorer and sandier soils. Plantations of pure pine are quite extensive. To make good timber, the trees are ordinarily planted very

Previous articles in the Information Bulletin concerning the conservation of German forests include:

**Germany’s Forests** in Issue No. 51 of July 22, 1946.

**Shipment Begun on Largest Export Order from US Zone** in Issue No. 66 of Nov. 4, 1946.

**Lumber Shipment (pictorial)** in Issue No. 69 of Nov. 25, 1946.

**Conservation in German Forests** by Fred A. Block in Issue No. 103 of July 28, 1947.

These articles dealt with the situation within the US Zone and explained especially the wartime practice of the Germans in stripping the forests of occupied countries to save Germany's resources.
densely, often as many as 7,300 to 8,100 per acre and thinned heavily as they grow larger.

In many localities, however, other species such as beech or oak and sometimes larch are mixed in the plantations. Pine matures in about 100 years and while it does not grow quite as fast as spruce, it shows a satisfactory result.

THERE ARE SMALLER areas covered with fir or with larch. The survey included the fir with the spruce because it is most frequently found mixed with spruce at higher elevation or in pure stands covering only small areas, Larch was included with pine for the same reason. While the larch stands are not extensive there are a few forests of limited area which consist of old larch stands yielding high grade material for furniture, cabinet making and paneling.

The next most important forests of the Bizone are the beech forests. They cover 21 percent and the older stands are largely pure beech. It is extensively grown also in mixture with oak with either species predominating. Beech is largely used, too, to mix with pine or spruce. In such stands it plays an important role in forcing up the conifers to make trees with long clear boles of high commercial value. In addition it keeps the forest soils in good condition. Ordinarily beech is cut as mature at from 120 to 140 years.

OAK FORESTS cover 10 percent of the area of the Bizone. They are generally limited to the clay soils and since hardwoods are not valuable until they are large, the oaks are left to become very old. Ordinarily they are mature and cut at from 140 to 160 years when the trees are about 30 inches in diameter.

Occasionally they are left to grow much older as in the famous Spessart Forest of Hesse and Bavaria where there is one stand as old as 350 years. These very old trees contain exceedingly valuable wood which commands fabulous prices. They are generally cut into veneers for high grade furniture and various kinds of cabinet work.

Oak is grown either in pure stands or in mixture with beech. In the latter case, beech is used as a training tree; that is, it is planted between the oaks and forces them up to make tall, clean-boled trees for the final crop. These then will contain a large percent of clear material for veneers. In such a forest the final crop of oak will consist of about 36 very old oaks per acre. During their development, however, ordinarily two crops of beech are grown and of course many oak trees too, are taken out in thinnings.

Oak, too, is occasionally grown in mixture with conifers like spruce and pine. In such stands, however, the oak ordinarily is only a small part and it is not grown to a large size. The German oak forests include only two native oaks, both of the white oak variety. In addition, however, American red oak is used to a small extent planted in mixture with conifers. It grows more rapidly than the native trees can be grown on poorer soils and shows great promise.

Photos Furnished by Mr. Kircher

THE REMAINING three percent of the Bizone forests is made up of about a dozen hardwoods, to a small extent in pure stands, but generally in mixture. Of these the most important are alder, birch, hornbeam, poplar and locust. To a smaller extent, often only a few trees planted in mixture within forests, are maple, ash, hickory and some others.

Spruce and pine furnish the ordinary construction timbers and most of the common lumber used in Germany comes from these two species. They are used interchangeably. In addition, spruce is the most important pulpwood of the country and great quantities of it go into chemical pulp which later is made into paper. Pine has for many years been the main wood used for mine props. Before the war much of this material came from the present Soviet Zone and that part of Germany now under Polish administration.

With these sources not now available, it has become necessary to substitute spruce for pine for a large part of the mine prop supply. Both pulpwood and mine props are ordinarily made from trees too small for lumber. These are taken out in thinnings before the stand is mature. Larch and fir are also cut into lumber for general construction purposes. In addition, large larch trees which yield clear lumber are used for paneling, for veneers and for furniture. These softwoods are also used for railroad ties.

Beech is the most plentiful hardwood and it is used for many purposes. It is the main furniture wood and is largely used for flooring, often in interior finish, and a great deal for small wooden articles. It also yields high class chemical pulp and much of

(Continued on page 18)