

# WEEKLY INDUSTRIAL RECORD.

PUBLISHED EVERY MONDAY. DEVOTED TO NAVAL STORES, LUMBER AND MANUFACTURING INTERESTS.

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## HOW HARDWOODS DECAY.

Hardwood trees in the forest are attacked by many enemies. The mistletoe, the "witches' broom," and the southern mosses are all parasites that weaken and even destroy the trees. But by far the greater number of diseases of trees are caused by fungus growth. Some fungi destroy the leaves, some rot the roots, and some girdle the bark. Chestnut orchards have been destroyed in many places in the East by a kind of fungus which girdles the bark and kills the tree.

Then there are many kinds of fungus which rot the wood of standing trees, with no outward sign until, after the value of the tree has been destroyed. The white heart-rot is the most common of these. It attacks the oak, the walnut, hickory, beech, maples, and many other trees. The heartwood of the tree is changed by the action of the fungus into a light-colored, flaky sort of substance which has no strength and can no longer be called wood. Such a tree may live for many years, even though badly diseased, but it has no value for timber.

The outward sign, when it does appear, is a shelf-like growth upon the trunk. It is hoof-shaped, about as thick as wide, and may be anywhere from 1 to 2 inches wide to 12 inches or more. The upper surface runs from brown to black, the lower surface from gray to red-brown. Wherever such a tree is found it should be removed at once, for the longer it stands the less it is worth for timber, and it will surely spread the disease to other trees. Any sort of wound in a sound tree, such as a broken limb, gives an opening for the fungus to enter and establish itself, unnoticed, until the heartwood is destroyed. Wherever such a wound can be promptly coated with hot coal-tar creosote, or some other good antiseptic substance, it may be saved from infection.

Timbers are also subject to attack from many kinds of fungus. Indeed, fungi are the principal cause of decay in structural timbers. They enter the timber by means of checks and live upon the wood, breaking it up until its strength is gone. Railroad ties in the roadbed often appear perfectly sound, although the whole center has crumbled.

After timbers have been cut from the log they should be dried as rapidly and evenly as possible so as to remove moisture and prevent checks. Wood should not be placed in contact with the ground until it has been thoroughly dried. Otherwise some fungus will enter and cause rapid decay. Where large timbers are needed, they will be less liable to decay if built up of several pieces; for instance, instead of using a 12 by 12 piece, use four 3 by 12, bolted together. Timbers can be even more effectively preserved against decay by chemical treatment with creosote and other substances.

For details concerning the fungi referred to, and many others, see Bulletin 149 of the Bureau of Plant Industry, U. S. Department of Agriculture, entitled "Diseases of Deciduous Forest Trees," recently issued.

## FOREST CONDITIONS IN FLORIDA.

### Government Forest Service Makes Complete Report.

A preliminary investigation of the forest conditions of Florida was made during the past winter by the United States Forest Service in cooperation with the State. The report is now completed and has been submitted to the Governor for his consideration. It is hoped that the Legislature may be able to incorporate at least some of the recommendations into law in the near future.

Florida occupies a prominent position among the timber and turpentine producing states of the country. It has, at present, a greater per cent of its land in forest than any other State. Some of the finest stands of longleaf pine in the South are contained within its borders. The development of the forest industries during the past few years has been phenomenal. While the agricultural development in certain parts of the State will make permanent use of immense areas of cut-over land, the bulk of lands now being cut over will not be needed for agricultural purposes for many years to come. In the meantime, the timber producing possibilities of such lands are being destroyed by repeated fires, turpentine, and reckless lumbering. The opportunity to organize and adopt plans of forest management should not be delayed until the forest lands have all been cut over.

Many States have temporarily developed at the expense of their forest interests and have healed too late the disastrous effects of wasting their forest resources.

The report of the Forest Service examiner in Florida lays particular stress on the importance of a strong forest policy for the State. There should be a Commission of Forestry to have general supervision of the forestry interests of the State and to appoint a State Forester. It should be the duty of the State Forester, under the direction of the Commission, to advise private owners in reference to forest management, to bring to public attention the damage done by forest fires, to formulate and put into execution a fire warden system to protect the forests from fires, to encourage more conservative systems of lumbering and turpentine, to investigate tax and grazing problems, and in general promote a healthy interest in forest preservation in the State.

