

FUEL VALUE OF WOOD

Two pounds of dry wood of any non-resinous species have about as much heating value as a pound of good coal. Speaking in tons and cords, a ton of coal may be taken as equivalent value of 1 cord of heavy wood, 1-1/2 cords of medium-weight wood, or 2 cords of light wood.

The following table is an approximation of the number of cords of seasoned wood of various kinds needed to give the same amount of heat as a ton of coal, on the basis of 80 cubic feet of wood, with a moisture content of 15-20 percent, to the cord:

1 cord	(hickory	ash	)	= 1 ton coal
	(oak	elm	)	
	(beech	locust	)	
	(birch	longleaf	)	
	(hard maple	cherry	)	
1-1/2 cords	(shortleaf pine	Douglas-fir	)	= 1 ton coal
	(western hemlock	sycamore	)	
	(red gum	soft maple	)	
2 cords	(cedar	cypress	)	= 1 ton coal
	(redwood	basswood	)	
	(poplar	spruce	)	
	(catalpa	white pine	)	

Resin gives twice as much heat as wood, weight for weight. Hence such woods as the pines and firs have more heating power per ton than non-resinous woods. The resinous woods in the table are considered as having an average amount of resin (15 percent).

The fuel value of wood depends in many cases not alone upon its heating power, but also upon such qualities as easy ignition, rapid burning, freedom from smoke, and uniform heat. As a rule, soft woods burn more readily than hard woods, and light woods more readily than heavy woods. The pines give a quicker, hotter fire and are consumed in a shorter time than birch; whereas birch gives a more intense flame than oak. On the other hand, oak gives a very steady heat.