

## PM COOPERATIVE REPORT LISTING BY TOPIC

- Topics:**
1. **Tree Growth**
  2. **Tree Quality**
  3. **Trial Establishment and Installation**
  4. **Silvicultural Techniques**
  5. **Estate/Regional Modelling/Models**
  6. **Forest & Farm Interactions**
  7. **Special Purpose Species**
  8. **Miscellaneous**

### 1. TREE GROWTH

#### Plantation Management Cooperative Reports

3	Review of silvicultural trials	G.G. West	May 1994	\$50
8	Prediction of diameter and height starting values for the EARLY growth model	G.G. West	November 1994	\$50
14	Genetic gain trial to measure reduction of <i>Dothistroma</i> infection with <i>Dothistroma</i> -resistant breed — Results to age 3	J.R. Lee S.D. Carson L. Gea	April 1995	\$50
15	A strategy for efficient selection and evaluation of "designer breeds"	S.D. Carson M.J. Carson G.G. West J.C. Grace T.G. Vincent P.A. Jefferson B.R. Manley	November 1995	\$50
16	Predicting the growth of young stands of radiata pine from site factors — An investigation in the Bay of Plenty region	A. Wells	November 1995	\$50
19	Demonstration/Research Nelders of improved radiata pine breeds — Results of first assessment. ( <i>Unavailable – never completed</i> )	J.D. Tombleson J.A. Turner P. van Wijk	November 1995	
20	Pruning of improved radiata pine breeds, Tumunui — A pilot study	W.M. Blundell	November 1995	\$50
21	Guadalupe hybrids timberbelt demonstration/research trial — Age 3 & 4 year assessment results	J.D. Tombleson J.T.D. Penman	November 1995	\$50
23	Validation of the radiata pine shelterbelt growth model	M. Dean R.L. Knowles M.O. Kimberley	November 1995	\$50
32	Single clonal blocks vs clonal mixtures — Kawerau & Tumbarumba trial assessment results. ( <i>Unavailable – never completed</i> )	J. Tombleson A. Straker C. Borough D. Darling	May 1996	
50	The effect of final crop stocking on growth across a range of sites.	G.G. West J.P. Maclaren M.O. Kimberley A. Straker	May 1998	Confidential
51	Predicting green crown length in radiata pine.	J. Turner	May 1998	

57	Followers experiments on farm sites. ( <i>Unavailable – never completed</i> )	M. Dean	November 1998	
58	Effects of erosion scars on stand growth and quality. ( <i>Unavailable – never completed</i> )	M. Dean	November 1998	
59	A national growth model for radiata pine shelterbelts. ( <i>Very large document, available on request</i> ).	M. MacKenzie L. Knowles M. Dean	November 1998	Confidential
75	The effect of cyclaneusma infection on tree growth	M. Dean L. Bulman M. Kimberley	November 2000	\$50
86	Analysis of crop tree growth response to followers and timing of thinning. ( <i>Yet to be completed</i> )	M. Dean M. Kimberley	November 2003	May 2005 \$50
87	Silviculture x traits trials – establishment report ( <i>Yet to be completed</i> )	M. Dean	November 2003	Confidential
89	Growth and profitability of radiata pine in Hawkes's Bay and Wairapa	L.W. Hansen R.L. Knowles M. Halliday	May 2004	May 2005 \$50
100	Analysis of tree growth of clones grown in pure blocks and mixtures	M.O. Kimberley M. Dean	June 2006	Confidential

