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INTERIM MANAGED STAND  
YIELD TABLES: COASTAL  
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INTERIM MANAGED STAND YIELD TABLES

COASTAL DOUGLAS FIR

ESTABLISHMENT DENSITY AND JUVENILE SPACING

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## INTERIM MANAGED STAND YIELD TABLES

These unedited tables and graphs are distributed at this meeting to give potential users an opportunity to offer suggestions which can be incorporated into later revisions. We would appreciate comments on the format of the tables, choice of variables, type and range of treatments and the growth and yield relationships. Do the tables and graphs conform with your experience and expectations? What other management variables or treatments should be added next? We tentatively plan to include fertilization and commercial thinning. Please bring errors, even trivial ones, to our attention. We will welcome your comments at 387-6673.

The tables were produced from information generated by the Tree and Stand Simulator (TASS). Number of trees, volume, basal area and diameter were graphed and smoothed to eliminate minor irregularities in the older ages when the death of a few trees in a particular year removes a noticeable proportion of the total volume. Other variables, including those in the stand and stock tables have not been smoothed. Irregularities were introduced into some graphs inadvertently when data were rounded to integer values before plotting.

The design of the simulated experiment which produced the tables is shown below. Only those treatments denoted by "X" are included in the attached tables.

### DESIGN

I N I T I A L    D E N S I T Y				J U V E N I L E    S P A C I N G				
T R E E S		S P A C I N G		U N S P A C E D		S P A C E D   T O		
/ha	/ac	m	ft		1100	750	500	
4440	(1800)	<u>1.5</u>	(5.0)	X	X	*	X	
2500	(1000)	<u>2.0</u>	(6.5)	X	X	*	X	
1110	(450)	<u>3.0</u>	(10.0)	X		*	X	
<u>750</u>	(300)	3.7	(12.0)	X				
<u>500</u>	(200)	4.5	(14.5)	X				
<u>300</u>	(120)	5.8	(19.0)	*				

## TREATMENT DESCRIPTION

## Initial Density

Planted stands (500-2500/ha) were established at square spacing with some variation about the intended planting locations. Trees were randomly located in the natural stand (4440/ha).

## Juvenile Spacing

The juvenile spacing was designed to favour uniform spacing of the most vigorous trees.

## APPLICATION

Yield estimates are usually related to age, but in these tables the yields are relative to top height. The corresponding ages for various sites are on the right-hand-side of the tables. In the first table (page 3), for example, a stand of 30 m top height would have a total volume of 581 m<sup>3</sup>/ha and a merchantable volume of 520 m<sup>3</sup>/ha (7.5 cm+) in 1216 trees/ha having an average diameter of 24 cm. We expect this condition to occur at age 40 on good sites (Site Index = 40 m) or at age 59 on medium sites (Site Index = 30 m). The height/age relationships are from site index curves developed by Bruce (1981), rather than from the curves currently used by Inventory Branch. The site classes (G,M,P), however, are comparable in terms of height at 50 years. Estimates of mean annual increment (m.a.i.) can be read below the age/site information as follows: on good site the maximum m.a.i. of 16.1 m<sup>3</sup>/ha/yr occurs at age 67 for trees 12.5 cm d.b.h. and larger.

The stand and stock tables show the 1216 trees/ha described above will vary in diameter from 10 to 35 cm with 395 trees falling in the 25 cm class (22.5 - 27.4). The merchantable volume of 520 m<sup>3</sup>/ha is distributed in a similar manner when top height reaches 30 m.

## LIMITATIONS

1. Uniform site quality and full stocking are assumed. No allowances are made for micro-site variation, or non-productive areas which are too small to be identified as separate types (eg: rock outcrops, brush species).
2. Estimates include some irregular mortality following planting. Subsequent mortality is related solely to inter-tree competition; irregular mortality caused by insects, diseases, weather and senility is not included.
3. Yield estimates were not reduced to account for decay, waste or breakage.

## INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR		NATURAL STAND ESTABLISHED AT 4440 TREES/HA										UNSPACED		DF 4440					
HEIGHT		Gross Total		VOLUME						NUMBER	BASAL	DBH	CROWN			TOTAL AGE OF STAND ON SITE			
Top	Avg	0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+	(/ha)	AREA	Q-M	Cover	Width	Length	40	35	30	25
(m)	(m)										(m <sup>2</sup> /ha)	(cm)	%	(m)	(m)	G	G/M	M	M/P
0	0	0	0	0	0	0	0	0	0	4440	0	0	0	0	0	0	0	0	0
3	2.4	2	2	0	0	0	0	0	0	4253	0	1	48	1.2	1.2	9	10	11	12
6	4.9	17	16	0	0	0	0	0	0	4107	6	4	89	1.4	2.7	12	14	15	17
9	6.7	50	49	3	0	0	0	0	0	4006	13	6	98	1.5	3.4	15	17	19	22
12	8.5	109	108	40	25	1	0	0	0	3944	22	8	99	1.3	3.0	18	20	24	27
15	9.8	175	173	97	82	17	0	0	0	3781	29	10	100	1.2	2.7	21	24	28	33
18	11.3	256	254	176	167	77	5	0	0	3464	36	11	100	1.3	2.4	25	28	33	40
21	14.3	338	332	258	250	164	45	0	0	2651	41	14	100	1.5	2.8	28	32	38	47
24	17.4	419	402	335	328	255	98	15	0	2002	44	17	100	1.8	3.4	31	36	44	56
27	21.0	518	482	425	421	372	237	87	0	1515	48	20	100	2.1	4.0	35	41	51	66
30	24.5	638	581	520	519	489	410	205	81	1216	51	24	100	2.5	4.6	40	47	59	79
33	28.0	762	665	618	618	606	549	406	189	1016	55	27	100	3.0	5.2	44	53	68	95
36	31.6	907	770	721	721	721	705	611	339	855	60	31	100	3.5	5.7	49	60	79	116
39	35.0	1066	891	852	852	852	852	781	620	729	65	34	100	3.8	6.1	55	68	91	143
42	38.2	1216	980	970	970	970	970	932	842	640	68	37	100	4.0	6.4	61	76	107	180
45	41.5	1406	1106	1092	1092	1092	1092	1077	1022	554	72	41	99	4.4	6.8	68	87	127	
48	45.7	1592	1211	1190	1190	1190	1190	1190	1190	489	75	44	98	4.8	7.3	76	99	151	
51	48.8	1774	1301	1280	1280	1280	1280	1280	1280	437	77	47	96	5.1	7.8	84	113	183	
54	51.8	1965	1385	1357	1357	1357	1357	1357	1357	390	79	51	94	5.4	8.3	94	130		
57	54.9	2145	1458	1425	1425	1425	1425	1425	1425	353	80	54	92	5.6	8.8	105	150		
														12.5+ cm	16.1/67	12.8/76	9.4/92	6.7/86	
														17.5+ cm	16.1/67	12.8/76	9.4/92	6.4/94	
														22.5+ cm	16.1/67	12.8/76	9.4/92	6.1/110	
														27.5+ cm	15.8/69	12.4/84	8.8/102	5.5/140	
														32.5+ cm	15.6/75	12.0/91	8.1/120	4.7/180	

MERCHANTABLE M.A.I. @ CULMINATION AGE

## STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)																
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75		
12	3309		1344	1675	287	3													
		40		15	24	1													
21	2644		603	704	734	494	109												
		258		8	86	119	45												
30	1216			74	235	272	395	163	77										
		520		3	30	79	205	123	81										
39	729						136	183	232	94	84								
		852					71	161	282	155	183								
48	489									54	171	138	72	54					
		1190								83	326	345	230	206					

TOP HEIGHT	- average height of site trees (100 trees/ha of largest dbh)	m
AVERAGE HEIGHT	- average height of all living trees	m
GROSS VOLUME	- total volume of living, thinned, dead & down trees (total production)	m <sup>3</sup> /ha
TOTAL VOLUME	- total volume of living trees	m <sup>3</sup> /ha
MERCH CUBIC VOLUME	- total volume less a 30 cm stump & 10 cm top (dib)	m <sup>3</sup> /ha
NUMBER OF TREES	- number of living trees	trees/ha
BASAL AREA	- basal area outside bark at 1.3 m	m <sup>2</sup> /ha
DBH (Q-M)	- quadratic-mean diameter (outside bark)	cm
CROWN COVER	- per cent of the ground area covered by tree crowns	per cent
CROWN WIDTH/LENGTH	- average crown dimensions of all trees	m
TOTAL AGE ON SITES	- years required for site trees to attain specified top height (Bruce 1981)	years
SITE 40 35 30 25	- height at breast height age 50 (site index)	m

## INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

HEIGHT		GROSS TOTAL		VOLUME						NUMBER TREES (/ha)	BASAL AREA (m <sup>2</sup> /ha)	DBH Q-M (cm)	CROWN			TOTAL AGE OF STAND ON SITE	
Top (m)	Avg (m)	0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+				Merchtable	40 G	35 G/M	30 M	25 M/P
0	0	0	0	0	0	0	0	0	0	4440	0	0	0	0	0	0	0
3	2.4	2	2	0	0	0	0	0	0	4253	0	1	48	1.2	1.2	9	10
6	4.9	17	16	0	0	0	0	0	0	4107	6	4	89	1.4	2.7	12	14
6T	5.2	17	8	0	0	0	0	0	0	1100	3	5	40	2.1	3.4	12	14
9	7.9	38	26	4	0	0	0	0	0	1075	7	9	85	3.0	5.2	15	17
12	10.6	83	72	46	35	1	0	0	0	1060	14	13	96	3.3	6.7	18	20
15	13.1	140	128	99	96	35	0	0	0	1053	21	16	99	3.4	7.0	21	24
18	15.6	215	202	172	170	125	0	0	0	1053	27	18	100	3.4	6.4	25	28
21	18.0	291	279	247	246	224	78	8	0	1053	33	20	100	3.2	6.1	28	32
24	20.4	367	354	319	319	304	172	42	0	1028	37	22	100	3.0	5.9	31	36
27	22.9	462	447	409	409	397	318	133	14	991	44	24	100	3.0	5.8	35	41
30	25.8	581	557	517	517	511	467	290	98	929	51	26	100	3.3	5.9	40	47
33	28.9	705	672	630	630	629	596	419	245	840	58	29	100	3.5	6.0	44	53
36	32.0	848	787	748	748	748	744	673	464	766	64	33	100	3.7	6.2	49	60
39	35.0	1007	915	875	875	875	875	835	695	697	69	36	100	4.0	6.4	55	68
42	38.1	1156	1008	989	989	989	989	962	877	640	73	38	100	4.3	6.8	61	76
45	41.2	1345	1127	1106	1106	1106	1106	1092	1057	554	76	42	99	4.7	7.2	68	87
48	45.3	1530	1225	1204	1204	1204	1204	1204	1204	489	79	45	98	5.1	7.6	76	99
51	48.4	1708	1326	1290	1290	1290	1290	1290	1290	440	81	49	97	5.5	7.9	84	113
54	51.5	1896	1404	1370	1370	1370	1370	1370	1370	395	83	52	96	5.8	8.2	94	130
57	54.6	2075	1476	1448	1448	1448	1448	1448	1448	353	84	55	95	6.1	8.5	105	150

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12.5+ cm	16.3/65	13.0/75	9.6/88	6.4/113
17.5+ cm	16.3/65	13.0/75	9.6/88	6.4/113
22.5+ cm	16.3/65	13.0/75	9.6/88	6.4/113
27.5+ cm	16.1/68	12.7/79	9.2/93	5.9/130
32.5+ cm	15.9/74	12.2/92	8.3/125	5.0/160

## STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)														
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
12	1060	46	15	549	492	4											
			0	11	34	1											
21	1053	247	15	47	195	610	171	15									
			0	1	23	146	69	8									
30	929	517			62	163	356	240	101	7							
					6	44	177	192	89	9							
39	697	875					77	163	240	109	101	7					
							40	140	290	167	219	19					
48	489	1204							40	163	156	22	101	7			
									57	306	367	69	374	31			

TOP HEIGHT	- average height of site trees (100 trees/ha of largest dbh)	m
AVERAGE HEIGHT	- average height of all living trees	m
GROSS VOLUME	- total volume of living, thinned, dead & down trees (total production)	m <sup>3</sup> /ha
TOTAL VOLUME	- total volume of living trees	m <sup>3</sup> /ha
MERCH CUBIC VOLUME	- total volume less a 30 cm stump & 10 cm top (dib)	m <sup>3</sup> /ha
NUMBER OF TREES	- number of living trees	trees/ha
BASAL AREA	- basal area outside bark at 1.3 m	m <sup>2</sup> /ha
DBH (Q-M)	- quadratic mean diameter (outside bark)	m <sup>2</sup> /ha
CROWN COVER	- per cent of the ground area covered by tree crowns	per cent
CROWN WIDTH/LENGTH	- average crown dimensions of all trees	m
TOTAL AGE ON SITES	- years required for site trees to attain specified top height (Bruce 1981)	years
SITE 40 35 30 25	- height at breast height age 50 (site index)	m

INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR														NATURAL STAND ESTABLISHED AT 4440 TREES/HA — SPACED TO 500 TREES/HA WHEN 4-6 M TALL										DF 4440-500			
HEIGHT		GROSS TOTAL				VOLUME				NUMBER TREES (/ha)	BASAL AREA (m <sup>2</sup> /ha)	DBH Q-M (cm)	CROWN			TOTAL AGE OF STAND ON SITE											
Top (m)	Avg (m)	0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+				Cover %	Width (m)	Length (m)	40 G	35 G/M	30 M	25 M/P								
0	0	0	0	0	0	0	0	0	0	4440	0	0	0	0	0	0	0	0									
3	2.4	2	2	0	0	0	0	0	0	4253	0	1	48	1.2	1.2	9	10	11	12								
6	4.9	17	16	0	0	0	0	0	0	4107	6	4	89	1.4	2.7	12	14	15	17								
6T	5.2	17	4	0	0	0	0	0	0	500	1	6	20	2.1	3.4	12	14	15	17								
9	8.2	29	14	4	0	0	0	0	0	494	4	10	56	3.7	5.5	15	17	19	22								
12	11.6	58	43	31	30	10	0	0	0	490	9	15	80	4.6	7.3	18	20	24	27								
15	13.7	98	83	70	70	55	13	0	0	487	14	19	93	4.7	8.9	21	24	28	33								
18	16.5	157	142	128	128	125	74	14	0	487	19	23	97	4.8	9.3	25	28	33	40								
21	19.2	221	206	190	190	188	160	82	6	487	24	25	99	4.9	9.2	28	32	38	47								
24	21.6	286	271	253	253	251	239	144	51	487	29	27	100	4.9	9.1	31	36	44	56								
27	24.4	369	354	333	333	333	327	257	157	487	35	30	100	4.9	8.9	35	41	51	66								
30	27.4	474	459	435	435	435	432	414	278	480	42	34	100	5.0	8.7	40	47	59	79								
33	30.4	585	566	540	540	540	540	523	422	472	50	36	100	5.1	8.6	44	53	68	95								
36	33.2	715	697	667	667	667	667	663	635	472	58	39	100	5.2	8.4	49	60	79	116								
39	36.0	860	842	810	810	810	810	805	781	472	66	42	100	5.2	8.3	55	68	91	143								
42	38.7	998	973	939	939	939	939	934	913	465	73	45	100	5.3	8.2	61	76	107	180								
45	41.5	1172	1127	1085	1085	1085	1085	1085	1072	445	79	48	99	5.4	8.2	68	87	127									
48	44.9	1343	1239	1204	1204	1204	1204	1204	1204	420	83	51	98	5.5	8.5	76	99	151									
51	48.2	1512	1342	1307	1307	1307	1307	1307	1307	371	86	54	97	5.6	8.8	84	113	183									
54	51.5	1688	1439	1403	1403	1403	1403	1403	1403	341	89	58	96	5.8	9.3	94	130										
57	54.7	1858	1518	1504	1504	1504	1504	1504	1504	316	91	60	95	6.1	9.8	105	150										
														12.5+ cm	16.0/69	12.5/83	8.9/93	5.8/116									
														17.5+ cm	16.0/69	12.5/83	8.9/93	5.8/116									
														22.5+ cm	16.0/69	12.5/83	8.9/93	5.8/116									
														27.5+ cm	16.0/69	12.5/84	8.9/94	5.7/120									
														32.5+ cm	15.8/71	12.3/87	8.7/97	5.6/125									

MERCHANTABLE M.A.I. @ CULMINATION AGE

STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)														
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
12	489			94	364	32											
		31		1	20	10											
21	487				15	109	218	138	7								
		190			2	28	78	76	6								
30	480					15	40	190	93	135	7						
		435				3	17	137	89	176	13						
39	472						7	32	116	124	69	109	15				
		810					5	24	138	192	140	265	46				
48	420								34	47	109	62	84	77	7		
		1204							30	85	248	176	292	332	41		

- TOP HEIGHT - average height of site trees (100 trees/ha of largest dbh) m
- AVERAGE HEIGHT - average height of all living trees m
- GROSS VOLUME - total volume of living, thinned, dead & down trees (total production) m<sup>3</sup>/ha
- TOTAL VOLUME - total volume of living trees m<sup>3</sup>/ha
- MERCH CUBIC VOLUME - total volume less a 30 cm stump & 10 cm top (dib) m<sup>3</sup>/ha
- NUMBER OF TREES - number of living trees trees/ha
- BASAL AREA - basal area outside bark at 1.3 m m<sup>2</sup>/ha
- DBH (Q-M) - quadratic-mean diameter (outside bark) cm
- CROWN COVER - per cent of the ground area covered by tree crowns per cent
- CROWN WIDTH/LENGTH - average crown dimensions of all trees m
- TOTAL AGE ON SITES - years required for site trees to attain specified top height (Bruce 1981) years
- SITE 40 35 30 25 - height at breast height age 50 (site index) m

## INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR		2500 TREES/HA PLANTED 2.0 METRES APART								UNSPACED				DF 2500					
HEIGHT		GROSS TOTAL		VOLUME						NUMBER TREES (/ha)	BASAL AREA (m <sup>2</sup> /ha)	DBH Q-M (cm)	CROWN			TOTAL AGE OF STAND ON SITE			
Top (m)	Avg (m)	0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+				40	35	30	25			
0	0	0	0	0	0	0	0	0	0	2500	0	0	0	0	0	0	0	0	0
3	2.4	1	1	0	0	0	0	0	0	2394	0	1	37	1.5	1.2	9	10	11	12
6	4.9	13	13	0	0	0	0	0	0	2310	5	5	88	2.1	2.7	12	14	15	17
9	7.3	43	42	11	0	0	0	0	0	2254	12	8	98	2.3	4.9	15	17	19	22
12	9.7	100	97	47	27	0	0	0	0	2217	21	11	99	2.2	5.2	18	20	24	27
15	11.9	163	161	98	79	7	0	0	0	2207	28	13	100	2.1	4.8	21	24	28	33
18	13.7	243	240	171	161	75	3	0	0	2199	35	14	100	2.0	4.3	25	28	33	40
21	15.5	323	320	250	242	159	22	5	0	2184	41	15	100	1.9	3.7	28	32	38	47
24	17.4	401	396	327	319	245	83	9	3	2024	45	17	100	1.8	3.4	31	36	44	56
27	19.8	500	476	416	411	355	230	46	9	1577	49	19	100	2.0	3.7	35	41	51	66
30	23.0	622	563	513	513	474	394	190	26	1253	53	23	100	2.5	4.6	40	47	59	79
33	27.5	746	649	606	606	587	537	364	124	1016	56	26	100	3.0	5.2	44	53	68	95
36	30.9	889	757	716	716	712	682	569	337	870	61	30	100	3.4	5.7	49	60	79	116
39	34.1	1045	872	832	832	831	816	760	563	741	65	33	100	3.7	6.1	55	68	91	143
42	37.3	1194	966	931	931	931	931	909	746	647	68	36	100	4.0	6.4	61	76	107	180
45	40.7	1381	1057	1029	1029	1029	1029	1020	966	556	71	40	99	4.3	6.8	68	87	127	
48	44.2	1565	1154	1120	1120	1120	1120	1120	1120	494	74	44	98	4.8	7.3	76	99	151	
51	47.5	1740	1239	1205	1205	1205	1205	1205	1205	437	76	47	96	5.2	7.9	84	113	183	
54	50.6	1920	1315	1294	1294	1294	1294	1294	1294	390	78	50	94	5.4	8.2	94	130		
57	53.3	2096	1392	1371	1371	1371	1371	1371	1371	353	79	53	92	5.6	8.5	105	150		

MERCHANTABLE M.A.I. @ CULMINATION AGE

12.5+ cm	15.3/60	12.3/71	9.1/87	6.5/78
17.5+ cm	15.3/60	12.3/72	9.1/88	6.2/100
22.5+ cm	15.3/61	12.2/75	9.0/91	5.9/118
27.5+ cm	15.0/66	12.0/78	8.5/102	5.3/145
32.5+ cm	14.7/75	11.4/95	7.6/132	4.1/180

## STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)																
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75		
12	2217		146	1668	403														
		47	23	24															
21	2184		96	598	848	586	49	7											
		250	8	83	137	17	5												
30	1253		6	279	314	410	222	15	5	2									
		513	33	86	204	164	14	8	4										
39	741		7	35	94	228	235	109	26	5	2								
		832	1	13	56	198	300	182	58	16	8								
48	494						30	55	138	195	42	27	5	2					
		1120					30	82	267	470	130	100	28	13					

TOP HEIGHT	- average height of site trees (100 trees/ha of largest dbh)	m
AVERAGE HEIGHT	- average height of all living trees	m
GROSS VOLUME	- total volume of living, thinned, dead & down trees (total production)	m <sup>3</sup> /ha
TOTAL VOLUME	- total volume of living trees	m <sup>3</sup> /ha
MERCH CUBIC VOLUME	- total volume less a 30 cm stump & 10 cm top (dib)	m <sup>3</sup> /ha
NUMBER OF TREES	- number of living trees	trees/ha
BASAL AREA	- basal area outside bark at 1.3 m	m <sup>2</sup> /ha
DBH (Q-M)	- quadratic-mean diameter (outside bark)	cm
CROWN COVER	- per cent of the ground area covered by tree crowns	per cent
CROWN WIDTH/LENGTH	- average crown dimensions of all trees	m
TOTAL AGE ON SITES	- years required for site trees to attain specified top height (Bruce 1981)	years
SITE 40 35 30 25	- height at breast height age 50 (site index)	m

## INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR 2500 TREES/HA PLANTED 2.0 METRES APART — SPACED TO 1100 TREES/HA WHEN 4-6 M TALL															DF 2500-1100				
HEIGHT		GROSS VOLUME		VOLUME						NUMBER TREES	BASAL AREA	DBH Q-M	CROWN			TOTAL AGE OF STAND ON SITE			
Top (m)	Avg (m)	0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+				(/ha)	(m <sup>2</sup> /ha)	(cm)	Cover %	Width (m)	Length (m)	40 G
0	0	0	0	0	0	0	0	0	0	2500	0	0	0	0	0	0	0	0	0
3	2.4	1	1	0	0	0	0	0	0	2394	0	1	37	1.5	1.2	9	10	11	12
6	4.9	13	13	0	0	0	0	0	0	2310	5	5	88	2.1	2.7	12	14	15	17
6T	5.5	13	8	0	0	0	0	0	0	1114	3	6	53	2.4	3.4	12	14	15	17
9	7.6	34	28	6	0	0	0	0	0	1092	8	10	90	3.1	5.2	15	17	19	22
12	10.1	79	72	46	39	1	0	0	0	1077	15	13	98	3.3	6.7	18	20	24	27
15	12.9	136	128	98	97	37	2	0	0	1072	22	16	99	3.4	6.7	21	24	28	33
18	15.5	209	202	171	170	130	13	3	0	1072	28	18	100	3.4	6.6	25	28	33	40
21	18.0	285	277	245	244	220	75	5	0	1072	34	20	100	3.4	6.3	28	32	38	47
24	20.5	361	353	318	317	302	168	18	7	1065	39	22	100	3.4	5.9	31	36	44	56
27	22.9	459	449	410	409	397	310	103	9	1038	46	24	100	3.4	5.7	35	41	51	66
30	25.5	581	566	524	524	519	469	283	52	988	53	26	100	3.4	5.6	40	47	59	79
33	28.1	707	672	637	637	635	597	463	220	927	60	28	100	3.5	5.5	44	53	68	95
36	31.1	851	791	754	754	754	740	657	430	843	66	31	100	3.7	5.8	49	60	79	116
39	34.2	1009	896	857	857	857	853	836	655	729	69	35	100	4.0	6.2	55	68	91	143
42	37.5	1158	987	938	938	938	936	936	800	640	72	38	100	4.3	6.6	61	76	107	180
45	40.8	1347	1085	1043	1043	1043	1043	1043	959	554	74	41	99	4.6	7.0	68	87	127	
48	44.2	1532	1176	1130	1130	1130	1130	1130	1130	487	78	45	98	4.9	7.3	76	99	151	
51	47.2	1706	1253	1225	1225	1225	1225	1225	1225	437	79	48	97	5.1	7.6	84	113	183	
54	50.3	1888	1329	1319	1319	1319	1319	1319	1319	390	80	51	95	5.3	7.9	94	130		
57	53.3	2067	1392	1399	1399	1399	1399	1399	1399	353	81	54	93	5.5	8.5	105	150		
															12.5+ cm	15.6/54	12.6/64	9.5/80	6.7/90
															17.5+ cm	15.6/54	12.6/64	9.5/80	6.7/90
															22.5+ cm	15.5/55	12.5/67	9.4/85	6.4/110
															27.5+ cm	15.3/64	12.3/74	9.2/92	5.9/135
															32.5+ cm	14.9/76	11.4/97	7.6/128	4.6/152

MERCHANTABLE M.A.I. @ CULMINATION AGE

## STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)															
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
12	1077	46		445	625	7												
				7	38	1												
21	1072	245		27	218	625	195	7										
				1	24	145	70	5										
30	988	524			35	188	395	321	42	0	7							
					5	50	186	231	40	0	12							
39	729	857				15	62	205	195	203	42	0	7					
						4	28	157	231	308	85	0	24					
48	487	1130							57	131	203	62	27	0	0	7		
									78	244	478	187	102	0	0	41		

TOP HEIGHT	- average height of site trees (100 trees/ha of largest dbh)	m
AVERAGE HEIGHT	- average height of all living trees	m
GROSS VOLUME	- total volume of living, thinned, dead & down (total production)	m <sup>3</sup> /ha
TOTAL VOLUME	- total volume of living trees	m <sup>3</sup> /ha
MERCH CUBIC VOLUME	- total volume less a 30 cm stump & 10 cm top (dib)	m <sup>3</sup> /ha
NUMBER OF TREES	- number of living trees	trees/ha
BASAL AREA	- basal area outside bark at 1.3 m	m <sup>2</sup> /ha
DBH (Q-M)	- quadratic-mean diameter (outside bark)	cm
CROWN COVER	- per cent of the ground area covered by tree crowns	per cent
CROWN WIDTH/LENGTH	- average crown dimensions of all trees	m
TOTAL AGE ON SITES	- years required for site trees to attain specified top height (Bruce 1981)	years
SITE 40 35 30 25	- height at breast height age 50 (site index)	m

## INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR		2500 TREES/HA PLANTED 2.0 METRES APART — SPACED TO 500 TREES/HA WHEN 4-6 M TALL									DF 2500-500									
HEIGHT Top (m)	Avg (m)	GROSS TOTAL		VOLUME						NUMBER TREES (/ha)	BASAL AREA (m <sup>2</sup> /ha)	DBH Q-M (cm)	CROWN			TOTAL AGE OF STAND ON SITE				
		0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+				Merchantable	40 G	35 G/M	30 M	25 M/P			
0	0	0	0	0	0	0	0	0	0	2500	0	0	0	0	0	0	0	0	0	
3	2.4	1	1	0	0	0	0	0	0	2394	0	1	37	1.5	1.2	9	10	11	12	
6	4.9	13	13	0	0	0	0	0	0	2313	5	5	89	2.1	2.7	12	14	15	17	
6T	5.5	13	4	0	0	0	0	0	0	500	1	6	27	2.6	3.4	12	14	15	17	
9	8.2	26	15	5	1	0	0	0	0	487	4	11	58	4.1	5.5	15	17	19	22	
12	11.1	55	44	30	29	2	0	0	0	487	9	15	83	4.6	7.6	18	20	24	27	
15	13.9	95	84	71	71	64	5	0	0	487	14	19	95	4.9	9.4	21	24	28	33	
18	16.8	154	143	130	130	130	81	10	0	487	20	23	99	5.1	9.7	25	28	33	40	
21	19.5	218	207	191	191	191	175	42	6	487	25	25	100	5.2	9.5	28	32	38	47	
24	22.0	282	272	253	253	253	240	145	24	487	29	28	100	5.2	9.3	31	36	44	56	
27	24.7	366	355	333	333	333	333	291	103	487	36	30	100	5.2	9.1	35	41	51	66	
30	27.6	470	462	438	438	438	438	415	306	487	43	34	100	5.2	8.8	40	47	59	79	
33	30.5	585	574	548	548	548	548	543	486	487	51	37	100	5.1	8.6	44	53	68	95	
36	33.2	717	707	677	677	677	677	677	637	487	59	39	100	5.1	8.4	49	60	79	116	
39	36.0	864	854	821	821	821	821	821	795	487	67	42	100	5.0	8.2	55	68	91	143	
42	38.8	1004	994	959	959	959	959	959	959	487	75	44	100	5.0	7.9	61	76	107	180	
45	41.6	1182	1148	1099	1099	1099	1099	1099	1099	465	82	47	99	5.1	7.9	68	87	127		
48	44.5	1357	1260	1223	1223	1223	1223	1223	1223	437	86	50	97	5.2	8.2	76	99	151		
51	47.5	1530	1379	1341	1341	1341	1341	1341	1341	410	90	53	96	5.4	8.3	84	113	183		
54	50.5	1708	1473	1436	1436	1436	1436	1436	1436	376	92	55	95	5.6	8.5	94	130			
57	53.3	1881	1576	1539	1539	1539	1539	1539	1539	361	96	58	94	5.8	9.1	105	150			
														12.5+ cm	16.2/71	12.7/81	9.1/96	5.8/115		
														17.5+ cm	16.2/71	12.7/81	9.1/96	5.8/115		
														22.5+ cm	16.2/71	12.7/81	9.1/96	5.8/115		
														27.5+ cm	16.2/71	12.7/81	9.1/96	5.8/115		
														32.5+ cm	16.2/71	12.7/81	9.0/101	5.6/135		

MERCHANTABLE M.A.I. @ CULMINATION AGE

## STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)																	
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75			
12	487				35	437	15													
		30		1	27															
21	487						62	348	70	7										
		191				16	133	36	6											
30	487							42	146	235	57	7								
		436						22	109	224	70	13								
39	487								27	69	195	133	49	7	7					
		821							26	82	301	253	115	18	26					
48	437																			
		1223								15	42	117	144	77	30					
										21	76	280	407	255	115	38	7			5

TOP HEIGHT	- average height of site trees (100 trees/ha of largest dbh)	m
AVERAGE HEIGHT	- average height of all living trees	m
GROSS VOLUME	- total volume of living, thinned, dead & down trees (total production)	m <sup>3</sup> /ha
TOTAL VOLUME	- total volume of living trees	m <sup>3</sup> /ha
MERCH CUBIC VOLUME	- total volume less a 30 cm stump & 10 cm top (dib)	m <sup>3</sup> /ha
NUMBER OF TREES	- number of living trees	trees/ha
BASAL AREA	- basal area outside bark at 1.3 m	m <sup>2</sup> /ha
DBH (Q-M)	- quadratic-mean diameter (outside bark)	cm
CROWN COVER	- per cent of the ground area covered by tree crowns	per cent
CROWN WIDTH/LENGTH	- average crown dimensions of all trees	m
TOTAL AGE ON SITES	- years required for site trees to attain specified top height (Bruce 1981)	years
SITE 40 35 30 25	- height at breast height age 50 (site index)	m

INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR		1110 TREES/HA PLANTED 3.0 METRES APART								UNSPACED				DF 1110					
HEIGHT		GROSS		VOLUME						NUMBER TREES (/ha)	BASAL AREA (m <sup>2</sup> /ha)	DBH Q-M (cm)	CROWN		TOTAL AGE OF STAND ON SITE				
Top (m)	Avg (m)	0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+				40	35	30	25			
0	0	0	0	0	0	0	0	0	0	1110	0	0	0	0	0	0	0	0	
3	2.4	1	1	0	0	0	0	0	0	1058	0	1	16	1.5	1.2	9	10	11	12
6	4.9	6	6	0	0	0	0	0	0	1021	3	6	60	2.7	2.8	12	14	15	17
9	7.3	23	22	4	0	0	0	0	0	998	7	10	92	3.4	4.9	15	17	19	22
12	9.7	62	60	38	22	0	0	0	0	986	14	13	96	3.5	6.4	18	20	24	27
15	12.1	111	109	84	83	34	2	0	0	979	20	16	99	3.6	7.0	21	24	28	33
18	14.5	177	175	147	147	112	26	0	0	979	27	19	100	3.5	6.7	25	28	33	40
21	16.8	247	245	216	216	196	86	11	0	979	32	21	100	3.4	6.4	28	32	38	47
24	19.0	319	317	286	286	276	163	43	0	979	37	22	100	3.4	6.1	31	36	44	56
27	21.4	412	410	375	375	370	288	133	19	974	45	24	100	3.4	5.9	35	41	51	66
30	24.0	530	527	487	487	483	437	273	118	954	53	27	100	3.4	5.8	40	47	59	79
33	26.6	651	638	597	597	596	567	444	244	895	59	29	100	3.4	5.8	44	53	68	95
36	29.3	788	756	726	726	726	707	603	414	855	67	31	100	3.5	5.8	49	60	79	116
39	32.2	937	868	826	826	826	819	750	569	729	71	35	100	3.7	5.8	55	68	91	143
42	35.4	1077	940	917	917	917	915	886	754	640	74	38	100	3.9	6.0	61	76	107	180
45	38.4	1252	1043	1004	1004	1004	1004	997	917	554	76	41	99	4.1	6.4	68	87	127	
48	41.3	1422	1127	1085	1085	1085	1085	1085	1072	489	78	45	98	4.5	6.9	76	99	151	
51	45.1	1596	1202	1167	1167	1167	1167	1167	1167	435	79	48	96	4.9	7.5	84	113	183	
54	48.5	1760	1273	1232	1232	1232	1232	1232	1232	390	80	51	94	5.4	8.2	94	130		
57	51.2	1918	1342	1310	1310	1310	1329	1310	1310	353	81	54	92	5.8	8.9	105	150		

MERCHANTABLE M.A.I. @ CULMINATION AGE

12.5+ cm	15.1/58	12.2/64	9.2/83	6.3/96
17.5+ cm	15.1/58	12.2/64	9.2/83	6.3/96
22.5+ cm	15.0/59	12.1/71	9.1/85	6.1/110
27.5+ cm	14.7/65	11.7/78	8.3/100	5.4/132
32.5+ cm	14.1/77	10.8/99	7.2/130	4.2/180

STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)														
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
12	986			500	479	7											
		38		16	21	1											
21	979		7	190	552	210	20										
		216		19	111	75	11										
30	954			40	190	375	230	99	20								
		487		4	46	164	155	93	25								
39	729				27	118	230	158	105	73	19						
		826			7	69	181	196	174	148	51						
48	489						12	71	138	111	91	47	12	7			
		1085					13	82	240	242	263	158	58	29			

TOP HEIGHT	- average height of site trees (100 trees/ha of largest dbh)	m
AVERAGE HEIGHT	- average height of all living trees	m
GROSS VOLUME	- total volume of living, thinned, dead & down trees (total production)	m <sup>3</sup> /ha
TOTAL VOLUME	- total volume of living trees	m <sup>3</sup> /ha
MERCH CUBIC VOLUME	- total volume less a 30 cm stump & 10 cm top (dib)	m <sup>3</sup> /ha
NUMBER OF TREES	- number of living trees	m <sup>3</sup> /ha
BASAL AREA	- basal area outside bark at 1.3 m	trees/ha
DBH (Q-M)	- quadratic-mean diameter (outside bark)	m <sup>2</sup> /ha
CROWN COVER	- per cent of the ground area covered by tree crowns	cm
CROWN WIDTH/LENGTH	- average crown dimensions of all trees	per cent
TOTAL AGE ON SITES	- years required for site trees to attain specified top height (Bruce 1981)	m
SITE 40 35 30 25	- height at breast height age 50 (site index)	years

INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR 1100 TREES/HA PLANTED 3.0 METRES APART — SPACED TO 500 TREES/HA WHEN 4-6 M TALL DF 1100-500																			
HEIGHT Top (m)	Avg (m)	Gross Total		VOLUME						NUMBER TREES (/ha)	BASAL AREA (m <sup>2</sup> /ha)	DBH Q-M (cm)	CROWN			TOTAL AGE OF		STAND ON SITE	
		0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+				Cover	Width	Length	40	35	30	25
0	0	0	0	0	0	0	0	0	0	1100	0	0	0	0	0	0	0	0	0
3	2.4	1	1	0	0	0	0	0	0	1058	0	1	16	1.5	1.2	9	10	11	12
6	4.9	6	6	0	0	0	0	0	0	1017	3	6	60	2.7	2.8	12	14	15	17
6T	5.2	6	4	0	0	0	0	0	0	500	2	6	33	3.0	3.1	12	14	15	17
9	7.6	17	13	4	1	0	0	0	0	487	4	11	61	4.0	5.2	15	17	19	22
12	10.4	41	38	28	27	5	0	0	0	479	9	15	81	4.6	7.0	18	20	24	27
15	13.0	77	73	61	61	50	6	0	0	472	14	19	93	4.9	8.8	21	24	28	33
18	15.5	130	126	113	113	112	70	9	0	472	19	23	98	5.1	9.4	25	28	33	40
21	18.0	189	185	170	170	170	145	53	9	472	24	25	99	5.2	9.3	28	32	38	47
24	20.5	250	246	229	229	229	222	137	27	472	28	28	100	5.2	9.1	31	36	44	56
27	23.2	331	327	306	306	306	304	254	111	472	35	31	100	5.2	8.9	35	41	51	66
30	25.9	434	429	406	406	406	406	391	299	472	43	34	100	5.2	8.7	40	47	59	79
33	28.4	540	536	510	510	510	510	501	435	472	50	37	100	5.1	8.5	44	53	68	95
36	31.0	663	659	630	630	630	630	628	584	472	58	40	100	5.0	8.3	49	60	79	116
39	33.5	799	795	763	763	763	763	760	748	472	66	42	100	4.9	8.1	55	68	91	143
42	36.0	927	920	886	886	886	886	886	873	467	73	45	100	5.0	7.9	61	76	107	180
45	39.0	1089	1036	1001	1001	1001	1001	1001	990	420	77	47	99	5.2	8.0	68	87	127	
48	42.4	1247	1133	1098	1098	1098	1098	1098	1098	388	81	51	98	5.5	8.5	76	99	151	
51	45.7	1402	1219	1197	1197	1197	1197	1197	1197	356	83	54	97	5.8	9.0	84	113	183	
54	48.8	1560	1326	1291	1291	1291	1291	1291	1291	336	86	57	96	5.9	9.4	94	130		
57	51.8	1716	1406	1371	1371	1371	1371	1371	1371	301	88	60	95	6.1	9.8	105	150		
														12.5+ cm	14.7/67	11.7/78	8.4/96	5.4/130	
														17.5+ cm	14.7/67	11.7/78	8.4/96	5.4/130	
														22.5+ cm	14.7/67	11.7/78	8.4/96	5.4/130	
														27.5+ cm	14.7/67	11.7/78	8.4/96	5.4/130	
														32.5+ cm	14.6/70	11.5/79	8.3/97	5.3/135	

MERCHANTABLE M.A.I. @ CULMINATION AGE

STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)														
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
12	479	28		59	400	20											
			1	22	5												
21	472	170				106	268	86	12								
						25	92	44	9								
30	472	406					32	145	189	86	20						
							15	92	165	102	32						
39	472	763					7	20	98	170	78	72	20	7			
							3	12	106	251	144	168	55	24			
48	388	1098						5	22	119	119	119	52	52	12	7	
								5	39	248	317	176	212	212	54	47	

- TOP HEIGHT - average height of site trees (100 trees/ha of largest dbh) m
- AVERAGE HEIGHT - average height of all living trees m
- GROSS VOLUME - total volume of living, thinned, dead & down trees (total production) m<sup>3</sup>/ha
- TOTAL VOLUME - total volume of living trees m<sup>3</sup>/ha
- MERCH CUBIC VOLUME - total volume less a 30 cm stump & 10 cm top (dib) m<sup>3</sup>/ha
- NUMBER OF TREES - number of living trees trees/ha
- BASAL AREA - basal area outside bark at 1.3 m m<sup>2</sup>/ha
- DBH (Q-M) - quadratic-mean diameter (outside bark) cm
- CROWN COVER - per cent of the ground area covered by tree crowns per cent
- CROWN WIDTH/LENGTH - average crown dimensions of all trees m
- TOTAL AGE ON SITES - years required for site trees to attain specified top height (Bruce 1981) years
- SITE 40 35 30 25 - height at breast height age 50 (site index) m

INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR		750 TREES/HA PLANTED 3.7 METRES APART								UNSPACED					DF 750				
HEIGHT		GROSS TOTAL		VOLUME						NUMBER TREES (/ha)	BASAL AREA (m <sup>2</sup> /ha)	DBH Q-M (cm)	CROWN			TOTAL AGE OF STAND ON SITE			
Top (m)	Avg (m)	0.0+	0.0+	7.5+	12.5+	17.5+	22.5+	27.5+	32.5+				40	Width (m)	Length (m)	40	35	30	25
		G	G/M	M	M/P						%								
0	0	0	0	0	0	0	0	0	0	750	0	0	0	0	0	0	0	0	
3	2.4	0	0	0	0	0	0	0	0	717	0	1	11	1.5	1.2	9	10	11	12
6	4.9	4	4	0	0	0	0	0	0	689	2	6	42	2.8	2.8	12	14	15	17
9	7.3	16	16	3	1	0	0	0	0	680	5	10	77	3.7	4.9	15	17	19	22
12	9.7	45	45	30	28	7	0	0	0	667	11	14	93	4.1	6.4	18	20	24	27
15	12.1	86	84	68	68	43	4	0	0	662	16	18	97	4.3	7.8	21	24	28	33
18	14.5	143	142	124	124	117	44	0	0	662	22	21	99	4.3	7.9	25	28	33	40
21	16.9	206	204	185	185	183	121	16	0	662	28	23	100	4.3	7.8	28	32	38	47
24	19.3	272	270	248	248	248	211	87	0	662	32	25	100	4.3	7.6	31	36	44	56
27	21.3	359	357	332	332	332	332	195	53	662	39	27	100	4.3	7.3	35	41	51	66
30	24.2	468	467	438	438	438	426	366	199	662	48	30	100	4.3	7.0	40	47	59	79
33	26.8	581	579	547	547	547	540	503	356	662	55	33	100	4.3	6.9	44	53	68	95
36	29.3	710	705	671	671	671	666	644	532	650	63	35	100	4.3	6.8	49	60	79	116
39	31.7	851	842	805	805	805	804	790	712	638	70	38	100	4.3	6.7	55	68	91	143
42	34.3	982	931	927	927	927	925	916	871	618	75	40	100	4.3	6.7	61	76	107	180
45	37.2	1148	1036	1036	1036	1036	1033	992	556	556	79	43	99	4.4	6.7	68	87	127	
48	40.4	1308	1137	1120	1120	1120	1120	1120	489	489	81	46	98	4.9	7.3	76	99	151	
51	43.6	1463	1221	1185	1185	1185	1185	1185	435	435	83	50	97	5.2	7.9	84	113	183	
54	46.9	1623	1291	1256	1256	1256	1256	1256	388	388	85	53	95	5.5	8.5	94	130		
57	50.3	1776	1357	1329	1329	1329	1329	1329	348	348	87	56	94	5.8	9.1	105	150		

MERCHANTABLE M.A.I. @ CULMINATION AGE

12.5+ cm	15.3/63	12.2/75	8.9/93	5.8/110
17.5+ cm	15.3/63	12.2/75	8.4/93	5.8/110
22.5+ cm	15.2/64	12.2/76	8.9/93	5.7/112
27.5+ cm	15.2/65	12.1/77	8.7/94	5.6/125
32.5+ cm	14.3/73	11.6/85	8.2/104	5.0/150

STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)														
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
12	667	45		173	482	12											
			5	38	2												
21	662	185			20	303	32										
					2	62	105	16									
30	662	438				49	136	265	192	20							
						12	60	167	176	23							
39	638	805				7	32	111	166	131	25						
						2	13	79	173	234	244	60					
48	489	1120						20	41	99	136	99	74	20	1		
								18	50	165	290	264	255	78	15		

- TOP HEIGHT - average height of site trees (100 trees/ha of largest dbh) m
- AVERAGE HEIGHT - average height of all living trees m
- GROSS VOLUME - total volume of living, thinned, dead & down trees (total production) m<sup>3</sup>/ha
- TOTAL VOLUME - total volume of living trees m<sup>3</sup>/ha
- MERCH CUBIC VOLUME - total volume less a 30 cm stump & 10 cm top (dib) m<sup>3</sup>/ha
- NUMBER OF TREES - number of living trees trees/ha
- BASAL AREA - basal area outside bark at 1.3 m m<sup>2</sup>/ha
- DBH (Q-M) - quadratic-mean diameter (outside bark) m
- CROWN COVER - per cent of the ground area covered by tree crowns per cent
- CROWN WIDTH/LENGTH - average crown dimensions of all trees cm
- TOTAL AGE ON SITES - years required for site trees to attain specified top height (Bruce 1981) years
- SITE 40 35 30 25 - height at breast height age 50 (site index) m

INTERIM MANAGED STAND YIELD TABLES FOR COASTAL DOUGLAS FIR

DOUGLAS FIR		500 TREES/HA PLANTED 4.4 METRES APART								UNSPACED					DF 500			
HEIGHT Top (m)	Avg (m)	GROSS VOLUME		MERCHANTABLE VOLUME					NUMBER TREES (/ha)	BASAL AREA (m <sup>2</sup> /ha)	DBH Q-M (cm)	CROWN			TOTAL AGE OF 40 G	STAND ON SITE 30 M	ON SITE 25 M/P	
		Gross 0.0+	Total 0.0+	7.5+	12.5+	17.5+	22.5+	27.5+				32.5+	Cover %	Width (m)				Length (m)
0	0	0	0	0	0	0	0	0	500	0	0	0	0	0	0	0	0	
3	2.4	0	0	0	0	0	0	0	477	0	1	7	1.5	1.2	9	10	11	
6	4.9	3	2	0	0	0	0	0	459	1	6	27	2.8	2.8	12	14	15	
9	7.3	10	10	4	3	0	0	0	445	3	10	55	4.0	4.9	15	17	19	
12	9.7	32	31	17	15	2	0	0	440	7	14	79	4.6	6.7	18	20	22	
15	12.1	61	60	49	49	38	7	0	432	12	19	90	5.2	8.5	21	24	27	
18	14.5	107	106	94	94	93	50	8	432	17	22	96	5.2	9.8	25	28	33	
21	16.9	159	158	145	145	145	130	36	432	22	25	98	5.2	9.8	28	32	38	
24	19.3	216	215	199	199	199	194	115	432	26	28	90	5.2	9.6	31	36	44	
27	21.9	291	290	272	272	272	272	230	432	33	31	100	5.2	9.4	35	41	51	
30	24.4	387	386	365	365	365	365	356	432	40	35	100	5.2	9.2	40	47	59	
33	26.8	485	484	460	460	460	460	457	432	48	37	100	5.2	9.0	44	53	68	
36	29.4	598	597	570	570	570	570	549	432	55	40	100	5.2	8.8	49	60	79	
39	31.9	722	720	691	691	691	691	691	432	63	43	100	5.2	8.5	55	68	91	
42	34.4	837	836	822	822	822	822	822	432	70	46	100	5.2	8.6	61	76	107	
45	37.3	983	969	924	924	924	924	921	395	75	49	98	5.3	8.8	68	87	127	
48	40.2	1125	1057	1029	1029	1029	1029	1029	371	80	52	97	5.4	9.1	76	99	151	
51	43.0	1264	1169	1134	1134	1134	1134	1134	351	84	54	97	5.6	9.5	84	113	183	
54	45.7	1408	1271	1235	1235	1235	1235	1235	338	87	57	97	5.8	9.7	94	130		
57	48.4	1551	1357	1329	1329	1329	1329	1329	316	90	60	97	6.0	9.8	105	150		

MERCHANTABLE M.A.I. @ CULMINATION AGE

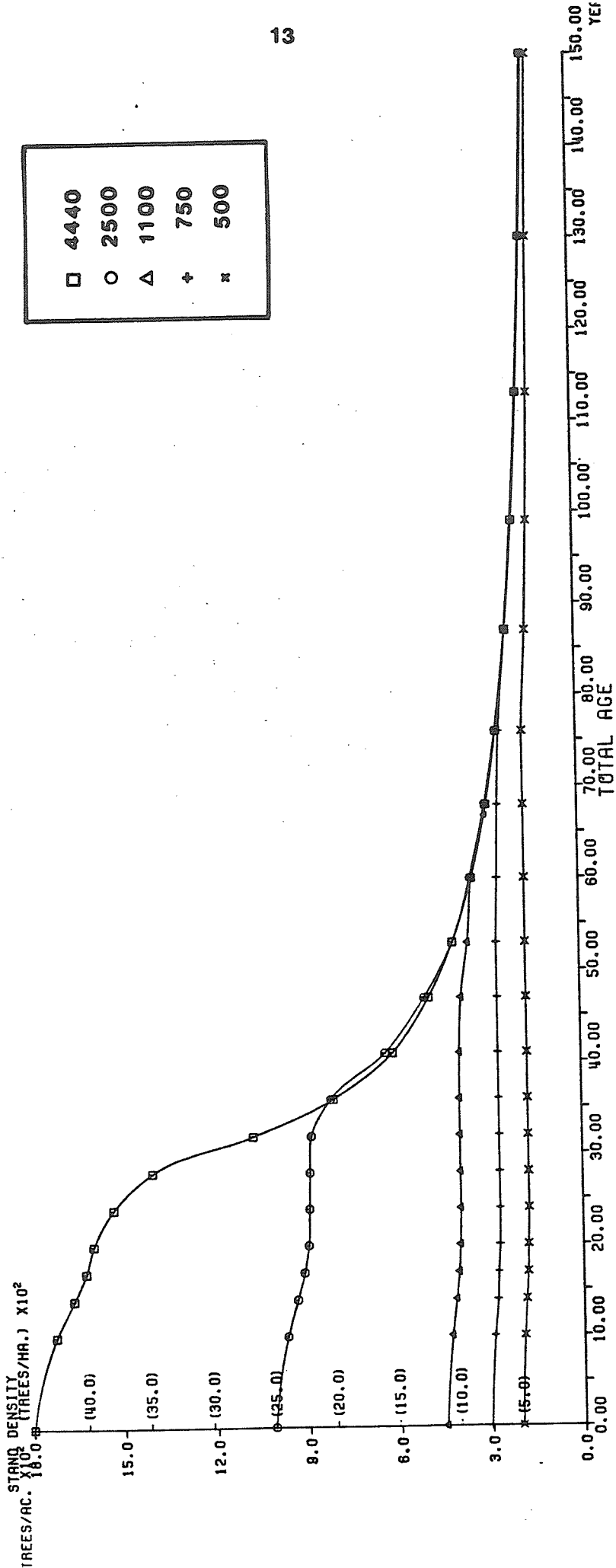
12.5+ cm	13.6/70	10.8/77	7.7/102	4.9/115
17.5+ cm	13.6/70	10.8/77	7.7/102	4.9/115
22.5+ cm	13.6/70	10.8/77	7.7/102	4.9/115
27.5+ cm	13.6/70	10.8/77	7.7/102	4.9/115
32.5+ cm	13.5/72	10.7/78	7.6/104	4.8/128

STAND AND STOCK TABLES

TOP HEIGHT	NUMBER TREES	MERCH. VOLUME	DIAMETER CLASSES (cm)				DIAMETER CLASSES (cm)										
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
12	440			82	338	20											
		17		1	14	2											
21	432					69	294	62	7								
		145				15	93	32	5								
30	432						20	137	194	69	12						
		365					8	85	171	82	19						
39	432																
		691					20	81	125	118	56	25	7				
							14	81	173	212	120	70	21				
48	371																
		1029						2	32	89	101	82	32	24	7	2	
								2	48	180	265	254	119	112	36	13	

- TOP HEIGHT - average height of site trees (100 trees/ha of largest dbh) m
- AVERAGE HEIGHT - average height of all living trees m
- GROSS VOLUME - total volume of living, thinned, dead & down trees (total production) m<sup>3</sup>/ha
- TOTAL VOLUME - total volume of living trees m<sup>3</sup>/ha
- MERCH CUBIC VOLUME - total volume less a 30 cm stump & 10 cm top (dib) m<sup>3</sup>/ha
- NUMBER OF TREES - number of living trees trees/ha
- BASAL AREA - basal area outside bark at 1.3 m m<sup>2</sup>/ha
- DBH (Q-M) - quadratic mean diameter (outside bark) m
- CROWN COVER - per cent of the ground area covered by tree crowns per cent
- CROWN WIDTH/LENGTH - average crown dimensions of all trees m
- TOTAL AGE ON SITES - years required for site trees to attain specified top height (Bruce 1981) years
- SITE 40 35 30 25 - height at breast height age 50 (site index) m

STANDS ESTABLISHED AT 440, 2500, 1110, 750, 500 TREES/HA S.I. - 35 M (BRUCE)



STANDS ESTABLISHED (4440, 2500, 1110, 750, 500 TREES/HA S.I. - 35 M (RUCE)

QUADRATIC-MEAN

DIAMETER  
INCHES X 10<sup>0</sup>  
(CH) X 10<sup>0</sup>

(60.0)

22.0 (55.0)

20.0 (50.0)

18.0 (45.0)

16.0 (40.0)

14.0 (35.0)

12.0 (30.0)

10.0 (25.0)

