

Deciding to thin your forests and Recommended practice

Decision support tools to assist in making a decision on whether to thin your forest



IRISH WINDTHROW RISK MODEL

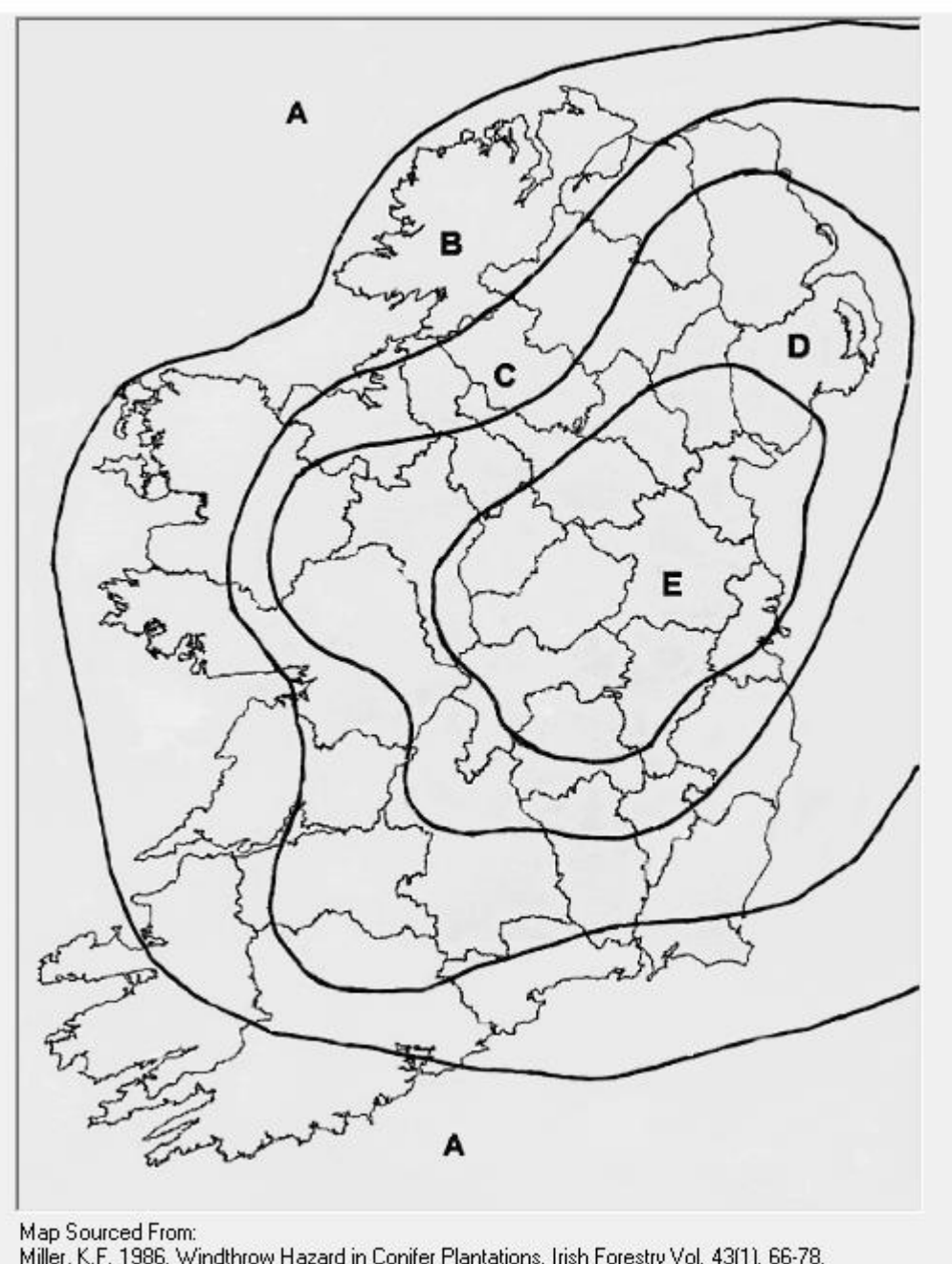
Top Height (m) 21
Altitude (m) 100

Thinned or Un-Thinned
☒ Thinned
☐ Un-Thinned

Soil Type
☒ Brown earth or Brown Podzolic
☐ Raised bog
☐ Blanket peat / Gley

Wind Zone (See Map)
☒ E (Low)
☐ D / C (Medium)
☐ B (High)

