

## FORESTRY

# Money Grows in Trees

**Tree farming adds income for 4,250,000 small landowners of the United States as chemists and industrialists enlarge the bin of America's wood products.**

► TREE FARMING is a booming, vibrant business that is bringing new opportunity to the doorsteps of some 4,250,000 small landowners of the nation.

Farm woodlot owners, who hold 57% of the nation's forestland, sold \$700,000,000 worth of sawlogs, pulpwood, posts, turpentine, Christmas trees, maple sugar and other forest products last year.

This is about equal in dollar value to the country's entire truck garden crop for one year.

Because wood is now used in more than 6,000 items, many of them necessities in the American way of life, the growing of trees takes on economic significance undreamed of a few years ago.

Wood is being used to make everything from bathing suits to laminated arches for the building industry.

Even the "weed" trees, such as the gnarled mesquite that thrives on millions of acres in the Southwest, may soon be used as fiber material.

Through the American Tree Farm System, more small landowners are being encouraged to grow trees as a crop, not only to improve family income but to help provide raw material for new products constantly emerging from the chemists' test tubes.

## Tree Farm System

The American Tree Farm System is a program sponsored by the wood-using industries of the nation to encourage the growing of trees as a crop. The program is administered through the American Forest Products Industries, Inc.

Anyone who grows trees as a crop may be called a tree farmer in the broad sense, but under the framework of the tree farm system, the landowner must meet and maintain certain standards of forest management.

For those who maintain these prescribed standards of management, profits from the tree farm hold the greatest possibilities.

How can you get into the business of growing trees?

If you own or control woodland, you cannot miss. Maybe you already have a start of timber. If so, nature will help you with your reseeding problem. You can always obtain seedlings from industry or state nurseries. Of course, there will be matters of fire protection and grazing of livestock. Technically trained foresters, of which there are some 15,000, will advise you.

It might help you to know just how a shop worker got started as a tree farmer.

He bought two small tracts of land and started a planting program. He built a small nursery in his own back yard and raised his own seedlings. In 10 years, he has planted 37,500 young trees. To make his hobby more interesting, he took a correspondence course in forestry last year. All the while he has remained on the job in the shop. In a very few years, his farm woodlot will be established on a basis that is certain to pay him well.

## Advantages of Thinning

Under the American Tree Farm System, a tree farm is defined as an area of privately-owned, tax-paying forestland dedicated to the growing of continuing timber crops. Cutting practices voluntarily applied under the plan insure a perpetual supply of timber from the woodlot. For instance, trees may be over-crowded and it may be wise to thin them.

The forester then marks certain trees for removal, which should include trees that are

crooked or diseased. These trees may be sold on the pulpwood market.

Thinning enables remaining trees to grow faster into poles or sawlogs. From the sawlog is made lumber for homes and thousands of other uses. Trees cut into poles, pilings, cross-ties and fence posts may go to wood-preserving plants where they are treated with chemicals to prolong their use.

If the woodlot owner wants his acreage certified as a tree farm, he may get information from the nearest wood-using industry or he may write American Forest Products Industries, Inc., 1816 N St., N.W., Washington, D. C., for a free pamphlet entitled "How You Can Become a Tree Farmer."

In brief, the procedure calls for inspection of the woodlot to determine if good management is being practiced. If so, the inspecting forester recommends certification and the final action is taken by the sponsoring group in the state.

If the woodlot fails to measure up to good management requirements, then certification is delayed until such time as the project does meet standards. To assist him, the landowner may obtain advice of any trained forester.

When the woodlot has been certified as a tree farm, usually there follows a public ceremony at which new tree farmers in the



**YOUNG ENTREPRENEURS**—This husband and wife team is harvesting 60 cords of pulpwood in a thinning operation on their 15-acre woodlot. Crooked and diseased trees can be sold as pulpwood, while straight, healthy trees grow into valuable sawlogs.

area receive certificates and a tree farm sign. The sign must be displayed on the woodlot at a point where it may best be seen by passing motorists.

