



FORM: A large conifer up to 80m (260ft) tall, neatly whorled with primary branches distinctly opposite.

IDAHO CHAMPION: 1981. 54.9in dbh; 172in circum. + 218ft tall + 7.7ft crown= 398pts; Pierce RD., Clearwater NF.

BARK: Smooth and greyish with resin blisters when young, aging to ashy brown with thick, deep furrows; inner bark purple-red.

BUDS: Resinous, blunt to rounded, yellow-brown, 6mm.

LEAVES: Flat needles, 2-3cm (1in) long, apex rounded and notched (1), dark green, grooved above with two white stomatal bands underneath with very small resin ducts located near leaf margin (2), distinctly two ranked (3).

CONES: Cylindrical, 6-11cm (2-4in); borne upright, high in crown and disintegrating on tree; ripens Aug.; seed shed early Sept.

ENEMIES: Diseases: *Echinodontium tinctorium*, *Armillaria* species, *Phellinus (Porja) weirii*, and broom rust; Insects: spruce budworm, and tussock moth; Fire: susceptible.

SIMILAR SPECIES: *Abies lasiocarpa*, p.9.

	Syal h.t.		Phdo	
	Phma h.t.			
	Caru	Caru	Psmc	
	Aruv	h.t.		
2	Phma	Phma		
1	Smst	h.t.		
10	Phma	Phma	Abgr	
10	Cooc	h.t.		
10	Libo	Libo		
10	Xete	h.t.		
10	Asca	Asca		
10	Tabr			
10	Mefe	h.t.		
9	Setr	h.t.		
10	Phma	Clun		
10	Clun			
10	Tabr			
10	Mefe			
10	Xete	h.t.		
10	Vagl	Xete		
10	Cooc	h.t.		
9	Clun	Clun	Thpl	
10	Tabr			
9	Mefe			
9	Xete			
10	Asca	Asca		
10	Tabr			
10	Mefe			
9	Gydr	n.t.		
8	Adpe	h.t.		
9	Adpe	Atfi		
6	Atfi	h.t.		
3	Opho	h.t.		
7	Clun	Clun	Tshe	
7	Arnu			
6	Mefe			
7	Xete			
9	Asca	Asca		
9	Arnu			
7	Mefe			
5	Gydr	h.t.		
3	Mefe	Clun		Tsmc
1	Xete	h.t.		
1	Xete	Mefe		
	Luhi	h.t.		
	Mefe	Stam		
	Luhi	h.t.		
1	Vagl	Xete		
	Luhi	h.t.		
7	Clun	Clun	Ab1a	
4	Mefe			
5	Xete			
3	Cooc			
2	Xete	Mefe		
4	Vasc			
	Luhi	h.t.		
2	Mefe	Stam		
4	Lica	h.t.		
	Caca	Caca		
7	Vaca			
	Luhl	h.t.		
4	Legl	Xete		
7	Cooc			
2	Vagl			
2	Vasc			
	Luhi	h.t.		
	Vasc	h.t.	Pico	
	Xete	c.t.		
	Vaca	c.t.		