

University of Canterbury provides on-line access to growth and yield models

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The School of Forestry at the University of Canterbury has established an on-line source for forestry software, including some growth and yield models.

The models are programmed so that they run in a web browser like Netscape or Internet Explorer. This format means that models will run on any machine, they do not have to be downloaded and installed by users, and they can be updated very easily.

Models may be used free of charge, so long as acknowledgement is made to the School of Forestry when projections are quoted in documents. At time of writing, growth and yield models for Douglas-fir in the South Island and radiata pine in the Central North Island are available. Two smaller tools include a wilding risk estimator (built in collaboration with Nick Ledgard of Forest Research), and a tree height calculator.

The school's web address is <http://www.fore.canterbury.ac.nz>. Click "Software" on the left hand menu to access the tools.

The School has a commitment to provide decision tools to the industry, and you can expect to see the site grow as models are added for other regions and species.

There is potential for more than just growth and yield models to be provided in this way, and we welcome your suggestions. Please email me at e.mason@fore.canterbury.ac.nz with comments, queries or requests.

NEW ZEALAND SCHOOL OF FORESTRY - UNIVERSITY OF CANTERBURY - NETSCAPE

Growth and yield model for *Pinus radiata* D. Don growing in the Central North Island of New Zealand. Model by Ricardo Azeiteiro, programming by Euan Mason

Starting values: Age: 5 Mean top ht (m): 8 Basal area/ha: 15 Stems/ha: 1000
Altitude: 200 Ending age: 40 Calculated site index: 36.5
Go Delimited output Thin Info

Age (years)	Mean top height (m)	Basal area/ha (m ²)	Mean dbh (cm)	Stems/ha	Volume/ha (m ³)
5	8	15	13.8	1000	45
5	8	8.8	15	500	26
6	10.3	13.9	18.9	499	51
7	12.6	19.1	22.1	498	85
7	12.6	13	23.5	300	57
8	15	17.4	27.2	300	89
9	17.3	21.8	30.4	299	126
10	19.5	26	33.3	298	168
11	21.6	30	35.8	297	214
12	23.7	33.7	38.1	296	261
13	25.6	37.2	40.1	295	310
14	27.5	40.5	41.9	294	360
15	29.2	43.6	43.6	292	409
16	30.9	46.4	45.1	290	459
17	32.4	49.1	46.5	288	507

A screen shot of the model for radiata pine in the Central North Island that runs in your browser. You need only enter the current age, mean top height, basal area, stocking and altitude, and click "Go" to get a yield table describing future growth in your wood lot. You may nominate up to five thinning treatments.

Sustainable management using Woodstock

Sustainable management practices are key to conserving New Zealand forests in the long-term. But in addition to the environmental impact, management regimes that promote sustainable development of indigenous and plantation resources make sound economic sense as well.

Indeed, forest products are already one of New Zealand's largest export earners and by the year 2010, the commodities are expected to account for 30 per cent of the country's total export earnings - so ensuring timber supplies are safeguarded for the long-term is in everybody's best interest.

Sustainability with Woodstock

Woodstock forest modeling software is flexible, robust software package that is in use throughout North America, Australia and now in New Zealand to help devise management strategies which balance commercial and environmental constraints for the creation of sustainable forest management plans.

Created by Canadian software developers Remsoft Inc., Woodstock is Windows-based software used for forest

modeling problems such as harvest scheduling, timber supply analysis (for both wildland and plantation woodlands), vegetation succession modeling and wildlife habitat and ecosystem management.

In addition, detailed, long-term management plans developed using Woodstock are used to demonstrate compliance with the regulations of certification programmes such as the Sustainable Forestry Initiative (SFI), ISO14001 and Forest Stewardship Council (FSC).

Such a broad range of planning issues can be addressed using Woodstock because everything about the model is user-defined.

Woodstock is already being used to model Australian eucalyptus forests, southern pine plantations in the US and boreal forests in Canada.

What is Woodstock?

Woodstock consists of:

- A flexible modeling language for describing the forest landscape, the dynamics driving the system and the actions operating on it;