

Tree scales have been prepared and are coming into common use. They show the contents in lumber or cords of trees of different kinds and sizes. Different kinds of trees require the use of different scales. Here again it is necessary to measure the breast-high diameter and the total merchantable height. The pines, spruces, and other conifers are easy to scale accurately. Although the hardwoods, because they are less regular in the shape of their trunks, can not be estimated so accurately, tree scales for some of the more common kinds, such as red and white oaks, ash, yellow poplar, and sweet gum are available and are being used.

Log and tree scales may be purchased from dealers, and from some of the Federal land banks. Instruments for measuring tree diameters (calipers) and heights (hypsonometers) are sold by the same agencies or may be made at home. Information on the subject is always gladly furnished by the State foresters, agricultural extension foresters, or the Federal Forest Service.

It is comparatively easy to obtain a fair idea of the contents in board feet of a piece of standing timber. All the trees may be estimated or a number of small areas fairly representing the stand may be selected and measured. The latter method, or partial estimate, is commonly used except for very small wood lots.

Representative Areas Desirable

One method is to select a number of quarter-acre plots in the best, the average, and the poorest portions of the stand. A circle with a radius of 59 feet makes one-fourth of an acre. A center tree should be selected and the distance of 59 feet measured or stepped out in four or more directions and the points marked. All the trees within the circle are measured and their contents recorded. The selection of the areas should be made with care and good judgment so as to have them truly representative.

Another method in common use is to tally every tree within a strip 2 rods (33 feet) or 4 rods (66 feet) wide. A strip 4 rods wide and 40 rods long contains 1 acre. If such strips are laid out at regular intervals, it is easy to determine what percentage of the whole stand the estimate covers. An estimate of 20 to 40 per cent of the total area is often necessary or advisable.

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TIMBER Selling From the Farm to Consumers

The owner of timber may prefer to sell it on the stump or he may prefer to cut it himself and sell the product. If he chooses to sell the timber standing, he may do it in any one of four ways; by the lump, by log scale, by sawed-lumber scale, or by the piece or stack.

In selling the timber on a tract for a lump sum the owner is likely to be at a disadvantage unless he gets a preliminary estimate of the contents and value of the timber. If he is unable to make such an estimate himself it will in most cases pay him well to employ outside help for this purpose.

A millman in Stark County, Ohio, several years ago bought a small block of standing wood-lot timber at the owner's lump price

of \$350. From it he cut 34,000 board feet of lumber, which he marketed in a town 6 miles distant at an average price of \$36.83 per thousand, or a total of \$1,252. Cost of logging, sawing, and delivering was \$12 per thousand, or \$408 for the lot. Allowing a profit of 25 per cent on the total money invested, or \$189.50, the total cost of getting the material from the stump to market was \$597.50. The difference between this and the market value of the lumber gives the true stumpage value, or \$654.50, instead of \$350 which was the amount paid. Thus the farmer practically gave the buyer \$304.50. The cost of a timber estimate would not have exceeded \$25.

Selling standing timber by the lump is a good method if the land is to be cleared for uses other than timber growing because the buyer usually cuts very clean. This method also has the advantage that it avoids differences in opinion between buyer and seller such as may arise over the scaling and grading of individual logs if the timber is sold by log scale. On the other hand, the method is inadvisable if the owner desires to foster young growth and provide for a future timber crop.

Determining Sale Value in Advance

In selling by log scale, that is, at a fixed price per thousand board feet measured in the log as it is cut, the chief concern of the owner is to determine in advance the sale value per thousand feet of the timber in the tree. This may be obtained as an average log-run price for all the trees on the land, or separately for each species and for each grade of logs. Unless the timber runs nearly uniform in kind and quality the latter way is the better for an owner with experience in grading. The owner may either offer his timber at a stated price or call for bids and sell to the highest bidder.

It is very important in selling by log scale to specify the scale to be used. The Doyle rule gives very low scales for small logs such as are obtained from most second-growth timber. The International log rule gives fairly closely the amount of lumber that may be cut from a log by careful sawing; and this rule is recommended. A 16-foot log 12 inches in diameter at the small end, when carefully sawed with a circular saw of ordinary thickness ($\frac{1}{4}$ -inch kerf) should cut out about 97 board feet of lumber, as is shown by the International rule. The same log scaled by the Doyle rule shows 64 board feet. Copies of the International rule can be obtained from State or Federal forest officers. It will pay the inexperienced seller to employ a competent person to check the scale. Selling by log scale should usually be chosen in preference to selling by the lump in cases in which the contents and value of the timber have not been carefully estimated in advance, and particularly if the timber is of high value.

Board-Foot Measurements

Board-foot measurement of the lumber actually sawed out is unquestionably a more accurate basis for selling timber than either of the two methods already mentioned. Mill scales as a rule show from 10 to 30 per cent more than log scales. This method, however, causes some delay and expense, but is coming into more general use as the value of forest products rises.

Fence posts, small mining timbers, ties, poles, piling, and some other products are sold by the piece of specified dimensions. Bolts of the shorter lengths are ranked and sold by the cord; the larger ones are measured as logs. Firewood is always sold by the cord or rick. The same precautions should be taken in such sales as in selling logs.

A profitable way of marketing farm timber is for the owner to cut and haul the products to market himself. This provides winter employment for hired help and teams. Also it enables the owner to obtain profits that would otherwise go to the purchaser of standing timber.

Seiling Points

Sell direct to the consumer.

Get bids, if possible, for each piece of timber from several buyers.

Advertise in the papers and write personal letters to sawmills and manufacturing plants.

Consult neighbors who have lately sold timber.

Join with neighbors in making up cooperative carload shipments of logs, bolts, or other timber products.

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TOBACCO Grades Adopted Under Warehouse Act Authority is given under the United States warehouse act for the establishment of standard grades for tobacco. It is necessary that the type and grade of tobacco be stated on warehouse receipts and certificates issued under this act, unless otherwise requested by the depositor. Standard grades form a basis by which farmers may arrive at the market value and bankers at the collateral value of a commodity.

Standard grades are needed by farmers to serve as a guide in assorting and preparing tobacco for the market if they are to obtain the best price. They are needed to facilitate the purchase of uniform packages of tobacco. A definite classification of the various types and standard grades are needed as a basis for market reports and statistical information. By means of such classification and standard grades, farmers are able to keep posted on market prices and crop conditions. Without standard classification and grading, market reports and statistics of one lot of tobacco may mean one thing to one farmer or dealer and quite a different thing to another farmer or dealer. Standard grades facilitate all commercial transactions in tobacco by giving to the farmer, dealer, warehouseman, banker, and manufacturer definite information that means the same thing to all parties.

Plan of Type Classification and Standard Grades

In order to formulate a basis for establishing standard grades for tobacco, specific information and data from all the tobacco-producing sections were collected and analyzed. It was necessary to make a broad survey of all types of tobacco and classify their various qualities and characteristics. After extensive field studies and of research work in the laboratory, the department arrived