

WEEKLY INDUSTRIAL RECORD.

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

Adopted Sept. 12, 1902, by the Executive Committee of the Turpentine Operators' Association as its Executive Official Organ, and adopted Sept. 11, 1902, in Annual Convention, as an Official Organ also of the General Association. Adopted Sept. 11, 1903 as the Only Official Organ of Turpentine Operators' Association. Adopted April 27, 1903, as Official Organ of the Inter-State Cane Growers' Association. Endorsed by Georgia Sawmill Association. Official Organ of Southeastern Stock Growers Association.

Lumber Crop Important Producer of Freight

Lumber is one of the chief freight commodities produced by land. Its weight per acre surpasses corn, barley, oats, wheat and rye.

Few people are aware of the care used by railroads in keeping tab of the productiveness of land along their lines from the standpoint of the amount of freight produced by various crops. Heavier the crop per acre, the more business for the railroads. Nor are there many people who think of lumber as a crop, and one of the most important crops at that, which contributes a large share of the freight business of railroads.

The quantity of freight produced by a crop depends upon soil, region, and kind of crop. Railroads figure it from that point of view. Their profit depends upon tonnage and class, and they want to know what crop pays the carrier best.

Many averages in many localities are necessary to reach reliable results. Care is necessary, too, in applying to one region the figures obtained in another. Indiana, Illinois and Kentucky are the center of a vast productive region, and averages there possess as much value as those of any part of the country, but, of course, they cannot be applied everywhere. An acre is credited with yield as follows:

	Pounds per acre.
Cabbage	21,000
Onions	19,950
Potatoes	4,680
Lumber	3,000
Hay	2,710
Corn	1,728
Barley	1,219
Oats	886
Tobacco	877
Rye	848
Wheat	792

As the list shows, the three heaviest freight producing crops are cabbage, onions, and potatoes. Lumber is fourth. Up to the present time timber has been cut almost exclusively from wild land, without which much regard to the acres gone over. But the time is coming when the yield of wood per acre will be calculated as carefully as the yield of corn, and as much thought will be given to growing it, though not as much work. How much wood grows on an area in a year?

Some of the abused, burnt, washed, and neglected lands are producing only little. It has been estimated that typical hardwood regions of Tennessee, where fire is kept out, are growing about 3,000 pounds of wood yearly per acre. Good stands of young pines in other parts of the country are probably doing as well or better. But this is not the limit, for foresters say woodland can do much better under forestry methods. Good timber must be selected, the poor cut out, just as the farmer plants the best kinds of corn and rejects the poor. In Europe where they raise crops of trees they get, under favorable conditions, an annual growth of 4,

500 pounds to 6,500 pounds of wood per acre. This country can do at least as well.

The freight carriers, however, seldom transport the whole wood growth. The waste is left in the woods or at the mill. This is much or little, depending upon what is made of the wood before the transportation company gets it. It is apparent, however, that after deducting for waste, the growth of an acre of timber furnishes more freight than an acre of any one of the agricultural crops except cabbage, onions, and potatoes.

The quantity of any one of these three commodities that will go to the market is limited by demand, but the demand for lumber is not diminishing. All that the forests and planted lots can supply will go to the market.

Woodland, under care, yields yearly crops as regularly as wheat fields. The marketable timber only is cut at regular intervals, and new growth is always coming on. As a freight producer, a timber tract may be depended upon as surely as a potato field. In fact, it is surer; for land in farm crops wears out unless constantly fertilized, but timberland fertilizes itself with its leaves, and becomes richer. It will yield undiminished crops forever.

Trees grow on rough land where agriculture cannot profitably be carried on, and the freight and other returns from such regions are largely clear gain since such land would otherwise be producing little or nothing.

135 CARLOADS FLINT GRAVEL.

Represents About Half Needed by One Paving Company at Pensacola.

One hundred and thirty-five of a contract total of 350 carloads of fine flint gravel have been delivered in Pensacola. The entire consignment thus far has been for the brick paving company and within the past few days the wood block paving company has started its supply, unloading the same south of Chase street on Alcaniz, and south of Main street on Taragona. The other company has filled a large space on Alcaniz street between Chase and Wright, and has been forced to seek other storage places. On North Taragona street above Jackson, and on Wright street near Ninth avenue, are other large amounts. The supply is drawn upon when needed. It was stated that about an equal amount will be used by the respective paving companies.