Compute Result



IRISH WINDTHROW RISK MODEL

Summary of Inputs
 Top Height: 21 m
 Altitude: 100 m
 Thinning Status: Thinned
 Soil Type: Brown earth or Brown Podzolic
 Wind Zone: E (Low)

Results
 Given the crop and site conditions summarised above, the probability of windthrow occurring is:
11.0 %
 This is an estimate and the result can range from:
 7.7 % to 14.3 %

View Projections based on Yield Class
 Modify Inputs

Assess Windthrow risk

DBH	SPH									
	2500	2400	2300	2200	2100	2000	1900	1800	1700	1600
7	9.6	9.2	8.9	8.5	8.1	7.7	7.3	6.9	6.5	6.2
8	12.6	12.1	11.6	11.1	10.6	10.1	9.6	9.0	8.5	8.0
9	15.9	15.3	14.6	14.0	13.4	12.7	12.1	11.5	10.8	10.2
10	19.6	18.8	18.1	17.3	16.5	15.7	14.9	14.1	13.4	12.6
11	23.8	22.8	21.9	20.9	20.0	19.0	18.1	17.1	16.2	15.2
12	28.3	27.1	26.0	24.9	23.8	22.6	21.5	20.4	19.2	18.1
13	33.2	31.9	30.5	29.2	27.9	26.5	25.2	23.9	22.6	21.2
14	38.5	36.9	35.4	33.9	32.3	30.8	29.2	27.7	26.2	24.6
15	44.2	42.4	40.6	38.9	37.1	35.3	33.6	31.8	30.0	28.3
16	50.3	48.3	46.2	44.2	42.2	40.2	38.2	36.2	34.2	32.2
17	56.7	54.5	52.2	49.9	47.7	45.4	43.1	40.9	38.6	36.3
18	63.6	61.1	58.5	56.0	53.4	50.9	48.3	45.8	43.3	40.7
19	70.9	68.0	65.2	62.4	59.5	56.7	53.9	51.0	48.2	45.4
20	78.5	75.4	72.3	69.1	66.0	62.8	59.7	56.5	53.4	50.3
21	86.6	83.1	79.7	76.2	72.7	69.3	65.8	62.3	58.9	55.4
22	95.0	91.2	87.4	83.6	79.8	76.0	72.2	68.4	64.6	60.8
23	103.9	99.7	95.6	91.4	87.2	83.1	78.9	74.8	70.6	66.5
24	113.1	108.6	104.0	99.5	95.0	90.5	86.0	81.4	76.9	72.4
25	122.7	117.8	112.9	108.0	103.1	98.2	93.3	88.4	83.4	78.5
26	132.7	127.4	122.1	116.8	111.5	106.2	100.9	95.6	90.3	84.9
27	143.1	137.4	131.7	126.0	120.2	114.5	108.8	103.1	97.3	91.6
28	153.9	147.8	141.6	135.5	129.3	123.2	117.0	110.8	104.7	98.5
29	165.1	158.5	151.9	145.3	138.7	132.1	125.5	118.9	112.3	105.7
30	176.7	169.6	162.6	155.5	148.4	141.4	134.3	127.2	120.2	113.1
	Not yet suitable	Suitable for YC <16 crops	Suitable for YC 18-22 crops	Suitable for YC 24+ crops						

