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Weight and Volume Prediction Equations for Sand Pine Trees in Florida

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Estimates obtained from these equations consequently are additive, making estimates of tree components add to the various estimated totals.

Table 4. Combined variable Ocala sand pine tree weight and volume prediction equations for 20 components.

	Equation Parameters[a]			
Component	**Y**	**b_0**	**b_1**	**R^2**
Stem Wood				
Vol. I.B.	ft.^{3}	0.0333	.001182	.990
Green Wt.	lb.	2.8995	.067179	.987
Dry Wt.	lb.	1.2099	.031162	.976
Stem Bark				
Green Wt.	lb.	1.3849	.007908	.947
Dry Wt.	lb.	0.7232	.004396	.941
Stem				
Vol. O.B.	ft.^{3}	0.0612	.001342	.991
Green Wt.	lb.	4.2842	.075087	.987
Dry Wt.	lb.	1.9330	.035556	.978
Branch Wood				
Green Wt.	lb.	3.8382	.025426	.758
Dry Wt.	lb.	1.5582	.011558	.767
Branch Bark				
Green Wt.	lb.	1.5454	.006863	.739
Dry Wt.	lb.	0.7050	.002298	.581
Branch				
Green Wt.	lb.	5.3837	.032289	.760
Dry Wt.	lb.	2.2633	.013860	.754
Foliage				
Green Wt.	lb.	5.5314	.009746	.494
Dry Wt.	lb.	2.1671	.003733	.481
Crown				
Green Wt.	lb.	10.9149	.042035	.708
Dry Wt.	lb.	4.4304	.017593	.711
Tree				
Green Wt.	lb.	15.1993	.117122	.938
Dry Wt.	lb.	6.3634	.053146	.945

[a] Equation format: $Y = b_0 + b_1 * DBH^2 * TH$ with DBH in inches and TH in feet.

Appendix 1

Metric combined variable Ocala sand pine tree weight and volume prediction equations for 20 components.

Component	Equation Parameters[a]			
	Y	b_0	b_1	R^2
Stem Wood				
Vol. I.B.	dm^3	0.9420	.017023	.990
Green Wt.	kg	1.3152	.015496	.987
Dry Wt.	kg	0.5488	.007188	.976
Stem Bark				
Green Wt.	kg	0.6282	.001824	.947
Dry Wt.	kg	0.3281	.001014	.941
Stem				
Vol. O.B.	dm^3	1.7326	.019328	.991
Green Wt.	kg	1.9433	.017320	.987
Dry Wt.	kg	0.8768	.008202	.978
Branch Wood				
Green Wt.	kg	1.7410	.005865	.758
Dry Wt.	kg	0.7068	.002666	.767
Branch Bark				
Green Wt.	kg	0.7010	.001583	.739
Dry Wt.	kg	0.3198	.000530	.581
Branch				
Green Wt.	kg	2.4420	.007448	.760
Dry Wt.	kg	1.0266	.003197	.754
Foliage				
Green Wt.	kg	2.5090	.002248	.494
Dry Wt.	kg	0.9830	.000861	.481
Crown				
Green Wt.	kg	4.9509	.009696	.708
Dry Wt.	kg	2.0096	.004058	.711
Tree				
Green Wt.	kg	6.8943	.027016	.938
Dry Wt.	kg	2.8864	.012259	.945

[a]Equation format: $Y = b_0 + b_1 * DBH^2 * TH$ with DBH in cm and TH in m.

Appendix 3

Metric allometric Ocala (OSP) and Choctawhatchee (CSP) sand pine tree weight prediction equations for 10 crown components.

Component	Y	b_1	b_2	b_3	R^2
	Equation Parameters[a]				
OSP					
Branch Wood					
Green Wt.	kg	0.27091	3.6022	-2.0791	.872
Dry Wt.	kg	0.11014	3.3528	-1.7905	.865
Branch Bark					
Green Wt.	kg	0.10402	2.8563	-1.4069	.872
Dry Wt.	kg	0.07394	2.4272	-1.2576	.775
Branch					
Green Wt.	kg	0.38043	3.3579	-1.8661	.880
Dry Wt.	kg	0.17127	3.0444	-1.5750	.868
Foliage					
Green Wt.	kg	1.11592	3.3014	-2.5721	.820
Dry Wt.	kg	0.50636	3.3292	-2.6709	.798
Crown					
Green Wt.	kg	1.26305	3.3270	-2.1840	.870
Dry Wt.	kg	0.54794	3.1448	-2.0211	.855
CSP					
Branch Wood					
Green Wt.	kg	0.45934	3.2899	-2.0428	.718
Dry Wt.	kg	0.18938	3.3270	-2.0593	.723
Branch Bark					
Green Wt.	kg	0.22194	2.7407	-1.7957	.671
Dry Wt.	kg	0.08472	2.6751	-1.6877	.688
Branch					
Green Wt.	kg	0.66355	3.1762	-1.9940	.711
Dry Wt.	kg	0.26749	3.1982	-1.9887	.722
Foliage					
Green Wt.	kg	0.45832	3.1225	-1.9802	.698
Dry Wt.	kg	0.16847	3.0645	-1.8928	.697
Crown					
Green Wt.	kg	1.11361	3.1593	-1.9900	.708
Dry Wt.	kg	0.43084	3.1576	-1.9574	.717

[a] Equation format: $Y = b_1 * DBH^{b_2} * TH^{b_3}$ with DBH in cm and TH in m.