During the commercial year which ended the last day of August, Southern mills, according to the report of Secretary Hester, of New Orleans, consumed 2,560,000 bales of cotton while northern mills used 2,500,000. This shows the great advance made by the South along this particular line of manufacture, which is one of the most important in the world.

New Forest Experiment Stations Established in the West

The government is now carrying on investigative work at regular forest experiment stations similar to the agricultural experiment stations in the different states.

The first forest experiment station created in this country was the Coconino Experiment Station at Flagstaff, Arizona, established last summer. Investigations covering many phases of forestry in the Southwest have already been undertaken at this station. The second forest experiment station has been established this year on Pike's Peak, Colorado.

The need for such stations becomes apparent when the long time necessary for handling forest experiments is considered. In agricultural experiments definite results can usually be obtained in one or at most a few years; in forestry, because of the long time required for trees to develop, scores of years are often required to complete a single experiment.

All experimental work is conducted under the direction of men who have had thorough training in technical and practical forestry. Every experiment has a direct bearing upon some problem which vitally concerns the management of the forest. Every experiment will be pursued until conclusive results are obtained and every man conducting investigative work will be given an opportunity to put his recommendations to the test in actual field work. Under this system every new plan can be thoroughly tried before being put into practice on a large scale, and thus the injury resulting from mistaken practices can be minimized.

The greatest technical problem which now confronts the Forester in handling the great pine forests of Arizona and New Mexico is that of establishing a new stand of trees to replace the old timber which is cut off. This was the first problem undertaken by the Coconino Experiment Station. Much valuable information regarding the factors influencing natural reproduction has already been secured, but many years of systematic study will be required to fully solve the problem. The feasibility of artificial regeneration by planting and sowing is also being tested. The latter experiments, for the sake of economy, are being conducted on the smallest scale which will insure reliable results to general conditions.

The plans for the near future provide for a detailed study of the problems concerning the natural and artificial regeneration of other commercial trees such as Douglas fir, Engelmann spruce and the junipers.

Tests will be made of trees introduced from other regions, with the view of finding other species, adapted to planting in this region, which are superior to the native trees.

One important problem which will occupy much attention at the experiment station for a number of years is the determination of the rate of growth of immature trees left on an area after log-

ging. In scientific forestry, as practiced in many European countries, every tract of timber is so handled as to yield a perpetual supply of material, harvested at regular intervals.

In order to establish such a system of management, it is necessary to know for each area logged how soon it is practicable to return for a second cut, and the yield which can be expected at that time; and in order to do this, it is necessary to determine how fast trees of different ages grow after the mature timber has been removed. These data will be secured by periodical measurements of all trees on typical cut-over areas on different forests in Arizona and New Mexico. During the present season, experiments to determine the influence of thinning upon the rate of growth and quality of timber produced by the remaining trees will be initiated.

Attention is also being given to the improvement of the range. An attempt will be made to introduce valuable forage plants on portions of the range on which the native vegetation is sparse or of an inferior quality. Experimental sowings of Kentucky bluegrass, timothy, red top and broome grass have already been made, and other forage plants will be tested from time to time. A collection is being made of all herbs, shrubs and trees found on the national forests, together with notes on their forage or wood producing value.

THE YELLOW PINE SITUATION.

The need of and the redeeming effect of curtailment are alike apparent to well-informed yellow pine manufacturers—they are companion virtues without which the situation must inevitably have continued at its worst. The dread of competitive advantage accruing to those refusing to slow down, has lost much of its former force and it is now seen that by running continuously on shortened time generally instead of shutting down entirely, any such advantage is not only averted, but operating crews are at the same time kept intact and results in general are far more satisfactory. It may be a disagreeable reflection, but any disposition to plead ignorance of, otherwise evade or in any manner ignore the fact that there yet is not enough trade to absorb the possible production of all of the mills, is simply reactionary, or idle self-deception. Every manufacturer in his own defense must keep this remorseless fact in mind and act upon it precisely as though its consummation was wholly contingent upon his own course and not depend, as many at first did, upon others to do what they believed in but were unwilling themselves to also do. With everybody depending upon others, and all, of course, have the same right to do that, the folly of hoping for redemption cannot be mistaken any more than its effect can be discounted.

The clearing house reports for June and July both show balances on the right