#### Stand Management Cooperative Reports

02	Implications of planting improved radiata breeds at reduced initial stockings	S. Moore M. Carson C. Inglis	March 1988	Nov / 92 \$50
03	Comparison of the growth and form of cuttings from 1 to 5 year old parent trees and seedlings, planted in 1983	D.G. Holden	July 1988	Nov / 92 \$50
04	Performance of improved <i>P. radiata</i> breeds on New Zealand sites	M.J. Carson	September 1988	Nov / 92 \$50
05	Bud and foliage characteristics of cuttings from 1 to 5 year old trees	M.G. Dibley T. Faulds M.I. Menzies	October 1988	Nov / 92 \$50
10	The early field performance of radiata pine cuttings, plantlets and seedlings of improved genetic material on seven North Island sites, planted in 1984	B. Klomp D.G. Holden	February 1989	Nov / 92 \$50
11	The effects of different levels of silviculture and genetics on estimates of yield from plantations of radiata pine in N.E. Victoria and southern New South Wales	C.J. Borough D.T. Jamieson	April 1989	Nov / 92 \$50
12	Benefits of the Dothistroma-resistant breed of radiata pine	S.D. Carson A. Dick G.G. West	July 1989	Nov 92 \$50
19	A comparison of final crop stockings in mature stands at Kaingaroa forest	J.P. Maclaren	February 1990	Nov / 92 \$50
21	A comparison of initial stockings selection ratio of 850 series seed orchard seedlot (GF 13) in trial R972, Cpt 123, Rotoehu Forest	J.P. Maclaren	November 1990	Nov / 92 \$50

22	The effects of different levels of silviculture and genetics on estimates of yield from plantations of radiata pine in north-east Victoria and Southern NSW, Part II: Financial analysis	C. Borough D. Jamieson	October 1990	Nov / 92 \$50
24	Review of early selection	S. Lee P. Jefferson	June 1991	Nov / 92 \$50
25	Testing methods for producing radiata pine propagules for clonal trials and keeping material as physiologically juvenile as possible	T. Faulds M. Dibley	November 1991	Nov / 95 \$50
26	Comparing the range of regional tree volume and taper tables	N. Eggleston	February 1992	Nov / 95 \$50
28	Performance of radiata pine seedlings and cuttings on a farm site, Valley Road, Rotorua	D.G. Holden B.K. Klomp S.O. Hong	June 1992	Nov / 95 \$50
29	Growth and survival of radiata pine cuttings, plantlets and seedlings on ten North Island sites	B.K. Klomp D.G. Holden S.O. Hong M.I. Menzies	June 1992	Nov / 95 \$50
30	Validation of growth model EARLY for seedlings and cuttings grown on farm and forest sites	D.G. Holden R.L. Knowles	June 1992	Nov / 95 \$50
31	Comparison of actual outturns of log grades with values predicted by pre-harvest inventory and modelling	N. Eggleston	June 1992	Nov / 95 \$50
32	The divergence/convergence question	J.P. Maclaren G.G. West M.O. Kimberley	June 1992	Nov / 95 \$50

#### **Agroforestry Research Collaborative Reports**

10	Testing PPM 88 growth model on farm sites	G. West	May 1991	May / 02 \$50
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## 2. TREE QUALITY

### Plantation Management Cooperative Reports

01	A model to predict branch index in radiata pine direct sawlog regimes	M. Kimberley R.L. Knowles	November 1993	Confidential
04	Validation of the model to predict branch index in direct sawlog regimes	M. Middlemiss R.L. Knowles	November 1994	Confidential
07	Validation of the diameter over stubs prediction function for genetically improved radiata pine	G.G. West	November 1994	Confidential
09	Review of past wood quality research on agroforestry sites	O. Cox D. L. McConchie R.B. McKinley	April 1995	May / 02 \$50
17	Genetic gain modifiers for log quality characteristics for use in STANDPAK — a preliminary analysis	J.A. Turner B.R. Manley G.G. West S.D. Carson J.C. Grace P.A. Jefferson M.J. Carson	November 1995	May / 02 \$50
18	Comparison of techniques to measure tree internode lengths	J.A. Turner	November 1995	May / 02 \$50
31	Breast height basic density of physiologically-aged cuttings vs seedlings, grown on a fertile farm site	M. McConchie K.F. Gilchrist	May 1996	May / 02 \$50
33	Causes and potential approaches to overcome inferior form and branching habit in radiata pine grown on farm sites — a literature review	J.A. Turner	November 1996	May / 02 \$50
37	Study to identify sources of error in measuring sinuosity of the pruned butt-log using a height pole.	J.A. Turner	May 1997	May / 02 \$50
38	A preliminary analysis of potential for development of genetic gain modifiers for stem straightness.	J.A. Turner	May 1997	May / 02 \$50
39	Genetic and site differences in <i>Pinus radiata</i> internode length in New Zealand	J.A. Turner S.D. Carson B.R. Manley J.C. Grace G.G. West	May 1997	Confidential
42	Prediction of individual log internode index from estimated stand mean internode length.	J.A. Turner	May 1998	Confidential
45	Prediction of final stem sinuosity in pruned logs from juvenile stem sinuosity measurements.	J.A. Turner J.D. Tombleson	May 1998	Confidential
46	Towards a general stem volume and taper equation	M. Budianto A.D. Gordon	May 1998	Confidential

