

Much work has been done to improve the portages to permit faster travel, and yet $1\frac{1}{2}$ miles an hour is considered a high speed within the region. The transportation of men and equipment to fires at best is slow, hazardous, and difficult. Of a crew of 50 men, often not more than 4 or 5 are experienced in the use of canoes. Camp equipment, tools, and pumps must be transported by back pack over portages, and time after time reloaded into canoes along with men who are unappreciative of the hazard of travel in these fragile craft.

Plans Being Developed

To meet the situation, three plans are being developed:

(1) The improvement of portages, and on the primary travel routes the installation of light tracks over which fire equipment can be moved with greater speed.

(2) The use of hydroplanes for rapid transportation of small crews with essential equipment. This method has proved a great success, sometimes enabling the movement of a small crew to a fire in 30 minutes where previously it would have required a day and a half.

(3) The improvement of water routes by the installation of retaining dams, thus eliminating slow portage work.

The forest products produced within the Superior National Forest are of great value, because a permanent wood-using industry is being established in the region based upon the availability of a perpetual supply of wood. The plans of the Forest Service in the development of the use of water for transportation and for air transport promise to cut fire losses within this forest to a reasonable limit, which will permit the ultimate maximum productive use of all the land within the forest

EARL W. TINKER,
Regional Forester, Forest Service.

FOREST Plantings in Central States Repay Their Cost Manyfold

The pioneer farmers of the Middle West were great tree planters. Their activity in this respect was encouraged perhaps largely by force of necessity rather than by choice. Most of these people came from districts lying to the east, where they had been actively clearing lands for agriculture, and had been accustomed to the benefits of tree growth around home sites. On the high, open prairies they quickly found it necessary to plant trees to shelter their new homes and livestock (fig. 60) from the chilling, freezing winds of winter and their crops from the drying, unchecked winds of summer.

Generally speaking, the frequency of these old plantings is directly in proportion to the area of prairie which originally existed. There are no accurate figures on the total planted area in the Middle West. Estimates show about 240,000 acres in Iowa where most of the area was treeless, about 40,000 acres in Illinois where there were also large areas of prairie, about 14,000 acres in Ohio, 10,000 acres in Missouri, and smaller areas in Indiana, Kentucky, and other States which were mostly wooded. A similar example on a small scale can frequently be seen in a country which is partly wooded and partly prairie. In

Vermilion County, Ill., no plantings were found within the limits of natural woods, but they were immediately found in all portions which were originally prairie.

Shelter and Shade Most Pressing Needs

The need for shelter and protection has been the most impelling force toward tree planting. In a study of forest plantations which the Forest Service's Central States Forest Experiment Station is pursuing, data have been collected as far as possible on the purposes for which plantations have been established. Out of a total of 96 plantings, 39 were for windbreaks, 16 were for shade, 14 for timber, and the remaining planted groves were established for experiment, ornamentation, climatic control, and other purposes.



FIGURE 60.—Black walnut, originally alternated with rows of cottonwood planted to protect a farm home from western and northern winds. The cottonwood has been removed. Many of these trees are now merchantable. (Champaign County, Ill.)

Additional advantages have been gained from the presence of planted trees on farms. Much fuel wood has been secured from trees which die or are removed. Poles, posts, and rough timbers have been cut, where the species originally planted was suitable for these uses. In the case of a valuable wood, like black walnut, the trees which remain have grown to merchantable size where the species has been suited to the soil, and growth has been continuous and rapid. To some farm owners, the ornamental and esthetic value of the windbreak is so great as to dwarf all cost of establishment and rental for the land area occupied. The statement is frequently made that the owner would not take several thousand dollars for his trees, solely because of their beauty and scenic value.

L. F. KELLOGG,
Associate Silviculturist, Forest Service.