

## Converting Board Feet to Tons

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A major concern in timber price reporting is comparing volume and weight. Historically, standing timber has been inventoried and purchased using board feet. However, mills often measure and purchase delivered logs by their weight (tons). Utilizing different measures for standing and delivered timber can create uncertainty as to the exact amount and value of the timber. Attempting to mathematically convert between volume and weight is not as easy as 1, 2, 3. The size (diameter) of a tree greatly affects the weight conversion factor to be used. For example, a 12” pine tree may use a conversion of 12 tons per 1,000 Doyle board feet, while a 20” pine tree may use a conversion of 6 tons per 1,000 Doyle board feet. There are several factors that create these discrepancies, but the problem is defining a universal weight-to-volume conversion factor. For general purposes, the conversion factors employed by the Arkansas severance tax laws provide a good average (see below). If one desires more accuracy, there are tables available that provide a conversion based on tree size and log rule utilized.

The Arkansas Timber Market Report presents dollars per ton. However, as stated earlier, many timber inventory reports are in Doyle board feet usually represented in thousands (1000 Doyle bd. ft. = 1 MBF). Using the Arkansas severance tax average conversion factors, converting from board feet to tons is made easier. **Note: Always convert from either volume to weight or weight to volume and then apply the appropriate price. Do not use the conversion factors directly on the price itself, as this can create an erroneous result.**

Weight-to-volume conversion factors (based on severance tax laws):

Sawtimber:

Pine: 1,000 board feet (Doyle log rule) = 8 tons  
Hardwood: 1,000 board feet (Doyle log rule) = 8 tons

Pulpwood:

Pine: 1 cord = 2.5 tons  
Hardwood: 1 cord = 3.0 tons

Example:

Timber volume report: Pine Sawtimber = 6 MBF (Doyle) per acre  
Pine Pulpwood = 10 cords per acre

Conversion: PS = 6 x 8 = 48 tons per acre  
PP = 10 x 2.5 = 25 tons per acre