List of alternative species and their structural properties as compared to radiata pine

Species	Ref	Strength MoR MPa	Stiffness MoE GPa	Density at 12% mc kg/m^3	Ratio to radiata E_1/E_2	Ratio to radiata E_2/E_1	Ratio to radiata $\sqrt[3]{(E_1/E_2)}$	Ratio to radiata $\sqrt[3]{(E_2/E_1)}$
beech, hard	3	113	14.2	745	0.63	1.58	0.86	1.16
beech, mountain	3	116	12.5	645	0.72	1.39	0.90	1.12
beech, red	3	116	11.6	630	0.75	1.33	0.91	1.10
beech, silver	3	100	12.0	610	0.75	1.33	0.91	1.10
botryoides	s	101	11.7	625	0.76	1.30	0.91	1.09
Californian redwood	3	63	6.6	380	1.36	0.73	1.11	0.90
contorta pine	3	91	9.7	495	0.93	1.08	0.98	1.03
Corsican pine	3	77	8.0	510	1.13	0.89	1.04	0.96
Crytomeria Japonica	3	66	7.2	343	1.25	0.8	1.077	0.93
Douglas fir	3	78	8.8	480	1.02	0.98	1.01	0.99
Euc fastigata	3	120	13.2	610	0.68	1.47	.88	1.13
European Larch	3	97	9.7	560	0.93	1.08	0.98	1.03
globoidea	3	132	14.6	635	0.62	1.62	0.85	1.17
kahikatea	3	75	10.7	450	0.84	1.19	0.94	1.06
kauri	3	88	9.1	560	0.99	1.01	1.00	1.00
Lawson cypress	3	98	12.1	480	0.74	1.34	0.91	1.10
lusitanica	3	70	6.5	460	1.38	0.72	1.11	0.90
macrocarpa	3	74	7.9	475	1.14	0.88	1.04	0.96
maritime pine	4	97	10.5	530	0.86	1.17	0.95	1.05
matai	3	76	8.1	610	1.11	0.90	1.04	0.97
miro	3	94	10.1	625	0.89	1.12	0.96	1.04
ponderosa pine	3	71	6.9	480	1.30	0.77	1.09	0.92
poplar	3	62	6.8	465	1.32	0.76	1.10	0.91
radiata pine	3	90	9.0	500	1.00	1.00	1.00	1.00
rewarewa	3	125	18.3	740	0.49	2.03	0.79	1.27
rimu	3	88	9.6	595	0.94	1.07	0.98	1.02
Saligna	3	91	11.1	615	0.81	1.23	0.93	1.07
tawa	3	114	13.2	720	0.68	1.47	0.88	1.14
western red cedar	3	50	4.7	370	1.91	0.52	1.24	0.81
Black Wattle	**	100	12	550	0.75	1.33	0.908	1.099

Some of these numbers are rounded for convenience of tabulation.
Many other species are grown in New Zealand.

**** Figures taken for Australian Black Wattle and reduced for New Zealand grown conditions**