



FORM: Tree, up to 55m (180ft) tall; crown spirelike; branches extending to the ground.

NATIONAL CHAMPION: The champion Engelmann spruce died in 1994 from bark beetles and, as of June 2003, had not been replaced.

STEMS: Young twigs finely pubescent (1).

BARK: Thin, brownish-red, scaly.

LEAVES: Short, rigid needles, 2-4cm (1-2in) long, blue-green, pointed (2), 4-angled in cross-section (3); borne singly on a peg, that remains on twig when needle is shed (4).

CONES: Oblong, 2-4cm (1-2in) long; light chestnut-brown, scales paper-thin; cones droop from branches, falling during autumn or winter; ripens Aug.-Sept., seed shed Sept.-Oct.

ENEMIES: Diseases: *Armillaria* species, *Fomes annosus*, *Phaeolus (Polyporus) schweinitzii*, *Fomes pini*, broom rust, and dwarf mistletoe; Insects: western budworm, and tip weevil; Fire: very susceptible.

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

HABITAT: Montane; favors cold humid sites, and wet frost pockets of all elevations.

	Syal h.t.	Pi po	
	Phma h.t.		
	Caru	Psme	
	Aruv h.t.		
	Phma		
	Smst h.t.		
	Phma	Abgr	
	Cooc h.t.		
5	Libo		
6	Xete h.t.		
2	Asca		
8	Tabr		
8	Mefe		
8	Setr h.t.		
	Phma		
2	Clun		
5	Tabr	Clun h.t.	
8	Mefe		
6	Xete		
4	Vagl	Xete h.t.	
3	Cooc		
2	Clun	Thpl	
9	Tabr		Clun h.t.
9	Mefe		
8	Xete		
4	Asca		Asca h.t.
5	Tabr		
9	Mefe		
7	Gydr h.t.		
+	Adpe h.t.		
2	Adpe	Atfi h.t.	
6	Atfi		
2	Opho h.t.		
3	Clun	Tshe	
3	Arnu		Clun h.t.
6	Mefe		
3	Xete		
2	Asca		Asca h.t.
	Arnu		
10	Mefe		
3	Gydr h.t.		
10	Mefe	Tame	
9	Xete		Clun h.t.
7	Xete		Mefe h.t.
6	Luhi		h.t.
10	Mefe		Stam h.t.
2	Luhi	h.t.	
7	Vagl	Xete h.t.	
5	Luhi	h.t.	
10	Clun	Ab1 a	
10	Mefe		Clun h.t.
8	Xete		
10	Cooc		
10	Xete		Mefe h.t.
9	Vasc		
9	Luhi		
9	Mefe		Stam h.t.
10	Lica		h.t.
10	Caca		Caca h.t.
10	Vaca		
10	Legl		
9	Cooc		
6	Vagl	Xete h.t.	
7	Vasc		
7	Luhi		
	Vasc h.t.	Pico	
	Xete c.t.		
	Vaca c.t.		