48	Effects of Boron deficiency on the root anchorage and incidence of resin pockets in <i>Pinus radiata</i>	J.R. Moore	May 1998	May / 02 \$50
49	Comparison of taper, volume and bark thickness of 26-year-old seedlings and cuttings from Mamaku Forest	M. Budianto J.D. Tombleson A.D. Gordon	May 1998	May / 02 \$50
56	Target timber products from fertile farm sites: A case study using the Target Tree system	G.G. West	November 1998	May / 02 \$50
61	Validation and improvement of models to predict "Diameter-over-stubs"	R.L. Knowles H. McElwee	March 1999	May / 02 \$50
62	Validation of a model to predict canopy closure for Radiata pine	H. McElwee	March 1999	May / 02 \$50
65	Study into the influence of genetic improvement on second log branching of radiata pine	M.S. Watt J.A. Turner	November 1999	May / 02 \$50
66	A 3-point stem volume and taper equation for radiata pine	A. Gordon M. Budianto	November 1999	Confidential
68	A strength and stiffness comparison between timber from Tikitere, Kaingaroa, and a New Zealand wide study	D. Gaunt B. Penellum K. McNab J. Roper J. Turner	June 2000	May / 02 \$50
69	An investigation into the effects of boron fertiliser on wood properties and clearwood defects in radiata pine	R. McKinley D. McConchie M. McConchie	May 2000	May / 02 \$50
70	Wood density of radiata pine: Effect of nitrogen supply	P. Beets K. Gilchrist M.P. Jeffreys	May 2000	May / 02 \$50
71	Significance of boron on butt-log straightness of radiata pine	J.D. Tombleson M. Budianto J.A. Turner	May 2000	May / 02 \$50
74	Wood properties of 26-year-old <i>Pinus radiata</i> from the Tikitere stocking trial	R. McKinley D. McConchie M. Budianto	November 2000	May / 02 \$50
76	Assessment of tree quality of aged cuttings and seedlings at age 5 years	D.G. Holden	May 2001	May / 02 \$50
79	Analysis of wood density and spiral grain at seven contrasting sites	S. Kumar R. Ball D. Cown	November 2001	Confidential
80	Wood quality of radiata pine on farm sites – a review of the issues	P. Maclaren	May 2002	May / 02 \$50
81	Analysis of internal checking data from the Goudies and Matea pruning / thinning / fertiliser Trials (RO 1083/1 and 2)	M. Kimberley M. McConchie D. McConchie	May 2002	Nov / 04 \$50
83	The effect of pruned height, pruning intensity, and timing on tree growth and quality - An interim analysis ( <i>yet to be completed</i> ).	M. Dean M. Kimberley	May 2002	Confidential

93	Culling resin bleeders at the time of selection for pruning	J. Cox J.D. Tombleson M.O. Kimberley	October 2005	Confidential
94	Conversion factors for Type I and II resin pockets	M.O. Kimberley J.D. Tombleson G. Holden	November 2005	Confidential
95	Culling resin bleeders at the time of selection for pruning – do resin bleeders identify themselves at a young age?	J.D. Tombleson G. Holden M.O. Kimberley	November 2005	Confidential
96	Analysis of branch data from final crop stocking trials	H.D. Marshall	May 2006	Confidential