Use Ready reckoner

Before

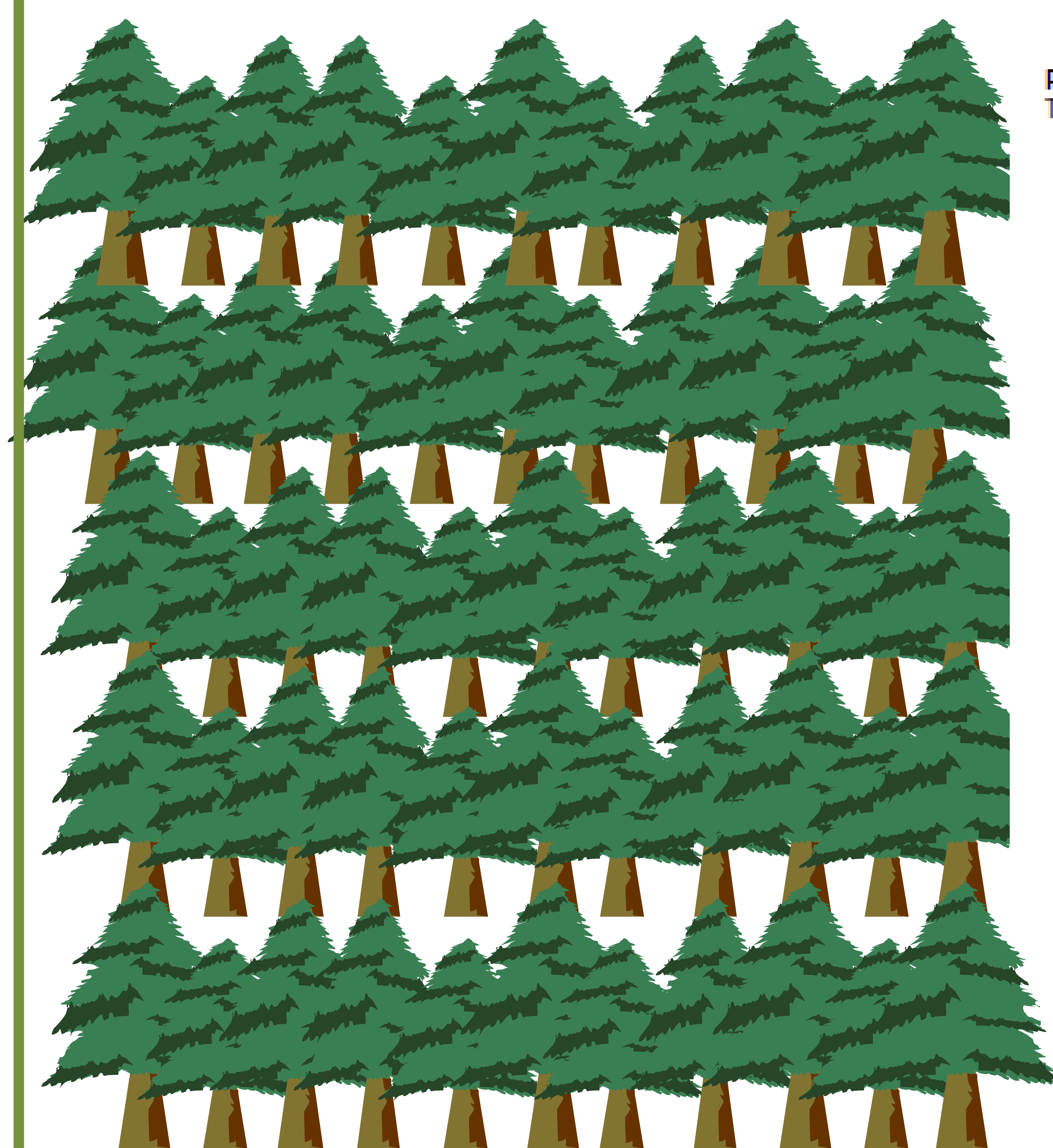
