

TREES PER ACRE BY BASAL AREA								
DBH	BA PER TREE	Basal Area						
		40	60	80	100	120	140	160
Trees Per Acre								
4	0	460	690	920	1150	1380	1610	1840
6	0	205	308	410	513	615	718	820
8	0	115	173	230	288	345	403	460
10	1	75	113	150	188	225	263	300
12	1	50	75	100	125	150	175	200
14	1	35	53	70	88	105	123	140
16	1	30	45	60	75	90	105	120
18	2	23	34	45	56	68	79	90
20	2	19	28	37	46	56	65	74

Cutting Cycle = Years to grow
2" diameter

TREES PER ACRE (Plantations) BY AVG. ROW LAYOUT (Main Stand Trees)								
Feet Between Rows	Feet Within Rows							
	5	6	7	8	9	10	11	12
6	1452	1210	1037	908	807	726	660	605
7	1245	1037	889	778	691	622	566	519
8	1089	908	778	681	605	545	495	454
9	968	807	691	605	538	484	440	403
10	871	726	622	545	484	436	396	363
11	792	660	566	495	440	396	360	330
12	726	605	519	454	403	363	330	303
13	670	558	479	419	372	335	305	279
14	622	519	444	389	346	311	283	259
15	581	484	415	363	323	290	264	242
16	544	454	389	340	303	272	248	227

CONVERTING 25 YEAR BASIS SITE INDEX TO 50 YEAR				
25 years	50 years		25 years	50 years
35	50		55	80
40	60		60	90
50	70		70	100

PLOT DIMENSIONS		
Plot Size	Radius of Circle	One Side of Square
1/1000	3.7	6.6
1/100	11.8	20.9
1/50	16.7	29.5
1/20	26.3	46.7
1/10	37.2	66
1/5	52.7	93.3
1/2	83.3	147.6
1	117.8	208.7

AVERAGE SPACING AND TREES PER ACRE (D + X = ___')				
3' = 4840	13' = 258	23' = 82	33' = 40	55' = 14
4' = 2723	14' = 222	24' = 76	34' = 38	60' = 12
5' = 1742	15' = 194	25' = 70	35' = 36	65' = 10
6' = 1210	16' = 170	26' = 64	36' = 34	70' = 9
7' = 889	17' = 151	27' = 60	37' = 32	75' = 8
8' = 681	18' = 134	28' = 56	38' = 30	80' = 7
9' = 538	19' = 121	29' = 52	39' = 29	85' = 6
10' = 436	20' = 109	30' = 48	40' = 27	90' = 5
11' = 360	21' = 99	31' = 45	45' = 22	95' = 5
12' = 303	22' = 90	32' = 43	50' = 17	100' = 4

BASAL AREA (Sq. Ft.) PER ACRE BY AVERAGE DBH AND D+X SPACING									
DBH	D+2	D+4	D+6	D+8	D+10	D+12	D+14	D+16	D+18
4	106	59	38	26	19	15	12	10	
6	134	86	59	44	33	26	21	18	15
8	152	106	78	59	47	38	31	26	22
10	165	121	93	73	59	49	41	35	30
12	175	134	106	86	71	59	51	44	38
14	182	144	116	96	81	69	59	52	45
16	188	152	126	106	90	78	68	59	53
18	192	159	134	114	98	86	75	67	59
20	196	165	141	121	106	93	82	73	66

Present DBH	% ANNUAL VOLUME GROWTH WHEN LAST INCH OF RADIUS = ____ YEARS					
	5	7	9	11	13	15
- Pulpwood -						
8	17.6	12.3	9.4	7.7	6.4	5.6
10	12.1	8.6	6.6	5.4	4.5	3.9
12	9.3	6.6	5.1	4.1	3.5	3.0
- Sawlogs -						
12	23.1	16.0	12.2	9.9	8.3	7.2
14	11.8	8.3	6.4	5.2	4.4	3.8
16	12.1	8.5	6.6	5.3	4.5	3.9
18	7.6	5.4	4.2	3.4	2.9	2.5