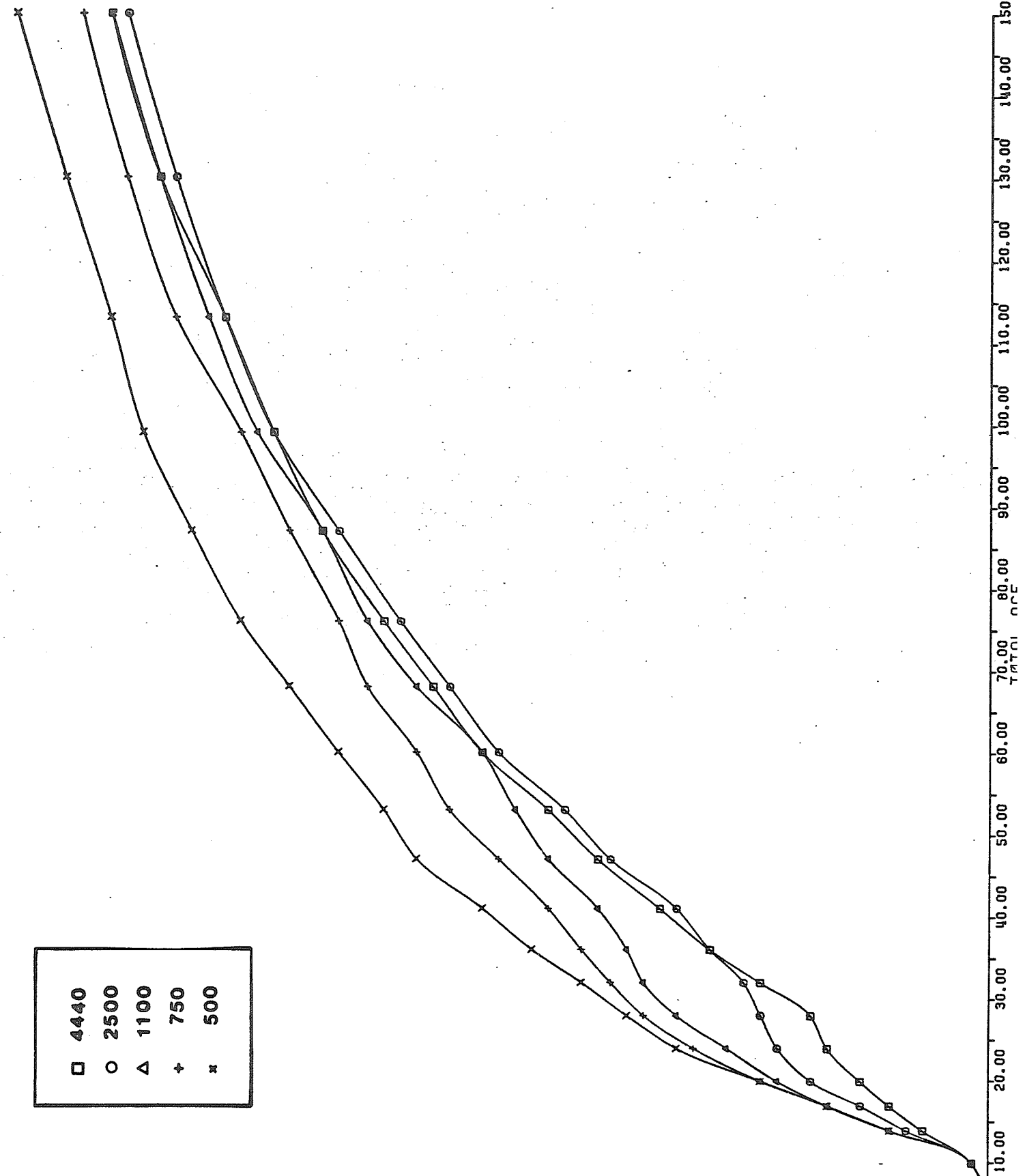
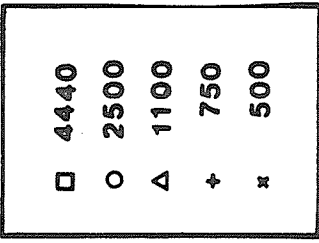
8.0 (20.0)

6.0 (15.0)

4.0 (10.0)

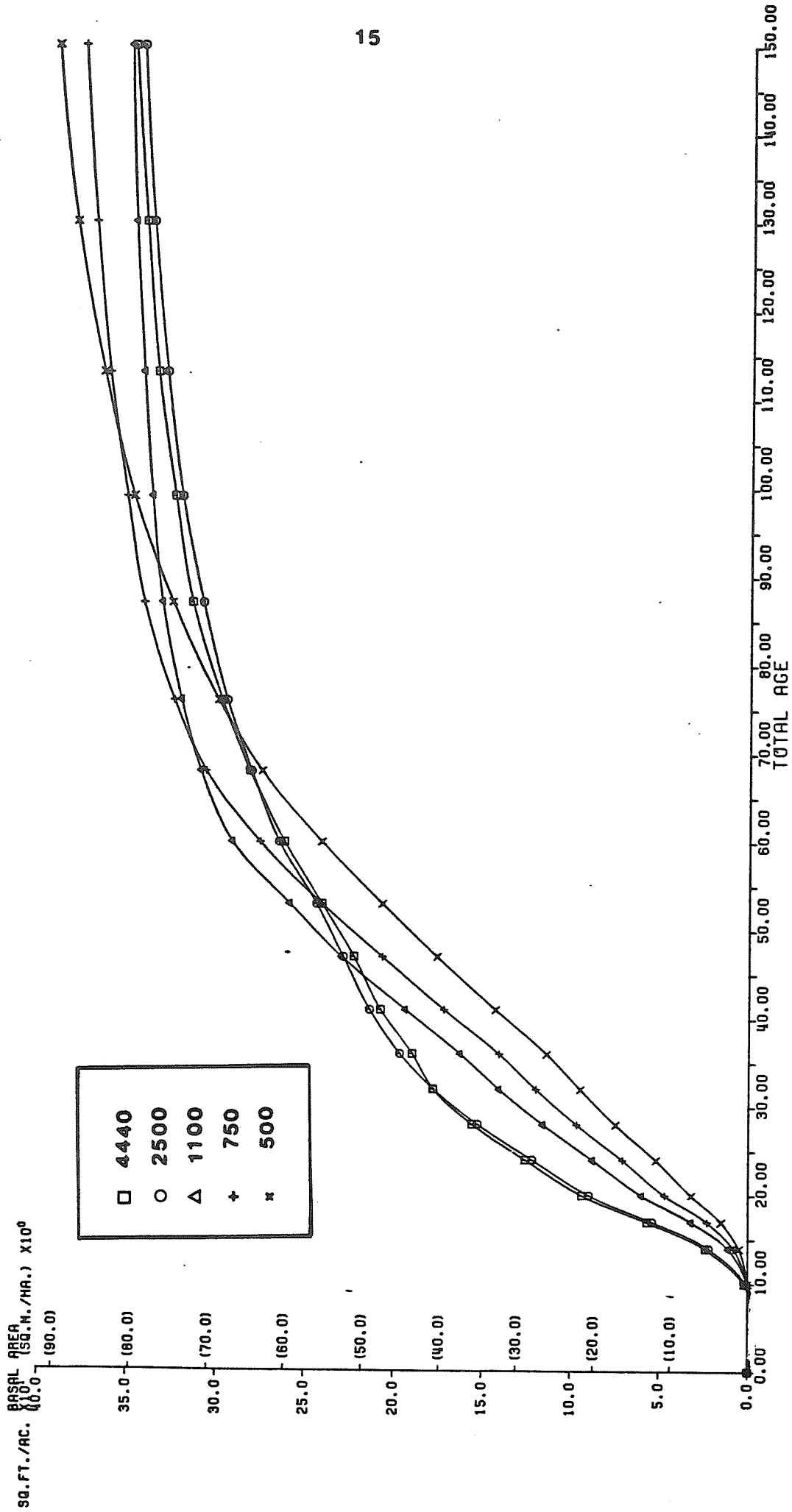
2.0 (5.0)

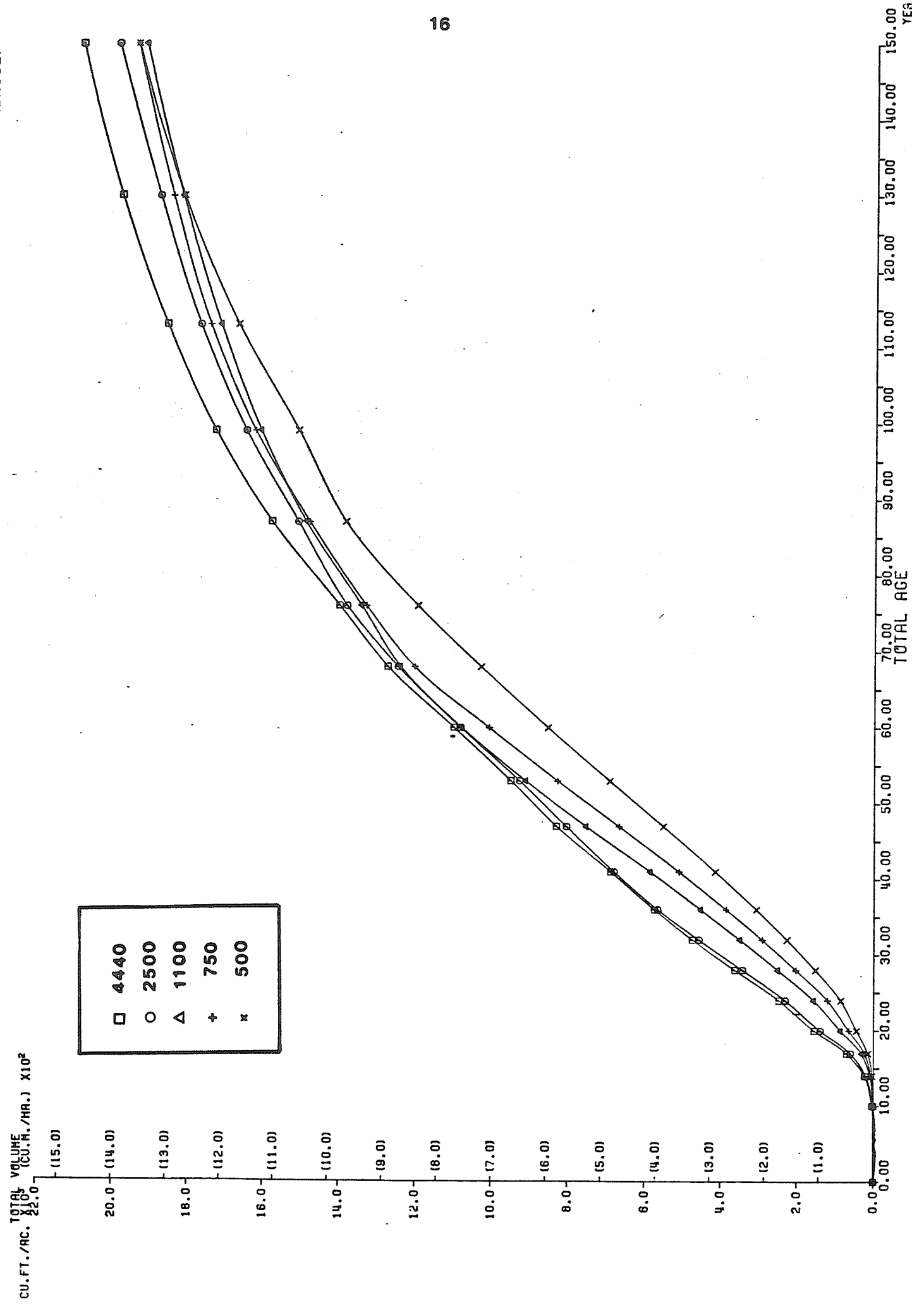
0.0



150.00  
140.00  
130.00  
120.00  
110.00  
100.00  
90.00  
80.00  
70.00  
60.00  
50.00  
40.00  
30.00  
20.00  
10.00  
0.00

STANDS ESTABLISHED AT 440, 2500, 1110, 750, 500 TREES/HA S.I. - 35 M. (BRUCE)