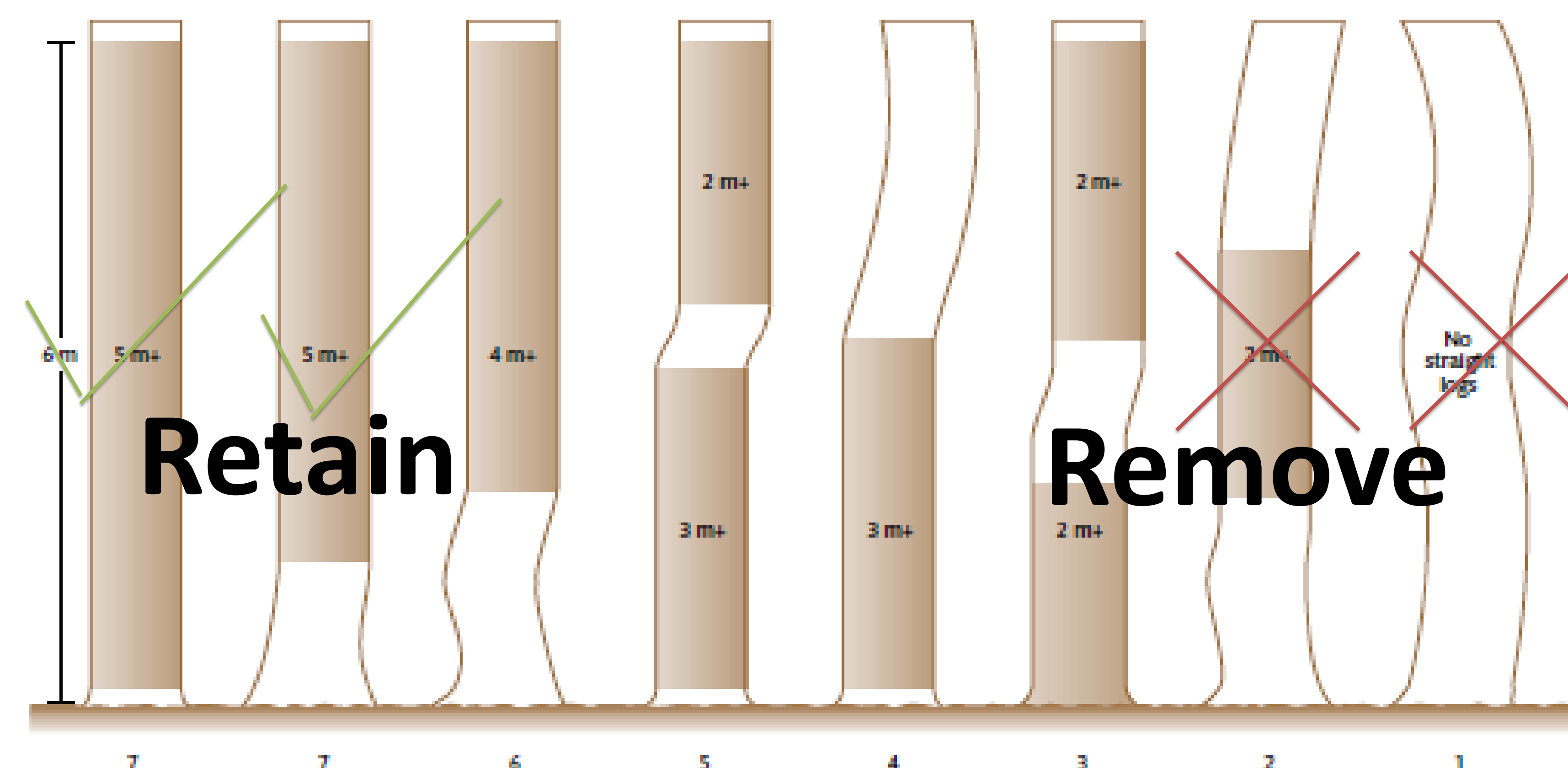
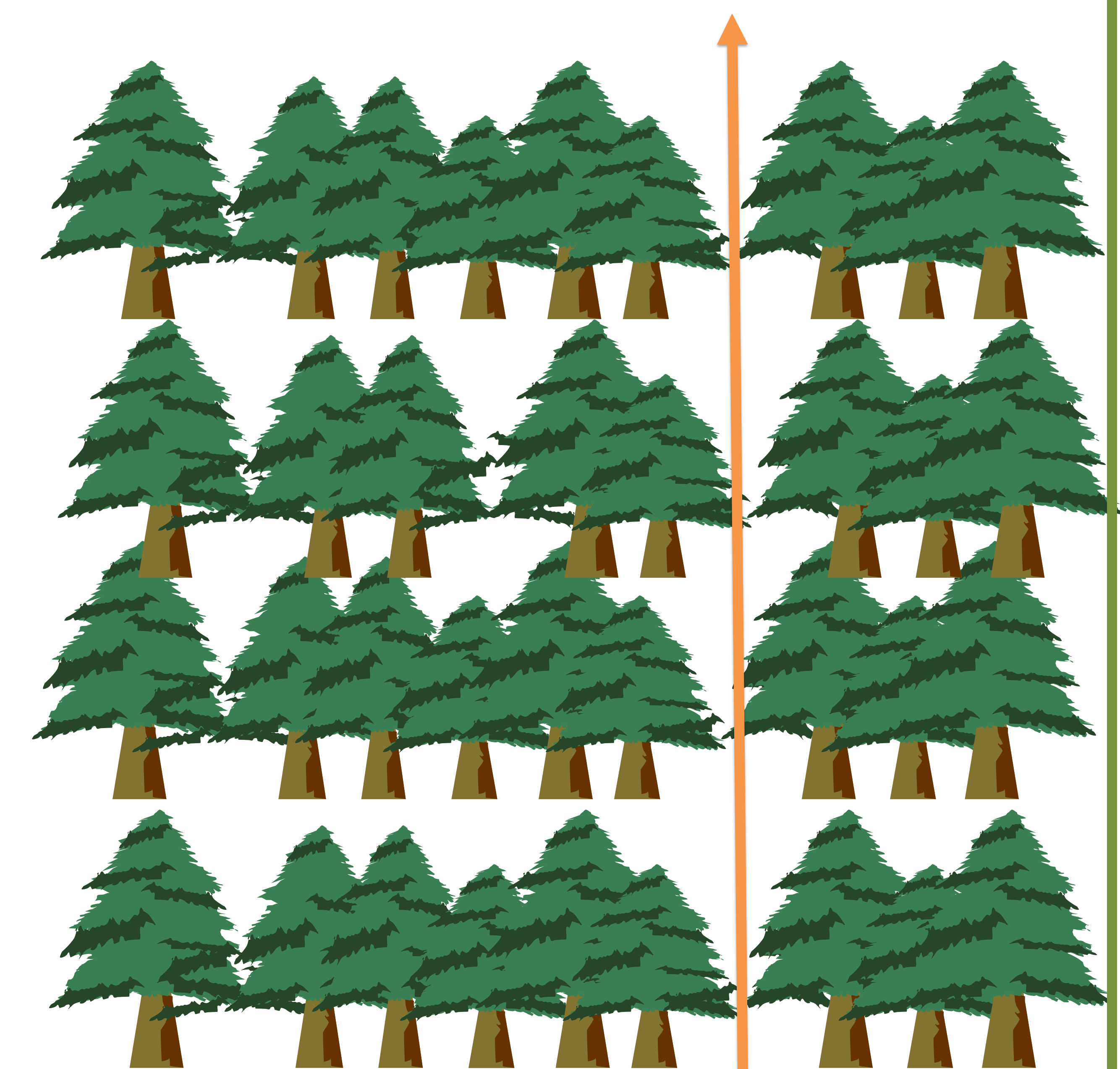