### Stand Management Cooperative Reports

01	Comparison of butt-log branching characteristics of improved <i>Pinus radiata</i> breeds at Cpt 1218, Kaingaroa	J.A. Brown M.J. Carson	March 1988	Nov / 92 \$50
07	Internode length estimates for improved breeds of <i>Pinus radiata</i>	N.G. Woods M.J. Carson	November 1988	Nov / 92 \$50
08	Genotype and location effects on internode length of <i>Pinus radiata</i> in New Zealand	M.J. Carson C.S. Inglis	November 1988	Nov / 92 \$50
13	Response of radiata pine branch characteristics to site and stocking	J. Tombleson J. Grace C. Inglis	July 1989	Nov / 92 \$50
18	Branch size prediction for radiata pine	J.C. Grace	December 1989	Nov / 92 \$50
20	Sampling DOS and sweep at time of pruning	G.G. West M.O. Kimberley	July 1990	Nov / 92 \$50
27	Prediction of internode length in <i>Pinus radiata</i> stands	J. Grace M. Carson	February 1992	Nov / 95 \$50
33	The effect of site, stocking and genetics on second-log branching in <i>Pinus radiata</i>	R.L. Knowles M. Kimberley	June 1992	Confidential

### Agroforestry Research Collaborative Reports

02	Study on 18-year-old radiata pine from Ngatira. Part 1: Stand assessment, sawing and timber grades	J.C. Park	December 1989	May / 02 \$50
03	Branch size in radiata pine and its significance	I.D. Whiteside	May 1990	May / 02 \$50
05	Utilisation study of 18-year-old agroforestry sawlogs — final report	D.J. Cown R.L. Knowles	May 1990	May / 02 \$50
09	Wood density of radiata pine as affected by genetics, silviculture and site - a preliminary analysis of fertile sites	D. McConchie G. Young R. McKinley M. Kimberley	November 1990	May / 02 \$50
28	Malformation change in juvenile radiata pine	P. Maclaren	May 1993	May / 02 \$50

### 3. TRIAL ESTABLISHMENT & INSTALLATION

#### Plantation Management Reports

02	Radiata pine followers trials — establishment report	M. Dean	November 1993	May / 02 \$50
05	The effect of physiological age of cuttings on unpruned log quality — establishment report	G. Holden B. Klomp J. Tombleson	November 1994	May / 02 \$50
06	Effects of pruning on improved radiata pine breeds — trial establishment report	I. McInnes	February 1998	May / 02 \$50
10	Special purpose radiata pine breeds trials — Establishment report	G.T. Stovold	April 1995	May / 02 \$50
11	<i>Dothistroma</i> genetic gain trial — Establishment report	G.T. Stovold	April 1995	May / 02 \$50
12	Clonal trial for special purpose radiata pine breeds — Establishment report	G.T. Stovold	April 1995	May / 02 \$50
22	Second log pruning trials — Installation report	M. Dean	November 1995	May / 02 \$50
28	A comparison of older physiologically aged cuttings of radiata pine with juvenile cuttings and seedlings in shelterbelts — trial establishment report	M. Dean	November 1995	May / 02 \$50
34	Single clonal blocks versus two and sixteen clone mixtures trial, Tarawera Forest — establishment report	J.A. Turner J. Tombleson C. Te Riini	November 1996	May / 02 \$50
41	Followers trials on forest sites — establishment report	M. Dean	May 1997	May / 02 \$50
43	Crown lightning trials - Installation report.	J.A. Turner J.D. Tombleson W. Brown	May 1998	May / 02 \$50
44	Toppling trial establishment report: Evaluation of severe lateral nursery root trimming and contrasting genetic improvement – Establishment report.	J.A. Turner J.D. Tombleson	May 1998	May / 02 \$50
72	New generation toppling trials for winching – establishment report update	J.D. Tombleson	November 2000	May / 02 \$50
77	<b>GF Plus</b> Demonstration/Research trials – establishment report. ( <i>Unavailable – never completed</i> )	S. van Ballekom J.D. Tombleson	May 2001	
78	Comparison of GF and long internode breeds along with high wood density clones planted as shelterbelts – establishment report	J.D. Tombleson D. Bell	May 2001	May / 02 \$50