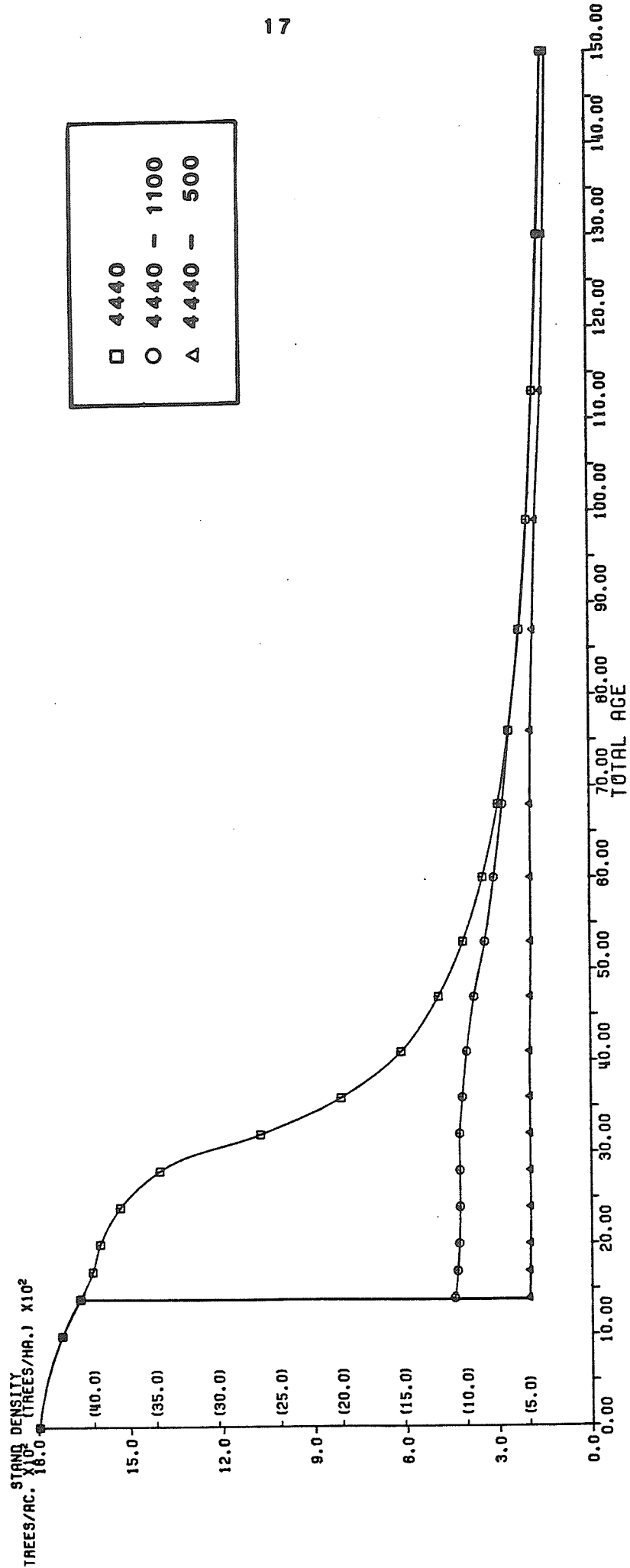


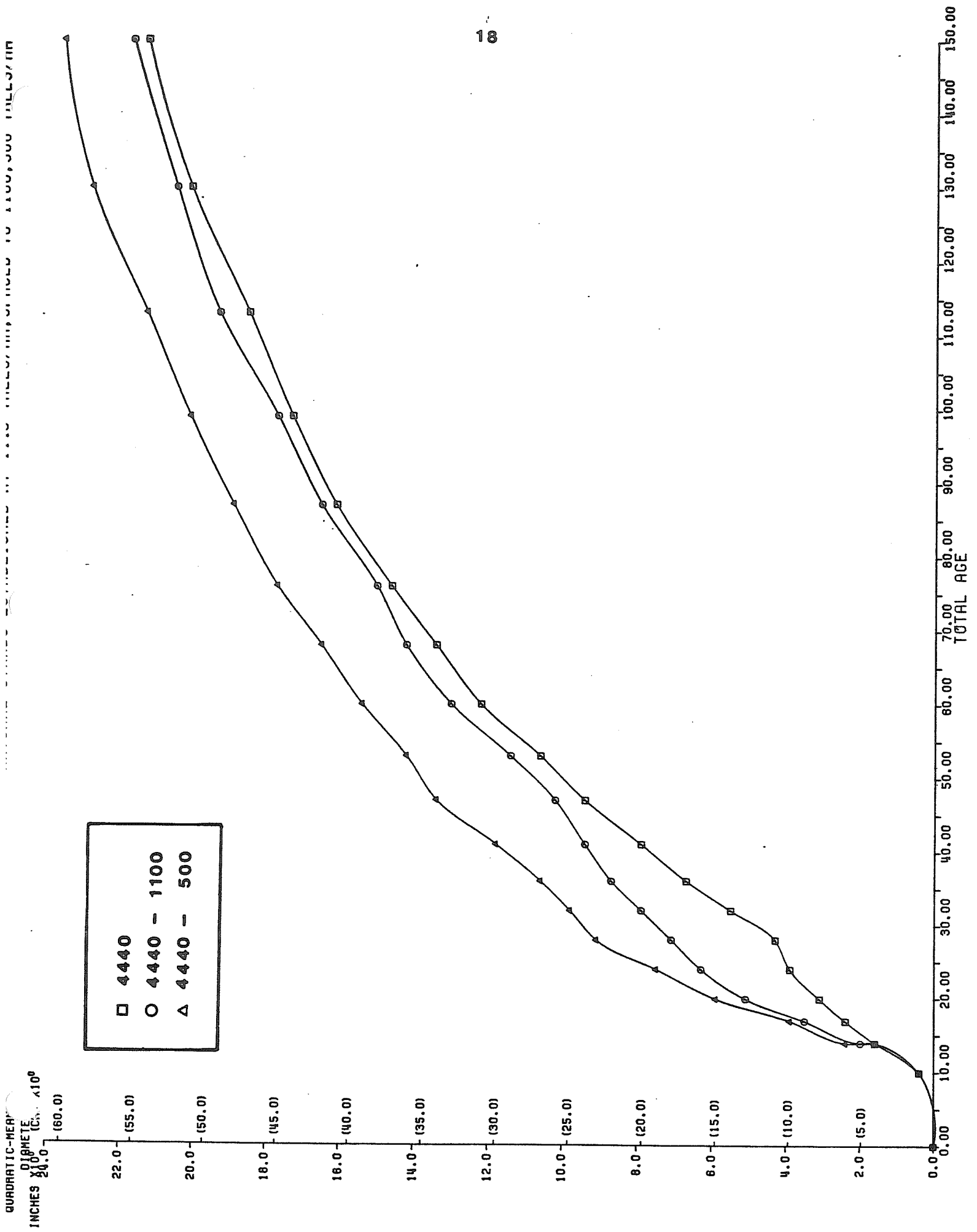
□ 4440  
 ○ 2500  
 △ 1110  
 + 750  
 x 500