Figure 2 Eight possible combinations of straight log length in the bottom 6 m of a tree stem and the scores allocated to each combination. There is a reduction in quality of straightness from left to right.



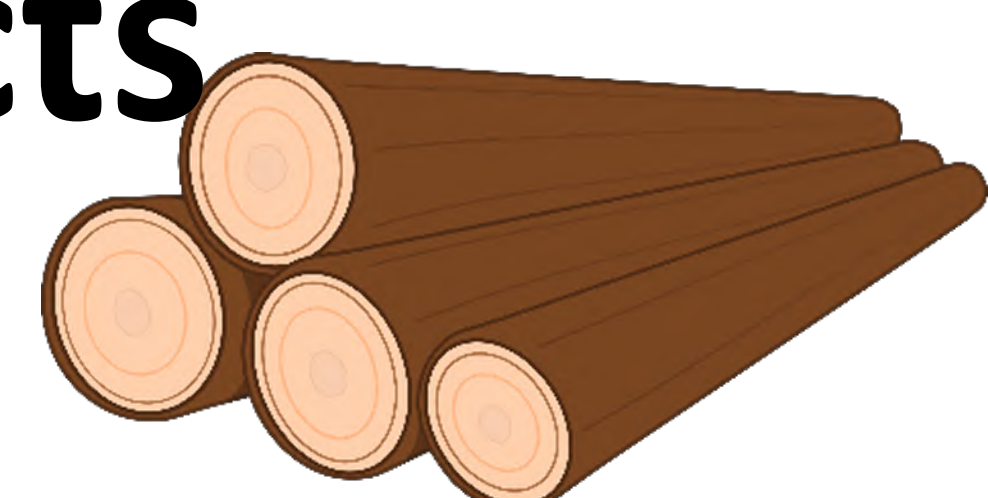
Remove wolf trees, poor quality and suppressed trees

After



Selection Line

Products



1st thinning::50-70m³/ha - Pulpwood 65%, Palletwood 35%

2nd thinning 40-60m³/ha - Pulpwood 35-70%, Palletwood 30-65%, depending on thinning type

Thinning practice and expected benefits

Choice of thinning may depend on local site & crop conditions and management objectives

- Control:** No thinning
- Light:** Remove dead, dying and suppressed trees (c. 20% of volume removed).
- Moderate:** Remove dead, dying, suppressed and some co-dominant trees, creating gaps in the canopy (c. 33% of volume removed).
- Heavy:** Remove dead, dying, suppressed and many co-dominant trees, creating gaps in the canopy (c. 33% of volume removed).

