

# TECHLINE

## Timber & Fiber Demand and Technology Assessment

### Cubic Measurement

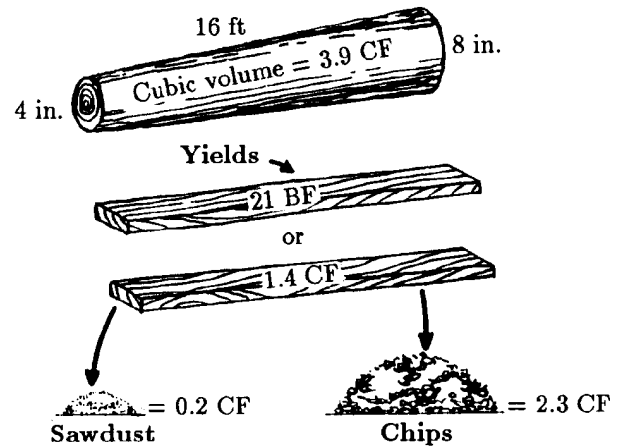
Foresters and forest product manufacturers have recognized the need for a universal unit of measurement in wood and wood products since the 1920s. They depend on measurements to quantify how much timber there is, how fast it is growing, how much is to be harvested or left behind, and how efficiently it can be utilized. Yet, most work is carried out using an outdated, inconsistent, and inaccurate unit of measure—the board foot.

Cubic measurement (e.g., cubic feet as an expression of volume) is an alternative to this old standard. Instead of measuring board feet of logs, cords of firewood, number of poles, and tons of pulp chips, all of these products could be directly measured or converted to cubic measure. As competition within the forest products industry increases, it is critical to have accurate volume and cost information, accountability for all products within the log or tree, the ability to measure the entire array of end products in the same units, an accurate measure of small timber, reliable weight-volume relations, and one consistent measurement system throughout the nation. While the rules and systems are based on cubic feet rather than cubic meters, the conversion from feet to meters is simple and straightforward. This is a definite advantage in international markets.

Starting in the mid-1970s, researchers in the Timber Quality Research (TQR) Project at the Pacific Northwest Experiment Station published articles explaining the benefits and uses of cubic measurement. They provided mill study results and developed techniques to help a joint Forest Service/industry task force objectively evaluate alternative scaling methods and individual defect deductions.

The joint task force, a partnership of the forest products industry and the Research and National Forest System branches of the Forest Service, developed a standard cubic measurement system that could be applied in forestry, silviculture, cruising and appraisal, scaling, and marketing. This system is being adopted nationwide by the Forest Service, U.S. Department of Interior's Bureau of Land Management and Bureau of Indian Affairs, and State agencies.

The TQR project documented the logic of cubic measurement in a 1984 workshop proceedings that is still considered a standard reference work. A second conference in 1993 emphasized implementation and use of cubic measurement.



*The Scribner scale for this log is 10 board feet (BF); and the volume is 3.9 cubic feet. The log will produce twice the estimated board feet of lumber (21 BF) plus byproducts that cannot be expressed in board feet. The sum of products when measured in cubic feet is equal to the cubic-foot volume of the log.*

In 1989, the National Forest Products Association (now the American Forest & Paper Association) adopted the cubic measurement rules defined by the joint task force as their standard. The growing U.S. acceptance of cubic measurement for wood and wood products significantly increases the efficiency and competitiveness of the U.S. forest products industry nationally and internationally.

*For additional information, contact:*

*Dean L. Parry, Forester*

*Pacific Northwest Research Station*

*P.O. Box 3890*

*Portland, OR 97208-3890*

*Phone: (503) 808-2000; FAX: (503) 808-2020*

#### References

Snellgrove, Thomas A.; Fahey, Thomas D.; Bryant, Ben S., tech. eds. 1984. User's guide for cubic measurement. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station; Seattle, WA: University of Washington, College of Forest Resources. 107 p.

Folk, Richard; Willits, Susan., tech. eds. 1993. Cubic measurement and you: A national symposium on cubic implementation in tomorrow's management of the nation's forest. *In: Proceedings of the national cubic measurement symposium; 1993 April 19-21; Spokane, WA.* Moscow, ID: University of Idaho Department of Forest Products. 123 p.



United States  
Department of  
Agriculture

Forest  
Service

Forest Products  
Laboratory

Phone: (608) 231-9200; FAX: (608) 231-9592  
E-mail: mailroom/fpl@fs.fed.us  
Web site: <http://www.fpl.fs.fed.us/>