

Table 2.6.5: Temperature Tolerances of Plants

Temperature tolerances vary with adaptation temperature. Specimens from colder regions have a greater tolerance for low temperatures and a lesser tolerance for high ones. The reverse holds for specimens from warm regions. Values are also strongly dependent upon the water content of the given plant and upon the plant organ studied.

Data after various authors in ALTMAN and DITTMER 1973

Species	Minimum (°C)	Maximum (°C)
Algae		
Bladder wrack	- 20	41.9
<i>Chlamydomonas nivalis</i>	- 36	4
Marine red algae	- 2 up to + 3	32-35
<i>Oscillatoria filiformis</i>	59	83
Sea lettuce (<i>Ulva</i>)	- 8	30

Species	Minimum (°C)	Maximum (°C)
Spirogyra	- 7	40
Sugar kelp	- 4	24
Lichens		
Lung lichen ("lungwort")	- 196	73
Reindeer lichen	- 196	
Mosses		
<i>Bryum</i> sp.	- 7	42
<i>Frullania dilatata</i>		70-75
<i>Plagiothecium curvifolium</i>		60-75
Ferns		
Brackenfern (rhizome)	- 2.5	
Common polypody	- 18.1	48.5
Hart's tongue fern	- 14.8	47.5
Spermatophytes (seed-bearing plants)		
Alder, buds	- 28	
Alder, leaves	- 3	
Ash, buds	- 27	
Ash, leaves	- 2	
Barley	- 15 up to - 10	
Canadian waterweed		39-39.5
Cross-leaved heath	- 20	50.5
European beech, buds	- 22	
European beech, leaves	- 2.5	
Field or hedge maple, buds	- 23	
Field or hedge maple, leaves	- 2.5	
Oats	- 12 up to - 9	
Rye	- 25 up to - 15	
Silver fir (summer)	- 4	46
Spruce (summer)	- 8 up to - 3.5	42.5
Spruce (winter)	- 38	40.5
Swiss pine (summer)	- 10	
Swiss pine (winter)	- 40	
Wheat	- 22 up to - 10	
Woodsorrel	- 11.5	40.5
Yew (summer)	- 4	50.5
Yew (winter)	- 40	47.5