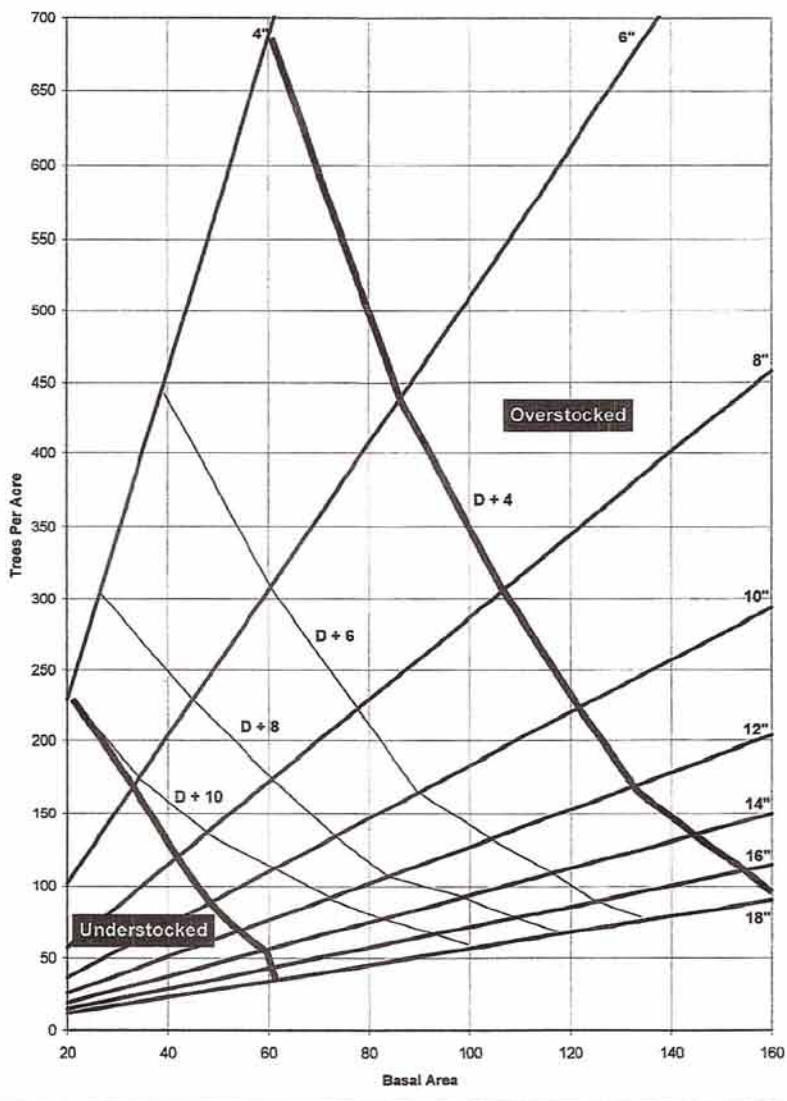
APPROXIMATE VOLUME BY BASAL AREA							
	Average dbh						
	6	8	10	12	14	16	18
Cords per Sq. Ft.	.20	.26	.29	.32	.34		
Board Feet per Sq. Ft.			31	61	79	107	122
Board Feet – Form Class 78 (Doyle Rule)							

Minimum stocking levels for upland hardwood stands to be understocked, fully stocked or overstocked.

Stocking Level	Average Diameter	Trees Per Acre	Basal Area	Stocking Percent
Understocked				
	8	130*	46	40%
	10	95*	52	40%
	14	58*	62	40%
Fully Stocked				
	8	177	62	60%
	10	125	68	60%
	14	70	75	60%
Overstocked				
	8	305	106	100%
	10	215	117	100%
	14	118	126	100%

