RAPID MOISTURE DETERMINATION OF TREE SEED WITH AN ELECTRONIC METER

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Tree seed processors need a quick, inexpensive method to determine the moisture content of seed. After the extraction and cleaning process, the seed should be placed into storage as soon as possible. Most tree seed deteriorates rapidly when not stored at the proper temperature or when the moisture content is too high or too low. Therefore, it is necessary to have a quick method to determine the moisture content.

Moisture content is usually determined by the oven-dry weight method. This method is time consuming because the seed sample has to be dried to a constant weight. Then the moisture content is determined by the percent difference between wet weight and dry weight.

The Region 8 Tree Seed Testing Laboratory tried moisture meters that were developed for agricultural seed in an effort to find a quick, inexpensive way to determine the moisture content of tree seed. The Radson Electronic Meter, Model 20, proved satisfactory. To determine moisture content with this instrument, 5 ounces (3 ounces for longleaf pine) of seed are weighed out on the preset scales attached to the meter case. The testing circuit is then balanced by setting dial on "0" and turning knob until pointer is at the red center line. The seed to be tested is poured into the hopper on top of the meter. The circuit is rebalanced by turning the dial. The moisture content is then obtained by taking the dial reading and referring to a conversion chart. Since the seed is not harmed, small lots can be tested without impairing the value of the lot.

The seed laboratory has developed calibration data for several species of pine seed. The Radson Engineering Company has prepared charts from this data for both winged and dewinged longleaf, and dewinged loblolly, slash, and pond pine seed. Charts will be available shortly for white, red, and shortleaf pine seed.

The Radson Electronic Moisture Meter may be purchased from the Radson Engineering Company of Macon, Ill., for approximately $95. An extra charge of approximately $10 is made for the conversion charts.

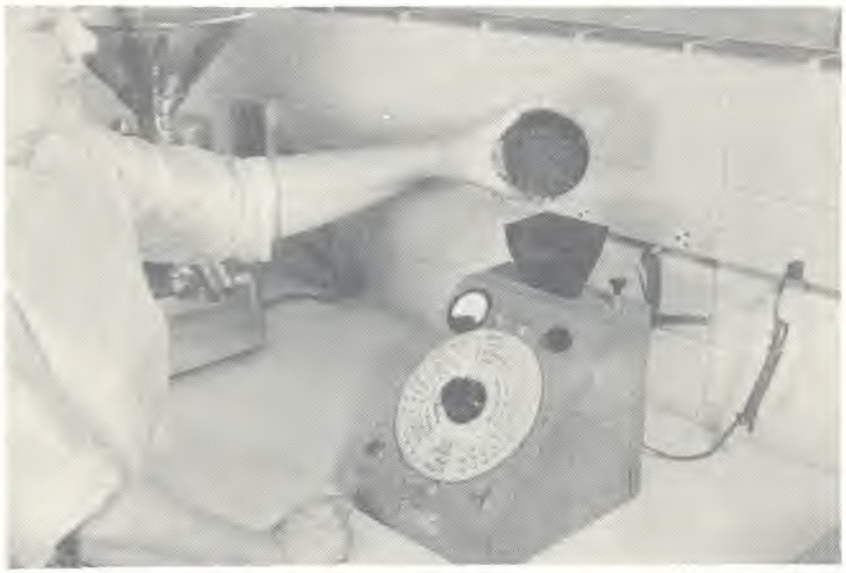

Figure 1.--The Radson Moisture Meter, Model 20, used for rapid determination of moisture content of tree seed.

[1] Operated in cooperation with the Georgia Forestry Commission, Georgia Forest Research Council, and the Southeastern Forest Experiment Station.