TOTAL VOLUME  
 YER  
 (CU.FT./AC.) X 10<sup>2</sup>

TOTAL AGE  
 YER

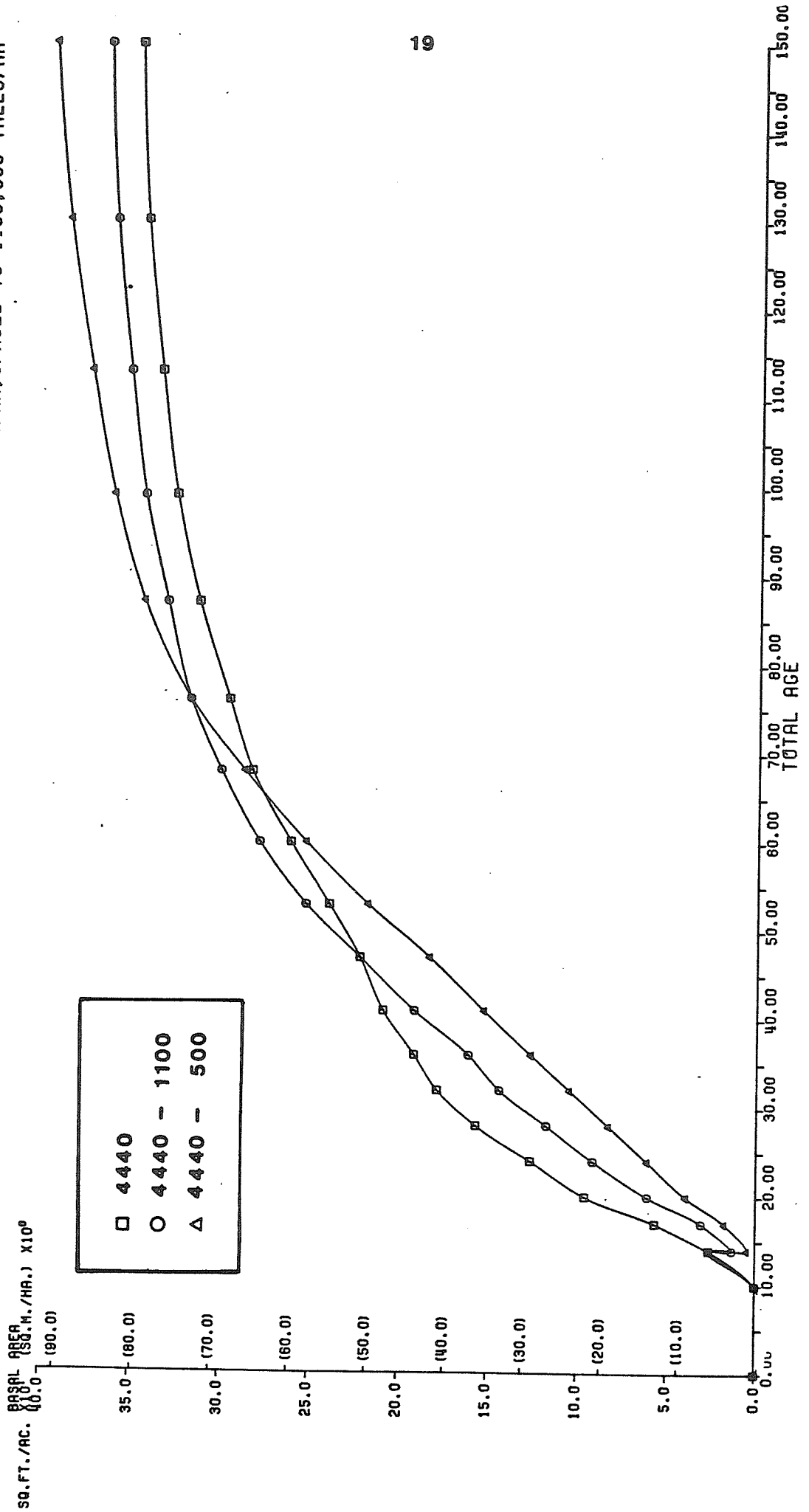
NATURAL STANDS ESTABLISHED AT 4440 TREES/HA, SPACED TO 1100, 500 TREES/HA



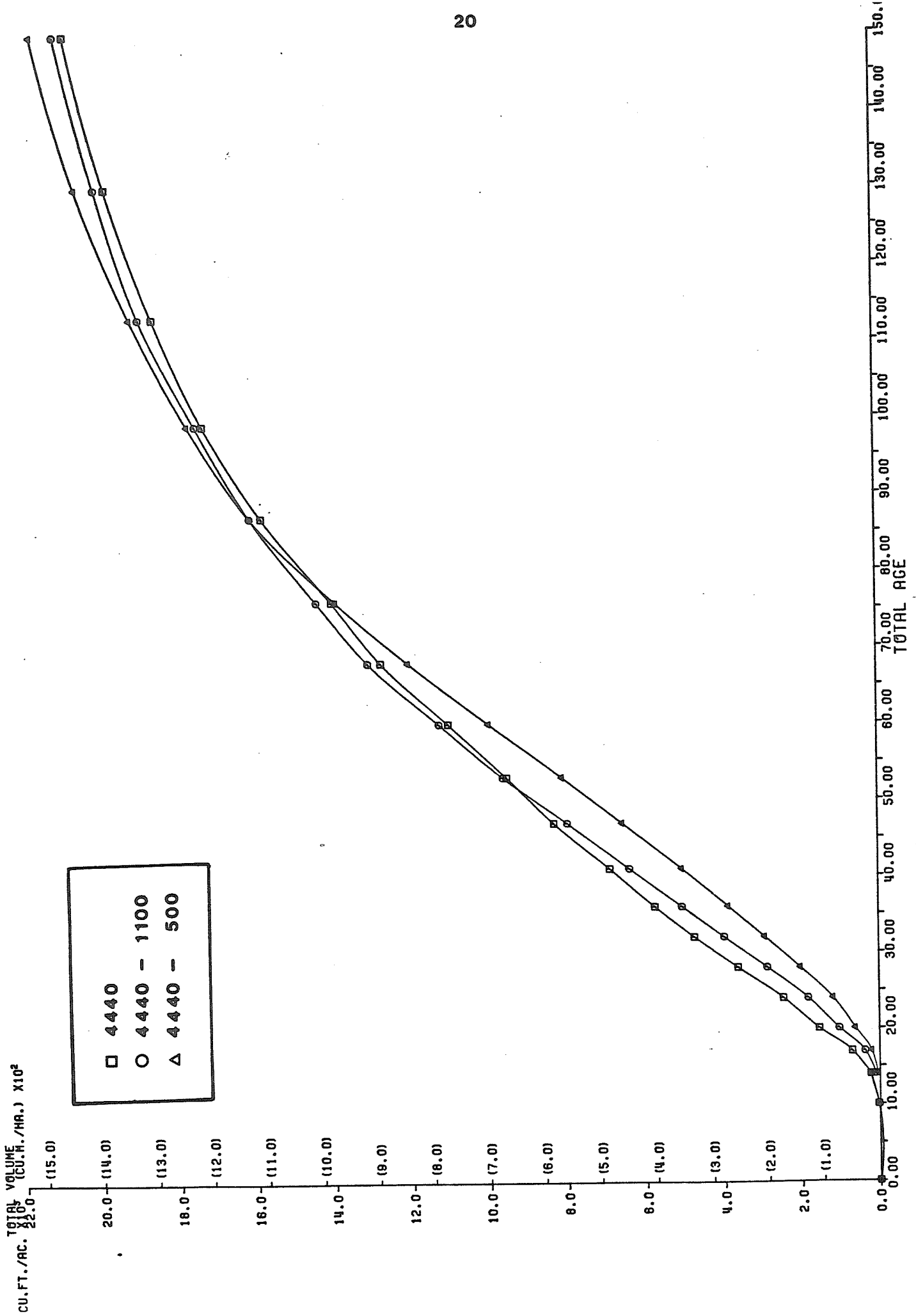


□ 4440  
○ 4440 - 1100  
△ 4440 - 500

NATURAL STANDS ESTABLISHED AT 4440 TREES/HA, SPACED TO 1100, 500 TREES/HA



NATURAL STAN. ESTABLISHED AT 4440 TREES/HA, SPACED TO 1100, 500 TREES/HA



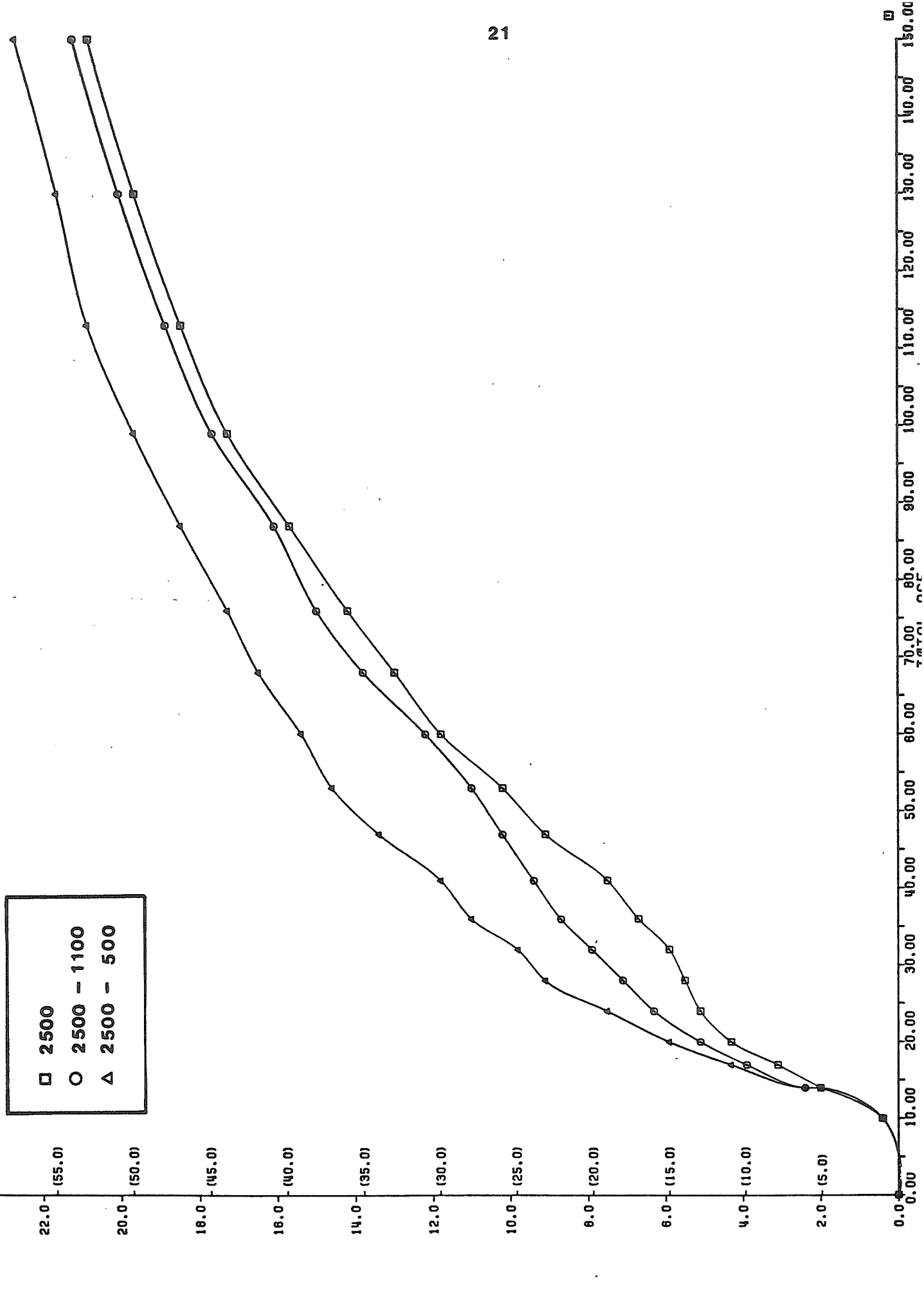
□ 4440  
 ○ 4440 - 1100  
 △ 4440 - 500

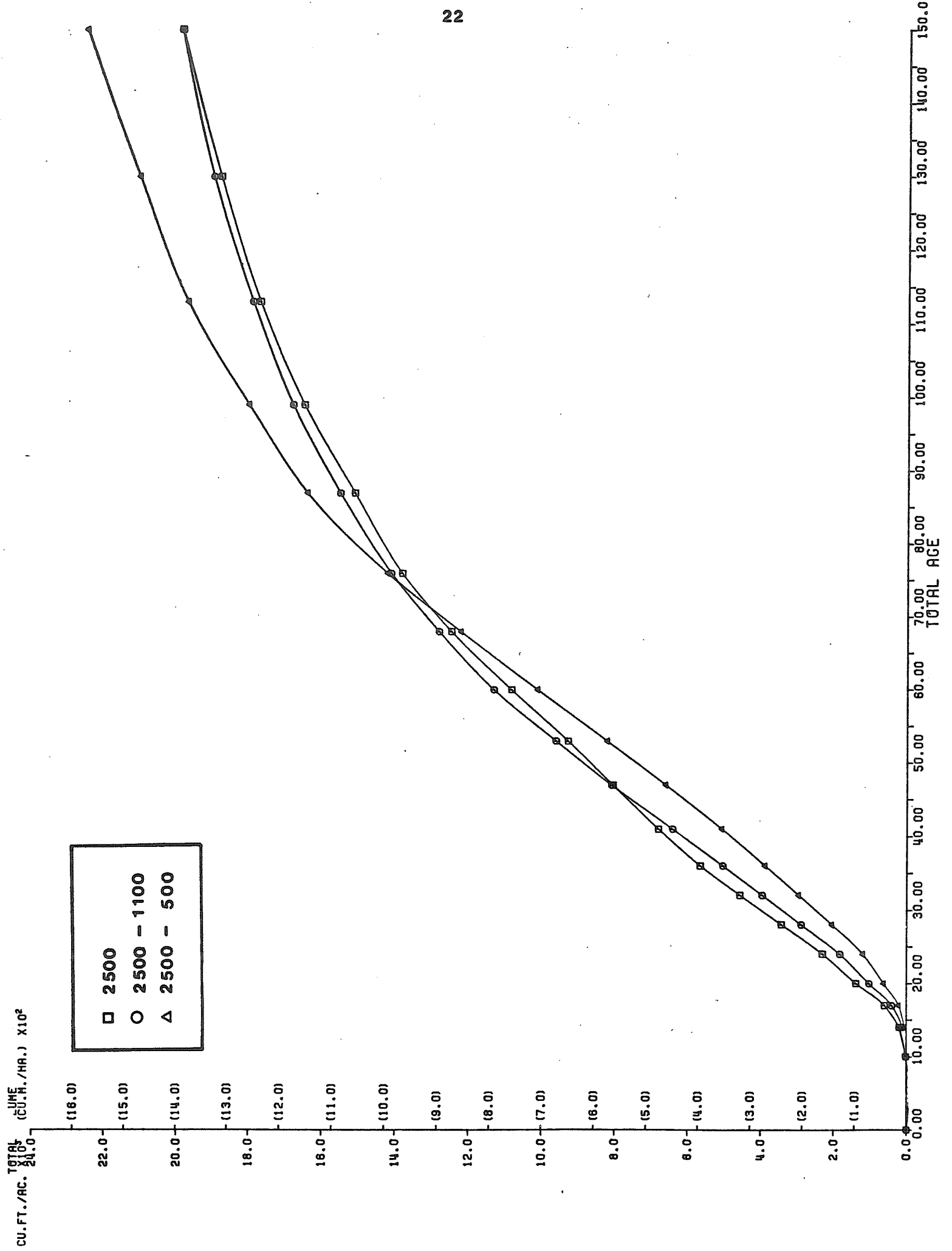
TOTAL VOLUME (CU.FT./AC. x 10<sup>2</sup>)

TOTAL AGE

INCHES X 10<sup>0</sup>

□	2500
○	2500 - 1100
△	2500 - 500





CU.FT./AC. X 10<sup>2</sup>

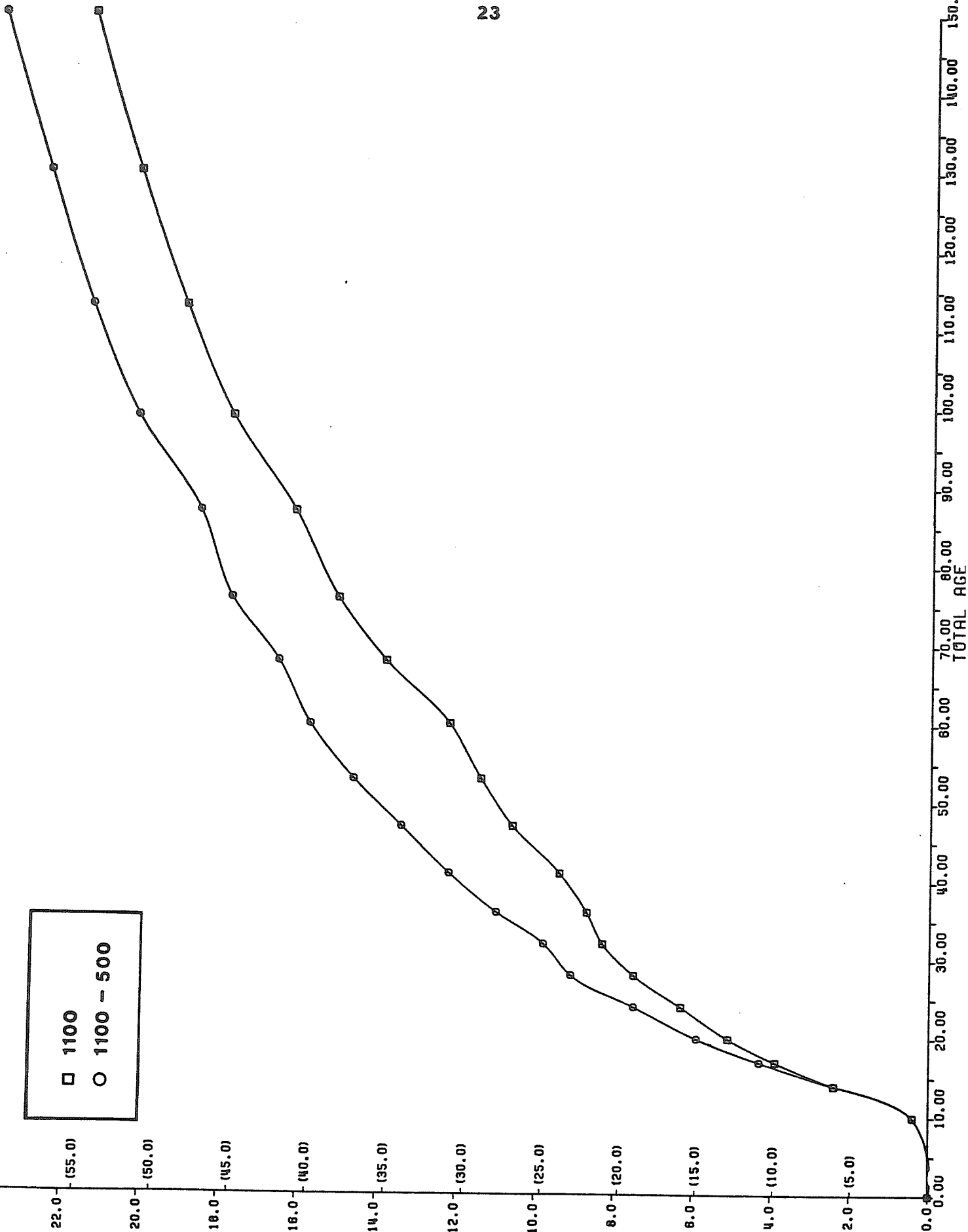
TOTAL VOLUME (CU.FT./AC. X 10<sup>2</sup>)

□ 2500  
○ 2500 - 1100  
△ 2500 - 500

TOTAL AGE

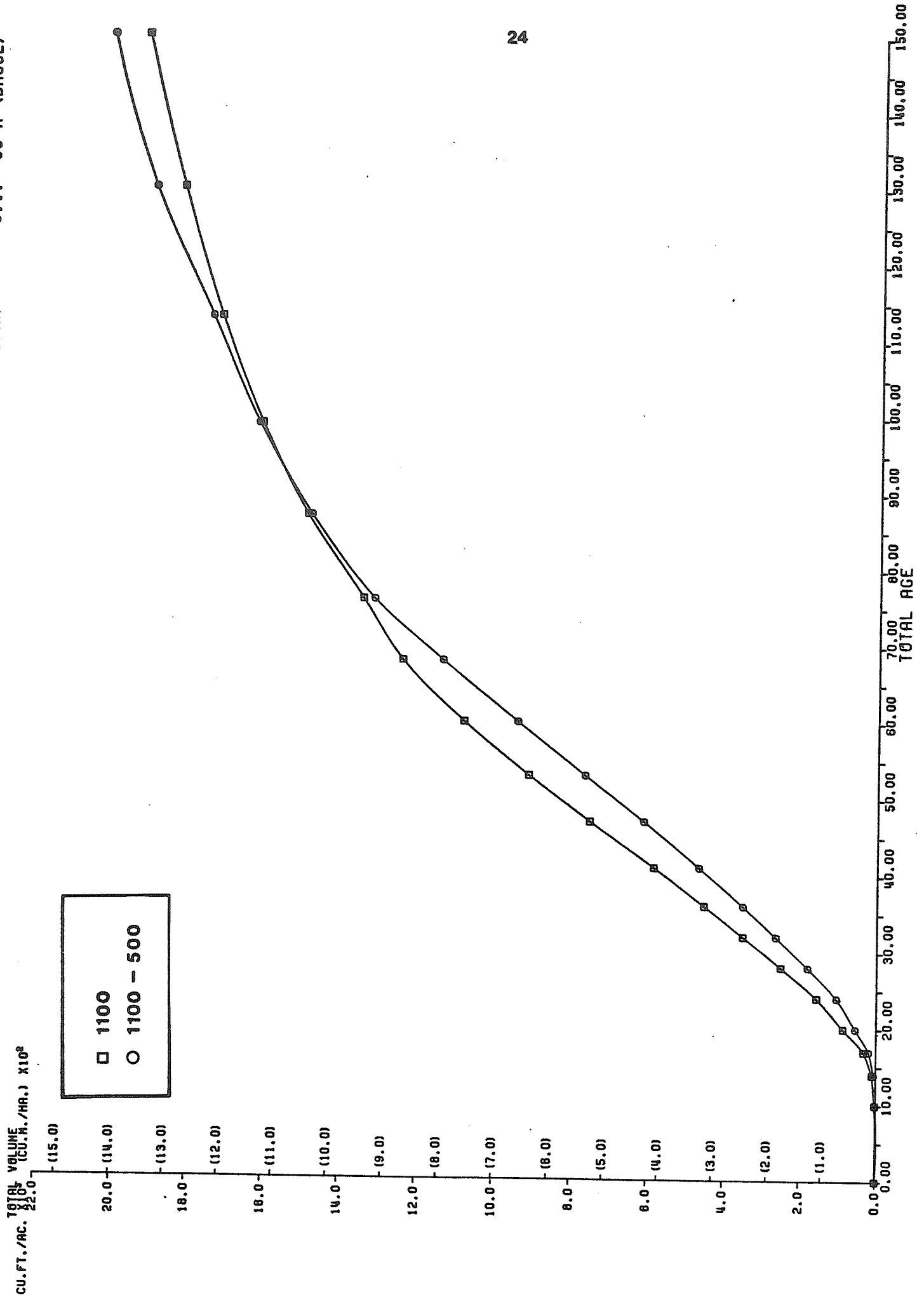
QUADRATIC  
INCHES  $\times 10^0$   
DIA. (CM)  $\times 10^0$