To become a certified tree farmer, the woodlot owner is not required to join any organization. Neither does he pay any fees or assessments. He simply becomes a co-operator in a nationwide movement to grow trees as a crop. The tree farm system is merely a tool for recognizing his efforts and encouraging others. Periodic inspections by duly-appointed foresters assure maintenance of high management standards.

### Voluntary Forestry Standards

The certified tree farmer follows prescribed tree farm standards on a purely voluntary basis. If he fails to meet the forest management standards, his woodlot cannot remain on the rolls as a certified tree farm. There is no penalty, no embarrassment, no high pressure applied by anybody.

With more than 50,000 large and small sawmills scattered over the country, the lumber industry ranks as America's tenth largest employer of men. In value of manufactured products, it ranks twelfth.

Railroads consume about 1,500,000,000 board feet of the country's annual sawtimber harvest for crossties, freight cars, trestles, snowsheds and a hundred other items. It takes 40,000,000 crossties a year just to keep the nation's railroad tracks in condition.

Pulp and paper also are forest products. Per capita consumption of pulp and paper stood at 391 pounds in 1953 in the United States, and it is increasing.

Every grocery store or drug store in the nation has its shelves stocked with products packaged in paper and made from wood. Even the tin can has a paper label.

Not since the Pilgrims landed on our eastern shores and started hacking into the virgin forests for wood to build homes and make wagon tongues and gunstocks have individual Americans turned such concerted attention to their woodlands.

### Tree Farm "Families"

Some wood-using plants have their own tree farm "families." Under this plan, landowners in a given area will place their timberlands under management of a company which agrees to furnish forestry service and protection from fire and grazing. The landowner usually agrees to give the lumber firm first refusal of timber at prevailing market prices.

A Pennsylvania woodlot owner realized \$12,000 from a two-year cutting operation on his 500-acre farm. He received \$5,000 from the sale of about 100,000 board feet of sawtimber, \$1,000 for 52 tons of oak bark that he sold to a tannery, and \$6,000 for pulpwood.

"This sale," said the man, "gave me a clear profit of \$3,000 over the original cost

of the land, and in a few years I will be cutting it again for more profit."

In 1947, a Georgia man bought 825 acres of badly-worn land, using wartime savings he had invested in defense bonds for the down payment. Improvement thinnings helped him make the down payment. When his first daughter was born, he was unable to take out college insurance. So he planted 47,000 slash pine seedlings, a kind of insurance he could handle.

Two years later, a second daughter was born. He was able to buy an adjacent 303 acres. He planted it with 150,000 pine seedlings. In 1953, he marked inferior trees and started working them for gum and naval stores. This source alone will pay him about \$1,500 a year. In about eight years, the older daughter will be ready for college, and a major portion of the trees will be marked for sawtimber harvest.

Science News Letter, July 31, 1954

### TECHNOLOGY

## NBS Scientists Invent Hydraulic Tooth Drill

➤ A TOOTH drill that also has industrial possibilities has been invented by three scientists at the National Bureau of Standards. It has a tiny turbine, driven by water, that spins at a rate of 61,000 revolutions a minute.

Designed and constructed by Dr. R. J. Nelsen, now working at the Bureau on an American Dental Association research fellowship, and C. E. Pelander and J. W. Kumpula, both of the Bureau's staff, the new dental handpiece minimizes vibration and heating.

Its diamond-disk grinding point stops instantly when a finger is abruptly placed against its edge. It also stops if the dentist presses too hard while grinding a patient's tooth, or if the tool should happen to catch or bind in a manner that would be hazardous.

Grinding points of silicon carbide also have performed with "exceptional efficiency" in the drill, but milling cutters such as the steel and carbide burs of current design do not work well at such high speeds.

The high-speed drill also does not climb or roll out of the cavity. This is a drawback of some drills than run more slowly.

Nestled near the drilling point, the tiny turbine has six notched blades. Water is pumped to it through a flexible tube. After passing through the turbine, the water returns to the pump in another tube that jackets the inflow tube.

The dentist can stop the drill for a moment by stepping on a special tube filled with fluid. The fluid trips a pressure sensitive switch that shunts the water around the turbine.

The NBS scientists believe their tool promises to be of considerable use in industries where small bits of hard materials must be ground away, as in tool and die making.

Science News Letter, July 31, 1954

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