

Timber volume, also known as cord volume, is one of the ways a forester can evaluate the type of product trees can produce, such as saw logs or pulpwood. The volume of wood in a tree can be determined by the tree's height and diameter.

INSTRUCTIONS: Included in the table below is a sample set of pine tree heights and diameters. Use the volume table to determine the volume for each tree and record your data in the next table. Determine the total cord volume by adding all of the tree volumes together. Then multiply the total cord volume by the example pine weight factor of 5,500 pounds. Convert the weight into tons by dividing the total number of pounds by 2000.

Sample Set

Tree	1	2	3	4	5	6
DBH	18	22	10	12	20	17
Ht.	70	85	45	55	90	80

Volume Table

DBH	40	45	50	55	60	65	70	75	80	85	90	95
6	0.039	0.044	0.048	0.053	0.058	0.063	0.068	0.073	0.077			
7	0.057	0.064	0.071	0.078	0.085	0.092	0.099	0.106	0.113			
8	0.074	0.084	0.093	0.102	0.111	0.12	0.129	0.139	0.148	0.158		
9	0.093	0.105	0.116	0.128	0.14	0.152	0.163	0.174	0.186	0.192	0.209	
10	0.112	0.127	0.141	0.155	0.169	0.183	0.197	0.211	0.225	0.239	0.253	
11	0.131	0.159	0.168	0.184	0.201	0.218	0.235	0.251	0.268	0.284	0.302	0.311
12	0.15	0.167	0.185	0.21	0.235	0.255	0.275	0.295	0.314	0.332	0.353	0.372
13			0.202	0.217	0.272	0.295	0.318	0.34	0.363	0.39	0.408	0.43
14					0.312	0.338	0.363	0.389	0.415	0.441	0.467	0.493
15					0.353	0.383	0.412	0.442	0.471	0.501	0.53	0.559
16					0.397	0.43	0.463	0.496	0.529	0.562	0.595	0.628
17					0.444	0.481	0.518	0.555	0.592	0.629	0.666	0.703
18					0.493	0.534	0.575	0.616	0.657	0.698	0.739	0.78
19					0.544	0.59	0.635	0.68	0.726	0.771	0.816	0.861
20					0.598	0.648	0.698	0.748	0.798	0.848	0.897	0.947
21					0.655	0.71	0.764	0.818	0.873	0.927	0.982	1.036
22					0.714	0.774	0.883	0.893	0.952	1.016	1.071	1.13

Tree	DBH	Height	Vol.
1	18	70	0.575
2	22	85	1.016
3	10	45	0.127
4	12	55	0.21
5	20	90	0.0897
6	17	80	0.592

$$\text{Total Cord Volume } \underline{2.6097} \times \text{Weight Factor } \underline{5,500} = \underline{14,353.35} \text{ lbs.}$$

$$\underline{14,353.35} \text{ lbs.} \div \underline{2,000} = \underline{7.18} \text{ tons}$$

To determine the cord volume of your own set of trees (minimum of 10), visit www.georgiaffa.org. Click on the FFA menu option, scroll down to the Career & Leadership Development Events link, then the Forestry Field Day link. There you will find the Forestry Field Day Senior Event Guide. Download the PDF to complete the **Timber Cruising for Cord Volume** activity.