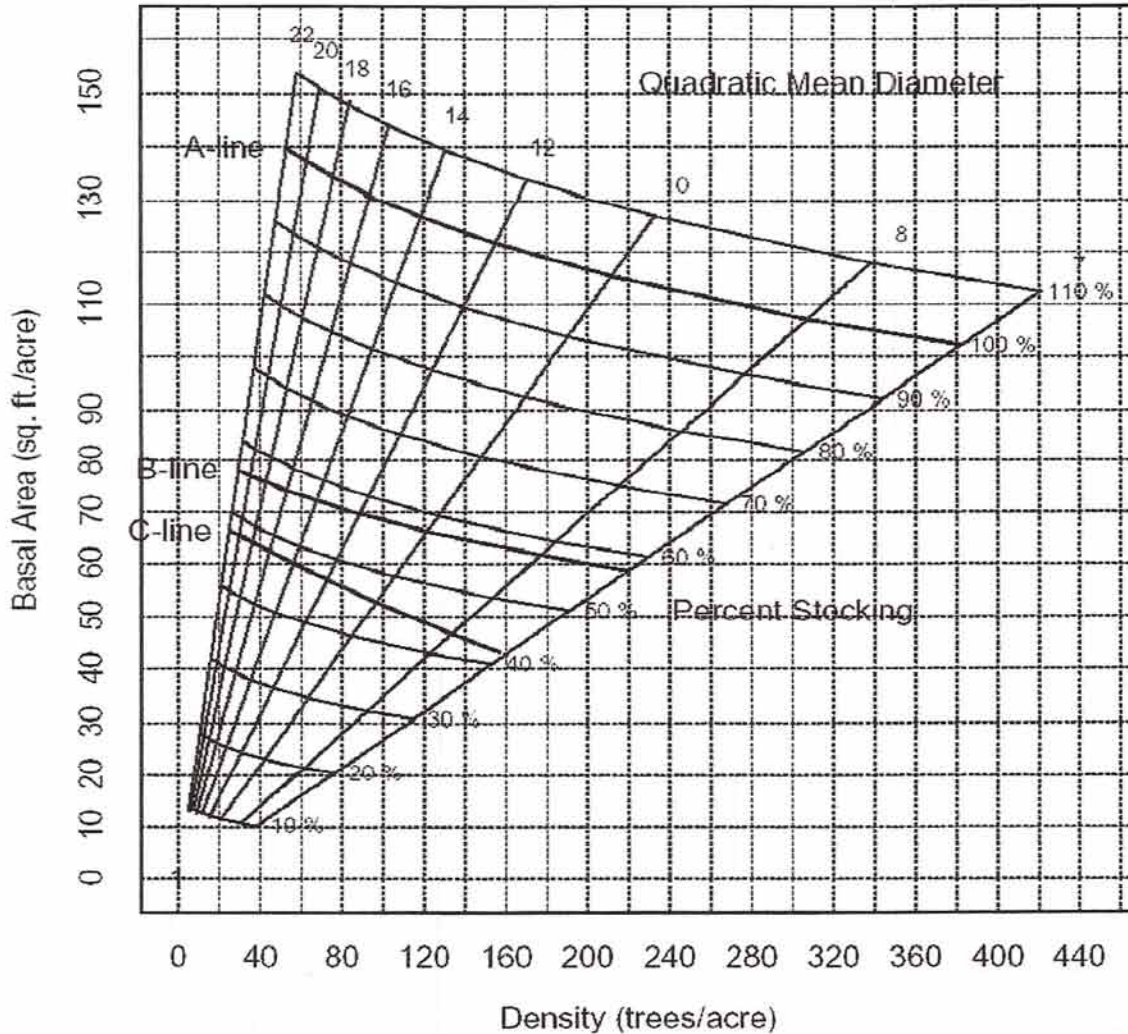
*Minimum number of manageable trees TPA for timber production

Pine Stocking Curve By Average DBH



UPLAND HARDWOOD FORESTS

Relation of basal area, number of trees, and average tree diameter to stocking percent



The diagram illustrates the relationship between basal area per acre, density (trees per acres), and the diameter of the tree of average basal area:

- The A-line is based on a fully stocked stand that has never been thinned. Trees in stands above 100% are considered crowded, too slow growing for normal forest management, and overstocked.

- The B-line is the point of full site occupancy with trees of maximum tree area. A stand on the B-line is thought to have trees with no competition, yet no space wasted. The area between the A-line and the B-line indicates the range of stocking where trees can fully utilize the site and should be considered fully stocked. Typically, the 80% stocking level is a good midpoint to choose for adjusting an overstocked stand to a fully stocked stand. This is because opening the stand too much (down to the B-line) could cause windfall or adverse effects.

The C-line is an estimate based on normal yield table of the lowest stocking that will grow to the B-line within ten years. This area of the chart is considered understocked.