The forest fire problem in Florida, as in other Southern States, was found to be a most serious hindrance to the perpetuation of the forests. The practice of burning over the ground annually destroys all possibility of a young growth of pine to take the place of the mature timber when it is cut. Moreover, fires injure the standing timber, especially where the trees have been boxed, and destroy the

vegetable covering of the soil. It has been demonstrated that repeated fires decrease the value of the forest for grazing purposes.

In order to check the annual fire evil, the report proposes a forest fire law for Florida which shall make it unlawful and punishable by fine or imprisonment, or both, for any individual or corporation to start fires on land not their own. The proposed law also makes every owner liable for damages resulting from the spread of fire from his own land to that of another. There are many other important features in the proposed law, such as the appointment of fire wardens, the use of spark arresters on locomotives and engines and posting of fire notices.

The report furthermore recommends the establishment of State forests from tax lands and by purchase, as has already been done by many States in the country.

The forests of Florida have lasted longer than in many States, perhaps because the State has been more generously endowed with valuable growth. The need of forest preservation has not been so apparent in the past, but those who understand the present conditions in Florida and in other States should be alive to the necessity of taking some action to cut wisely what forests remain, and provide for regeneration of lands that have already been denuded. The report explains the present situation in detail and points the way for a wiser consideration in the future.

### FLORIDA LEADS IN PENSIONS.

Those who find fault with the new pension law should remember that in proportion to wealth Florida pays more in pensions than any other State, the amount for the past fiscal year being \$730,855.31. It must be admitted that this is a heavy pension charge against a taxable wealth of only \$159,903,230. In this connection an authority says South Carolina appropriates for her pensioners \$252,353.60; Tennessee, \$375,000; Texas, \$500,000; Alabama, \$778,361, and Georgia for the year 1907, \$932,684.65. Florida pays her Confederate pensioners more than twice per capita the amount paid by any other State.—Gainesville Sun.

### AN OLIVE GROVE.

An experimental co-operative Italian immigration colony has been recently established near Wilmington, N. C., and is reported to be a success. In addition to raising cotton and vegetables it is stated that young olive trees will be imported from Italy in the fall and an attempt will be made to start an olive grove.

### THE YELLOW PINES OF THE SOUTH.

Although more than sixty names are used more or less locally in speaking of southern yellow pine, the trees which supply such a large part of the valuable lumber used today all belong to three species, the longleaf, the shortleaf and the loblolly pines. The longleaf pine furnishes timber of greater strength and durability than either of the others. It is unsurpassed as a structural timber and finds a wide use in the building of bridges, trestles, and warehouses where great strength and durability are necessary. It is also the source from which come turpentine and resin. Though inferior to longleaf pine, both the other species furnish vast quantities of valuable lumber for building purposes, box-making, cooperage, etc. As the longleaf pine becomes scarcer shortleaf and loblolly pine are being substituted for it more and more. The wood of both species is specially adapted to the modern processes for wood preservation. The life of timber from these species can be lengthened from three years to fifteen years by preservative treatment. Creosote oil is the material most commonly applied to preserve wood. Longleaf pine is difficult to treat because of its density and the large amount of resin it contains. Without treatment its lasts well, but not so well as treated wood of the other species.

During the year 1906 southern pines furnished nearly 19 million railroad ties, a considerable part of which received preservative treatment. They also furnish large quantities of timber for use in mines.

Nearly all the lumber sawed from southern pines is kiln-dried before it is put on the market. This is done to reduce its weight and to prevent the "bluing" which often results from the attack of a fungus.

Many of the mills which work up the southern pine logs are located near the coast in order to enjoy the advantages of shipment by water. From Norfolk, Charleston, Savannah, Pensacola, Mobile, New Orleans, and other southern ports large quantities of sawed timber and lumber are rare shipped to northern markets, as well as to markets in foreign lands. From mills located at interior points shipments are made by rail to Chicago, St. Louis, Kansas City and other large inland market centers.

The United States Department of Agriculture has recently issued an instructive account of the "Properties and Uses of Southern Pines" (Forest Service Circular 164). It gives a description of the three species which makes it comparatively easy to distinguish them. It also gives such a description of the wood as will enable the dealer or buyer to tell with a fair degree of certainty from which species yellow pine lumber has been sawed. But the most important feature of the circular is an account of the behavior of timbers sawed from each species under the exhaustive tests which the Government has made. This circular is for free distribution.