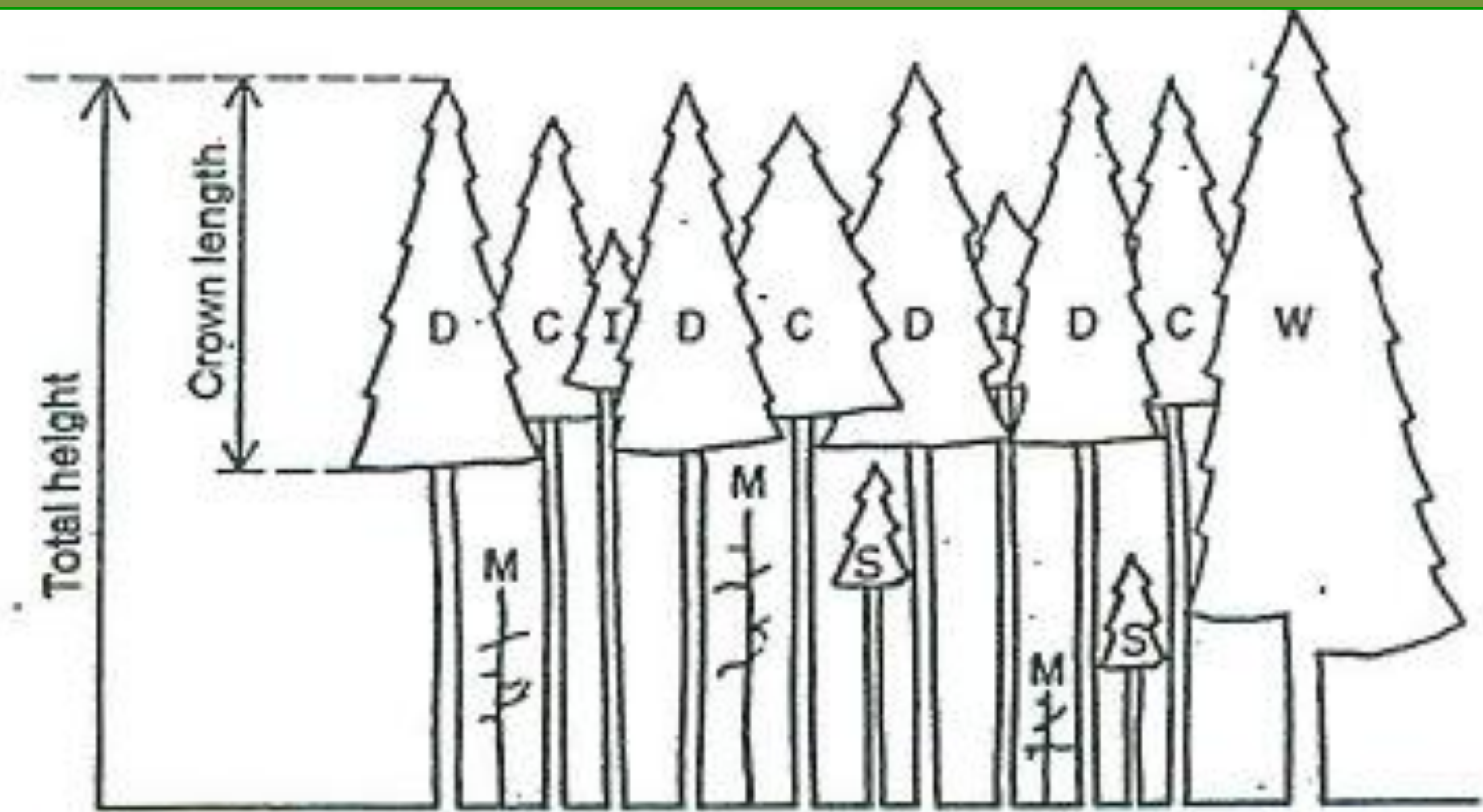
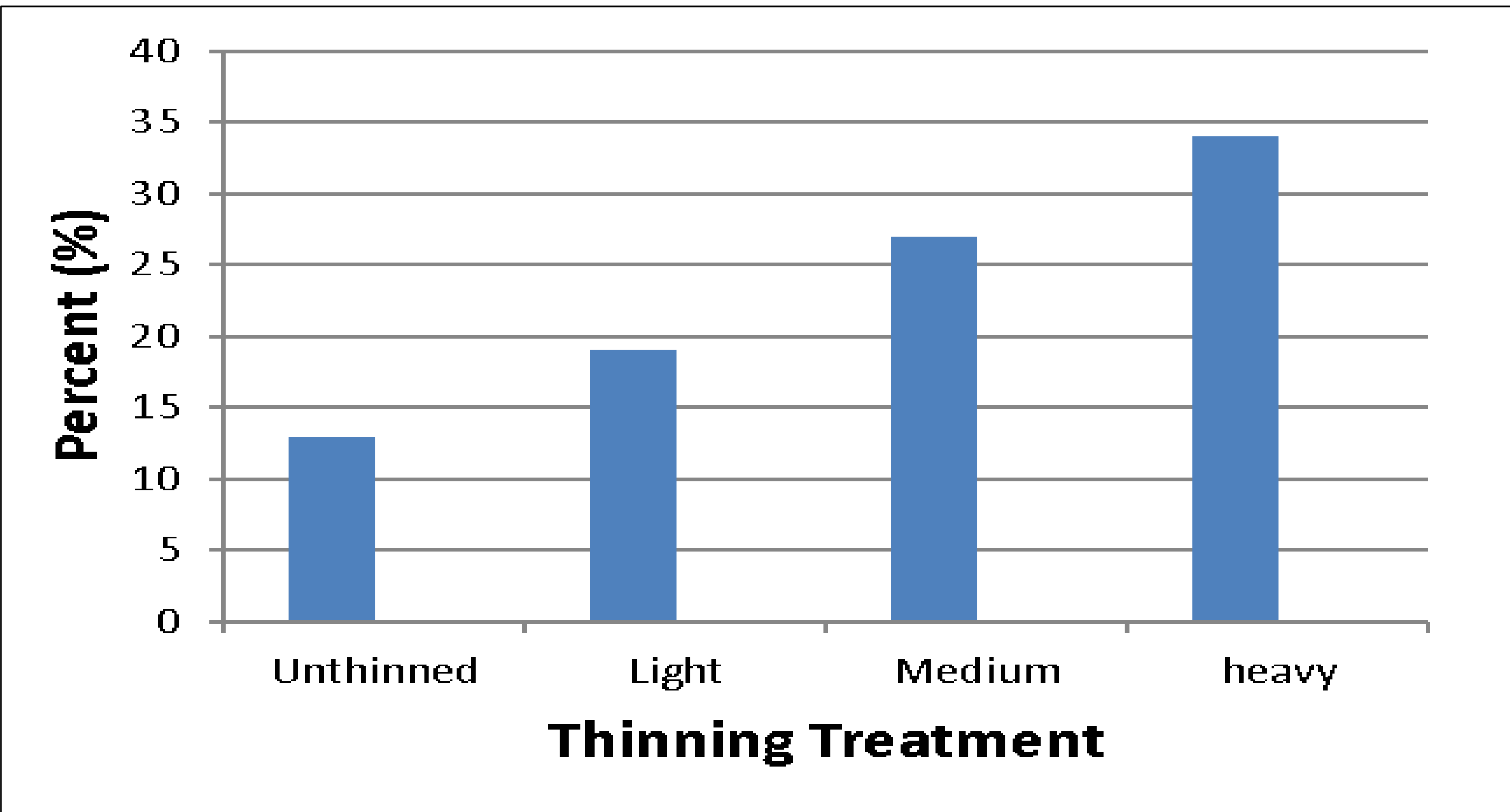
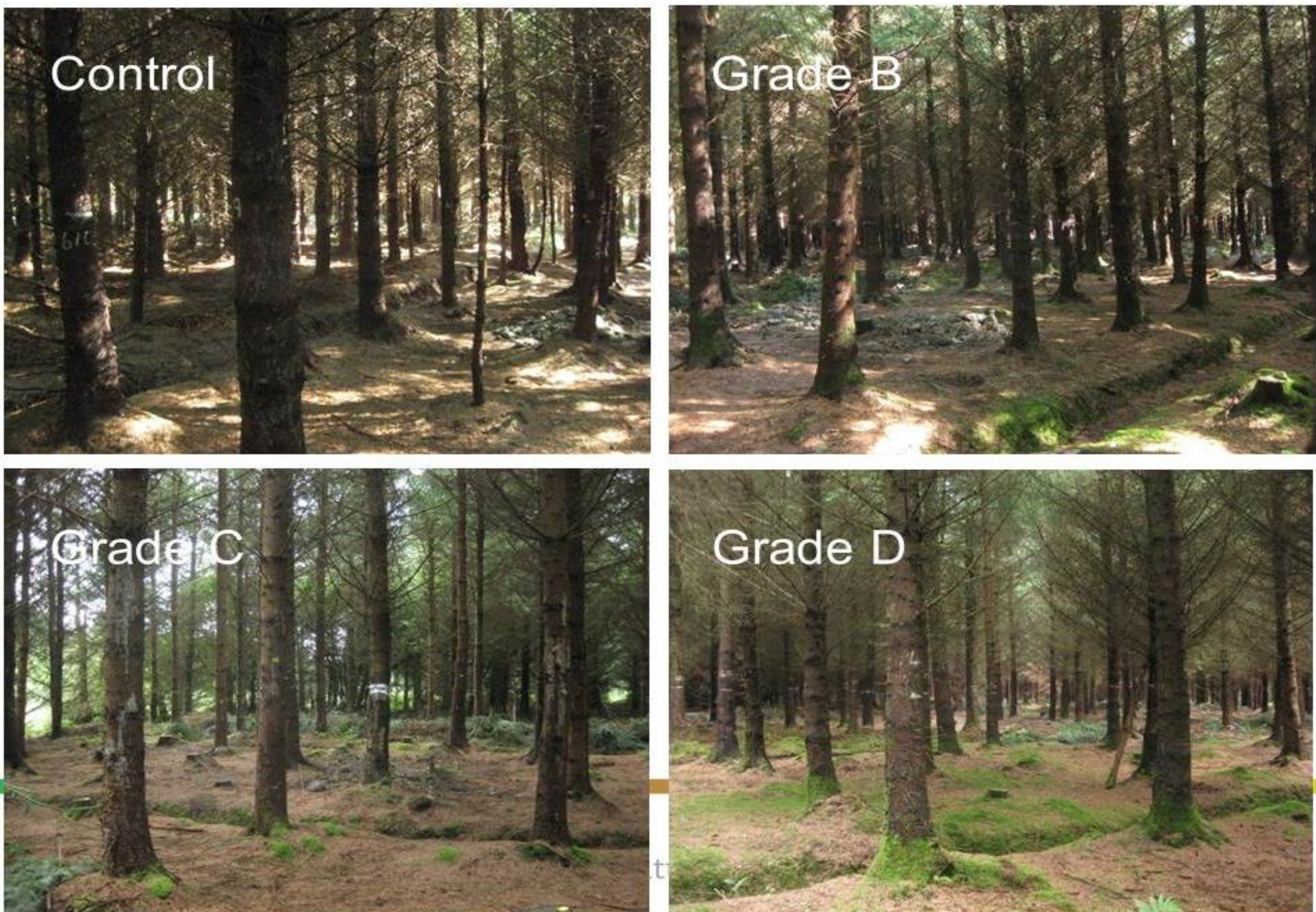


Figure 2.—Crowns of trees in even-aged stands are classified into crown types: *D* = Dominant, *C* = Codominant, *I* = Intermediate, *W* = Wolf, *S* = Suppressed, *M* = Mortality. The “crown ratio” is equal to the proportion of total tree height that is occupied by live crown. In this illustration, the dominants have a 50 percent crown ratio, while the wolf tree has an 80 percent crown ratio.



Increase in the volume of straight logs by thinning intensity

Table: Volume and revenue from first thinning

Thinning type	Vol. Remove (m3/ha)	Net Vol. Pulp (m3/ha)	Net Vol. Pallet (m3/ha)	Revenue €/Ha
No thin				
Grade B	51	28	17	475
Grade C	62	34	20	564
Grade D	73	44	19	616

Table: Volume and revenue from second thinning

Thinning type	Vol. Remove (m3/ha)	Net Vol. Pulp (m3/ha)	Net Vol. Pallet (m3/ha)	Revenue €/Ha
No thin				
Grade B	40	25	10	334
Grade C	61	22	31	691
Grade D	62	19	35	748

Total revenue from thinning ranges from €809 - €1364 per ha