□ 1100  
○ 1100 - 500



S.I. = 35 M (BRUCE)

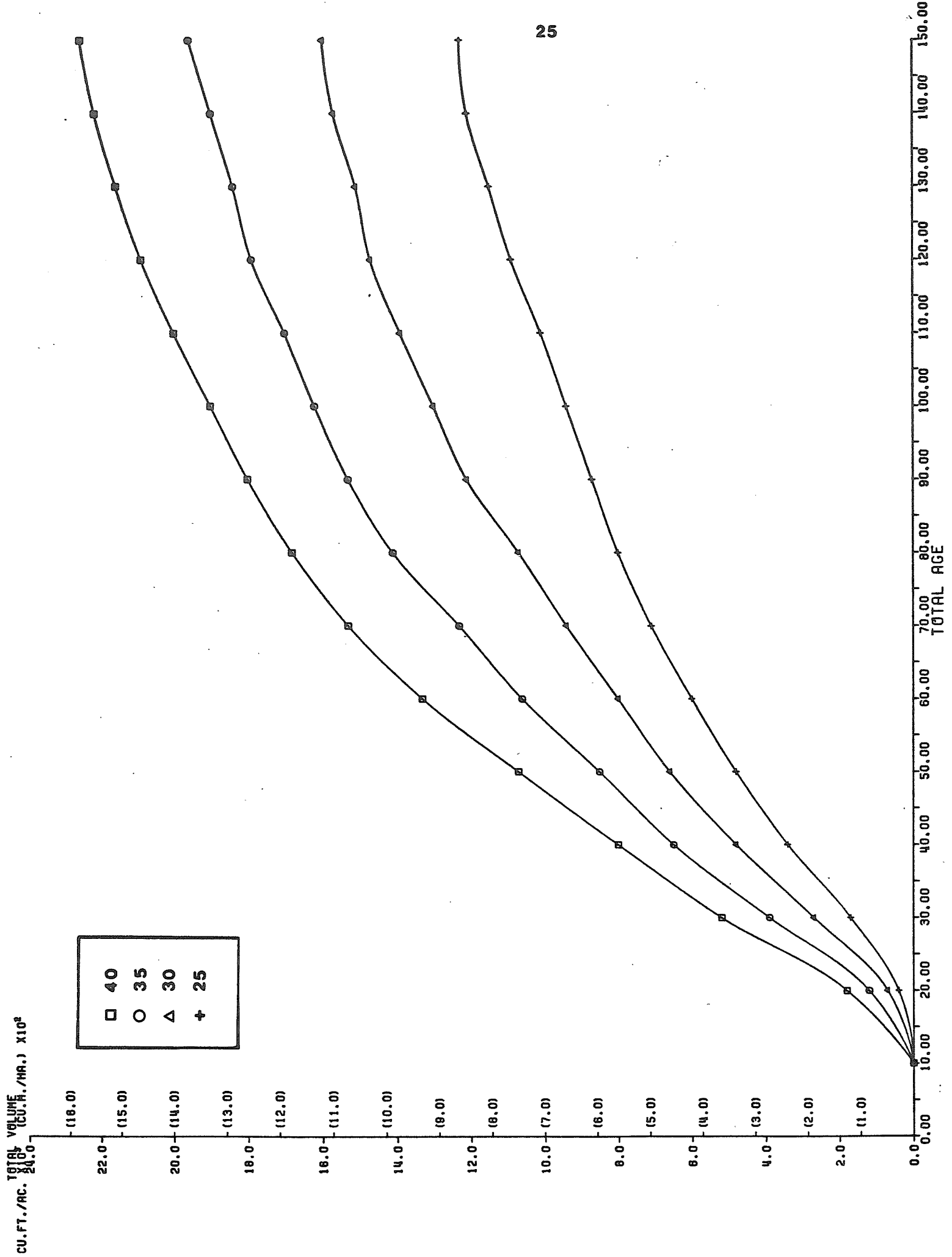
1110 TREES/HA PLANTED -- SPACED TO 500 TREES/HA



□ 1100  
○ 1100 - 500

TOTAL VOLUME (CU.FT./AC. x 10<sup>3</sup>)

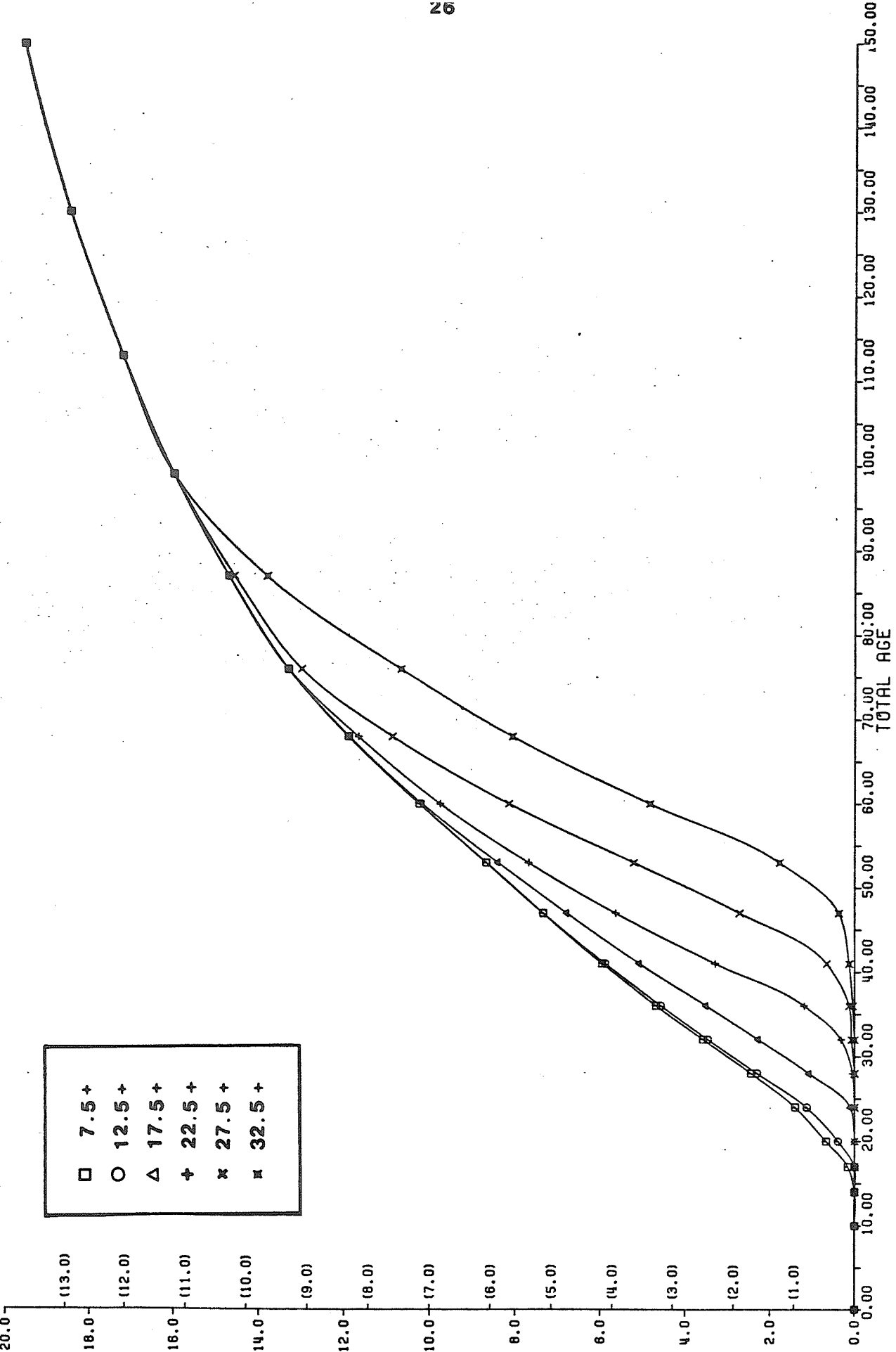
TOTAL AGE



SITE INDEX 35 M (BRUCE)

2500 TREES/HA PLANTED 2.0 METRES APART

MERCHANTABLE VOLUME  
(30 CM STUMP, 10 CM TOP)  
CU.FT./AC. X 10<sup>3</sup> (CU.M./HA.) X 10<sup>3</sup>

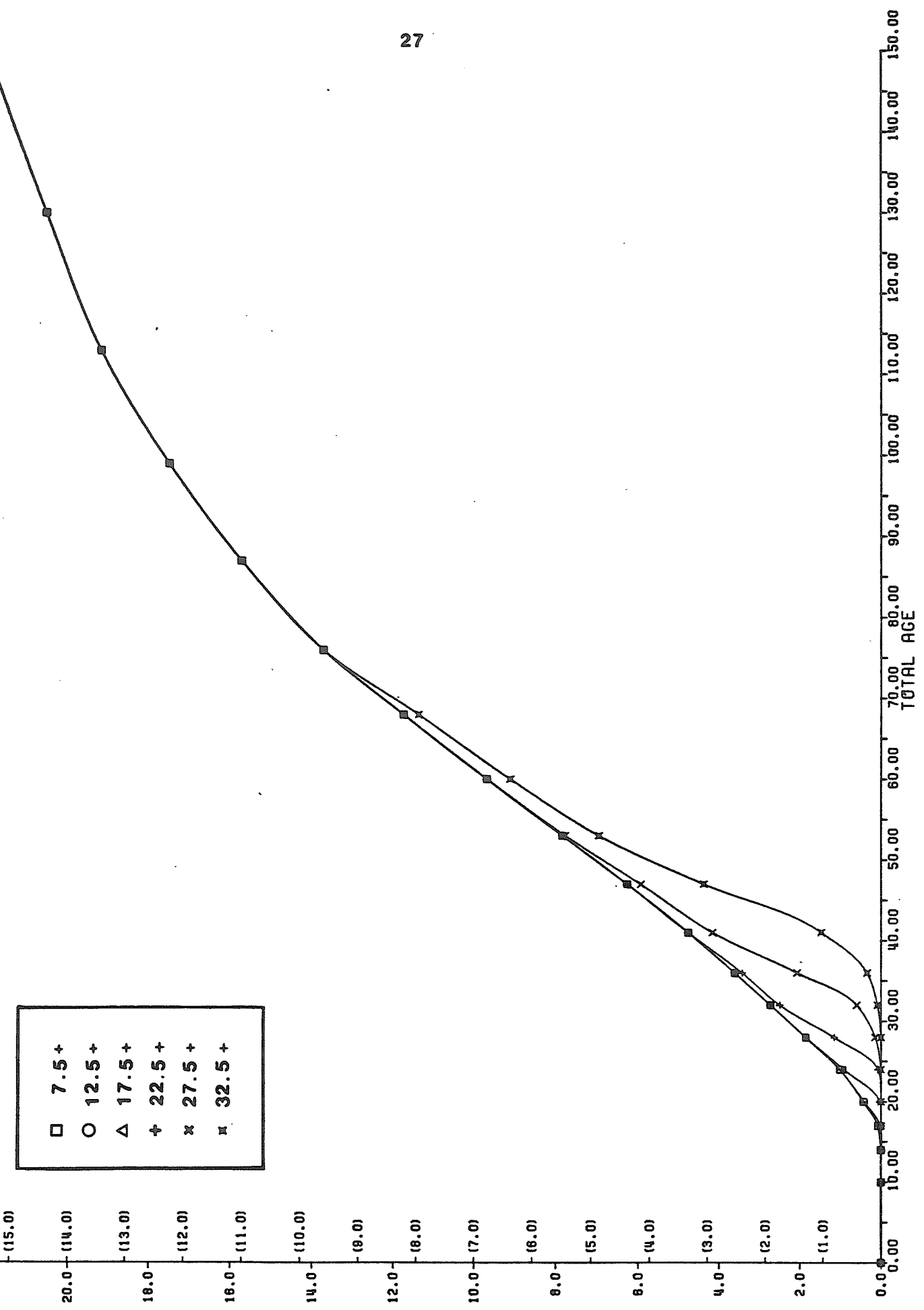


□	7.5 +
○	12.5 +
△	17.5 +
+	22.5 +
x	27.5 +
■	32.5 +

S.I. = 35 M (BRUCE)

2500 TREES/HA PLANTED -- SPACED TO 500 TREES/HA

MERCHANTABLE VOLUME  
(30 CM STUMP, 10 CM TOP)  
(CU. FT./AC. X 10<sup>3</sup>)



□	7.5 +
○	12.5 +
△	17.5 +
+	22.5 +
x	27.5 +
■	32.5 +