### Stand Management Cooperative Reports

06	Demonstration / research trials of improved radiata pine breeds — Establishment report	J.D. Tombleson	November 1988	Nov / 92 \$ 50
09	Clonal Management Trial Establishment Report	D. Darling J.D. Tombleson	February 1989	Nov / 92 \$50
14	Clonal ageing trial establishment report	F. Clarke	October 1989	Nov / 92 \$50
15	Demonstration / research trials of improved radiata pine breeds — establishment report (Part II)	J. Tombleson D. Jamieson C. Borough	December 1989	Nov / 92 \$50
16	Comparison of containerised and bare-rooted cuttings and seedlings trial — Establishment report	R.H. Saunders P.L. Wilcox	November 1989	Nov / 92 \$50
17	New South Wales clonal management trial — establishment report	D. Jamieson C. Borough J. Tombleson	December 1989	Nov / 92 \$50
23	Clonal ageing trial — nursery assessment and field planting report	F. Clarke	March 1991	Nov / 92 \$50

### Agroforestry Research Collaborative Reports

13	Establishment of <i>Cupressus macrocarpa</i> progeny trials: South Island, 1990	P. Milne	May 1991	May / 02 \$50
18	Establishment of <i>Cupressus macrocarpa</i> progeny trials, North Island and Marlborough	M. Dean M. Carter P. Milne	November 1991	May / 02 \$50
25	Nationwide series of radiata pine timberbelt spacing trials	M. Dean J. Tombleson	May 1993	May / 02 \$50

## 4. SILVICULTURAL TECHNIQUES

### Plantation Management Cooperative Reports

24	See report 30 below			
25	Methodology of measuring shelterbelt optical porosity — a pilot study	M.A. Carter	November 1995	May / 02 \$50
30	Review of tree root studies	M. Gautam	May 1996	May / 02 \$50
35	A strategic plan for new and existing silvicultural trials	G. West D. Elliott M. Kater M. McLarin P. Smale W. Sutton P. Taylor	November 1996	May / 02 \$50
40	A comparison of the energy and force requirements of pruning loppers	P. Crossland	April 1997	May / 02 \$50
52	Waihi Toppling Trial - Assessment of Roots following Severe Toppling	J.D. Tombleson J.A. Turner	November 1998	May / 02 \$50
53	Assessment of Roots – Ngaruawahia, Waihi & Fielding Toppling Trials	J.D. Tombleson J.A. Turner	November 1998	May / 02 \$50
55	An assessment of stand and tree quality at low pruning comparing aged cuttings with seedlings	D.G. Holden B.K. Klomp C.L. Sundgren	November 1998	May / 02 \$50
60	Evaluation of the Growth and Root Morphology of Containerised Cuttings produced by FORENZA	J.D. Tombleson J.A. Turner	May 1999	May / 02 \$50
73	Root system variation in <i>Pinus radiata</i> clones: Experimental study under semi-dry temperate silvopastoral ecosystem in New Zealand	M. Gautam	November 2000	May / 02 \$50

### Agroforestry Research Collaborative Reports

01	A guide to the establishment and measurement of permanent sample plots on farm sites	M. Dean	October 1989	May / 02 \$50
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## 5. ESTATE / REGIONAL MODELLING/MODELS

### Plantation Management Cooperative Reports

13	Development of a 'stand-alone' joint venture planning system	P. Middlemiss	April 1995	May / 02 \$50
91	Functionality contained in the NZ Farm Forestry Association radiata pine calculator Version 2	L.W. Hansen R.L. Knowles M. Kimberley	August 2004	\$50
92	Validation of the 300 index growth model for radiata pine on three contrasting site types	M. Kimberley R.L. Knowles M. Dean	March 2005	\$50
98	A validation of the 300 index growth model	M. Kimberley M. Dean	June 2006	Confidential
99	Extension of the 300 index growth model for non-performing site types – Stage 1	M. Kimberley	June 2006	Confidential
101	Incorporating thinning responses into a branch diameter model	M.O. Kimberley H. Marshall	June 2006	Confidential
103	Final assessment of 21 to 22-year-old cuttings trials	M.I. Menzies C.B. Low	May 2007	Confidential

### Agroforestry Research Collaborative Reports

22	Sustainable land use in the Taranaki hill country — a case study	Taranaki Sustainable Land Use Working Group	November 1992	May / 02 \$50
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## 6. FOREST AND FARM INTERACTIONS

### Plantation Management Cooperative Reports

26	Akatore agroforestry trial, results from 1974-1995	G.G Cossens G.S Crossan	November 1995	May / 02 \$50
27	Invermay agroforestry trial, results from 1974-1995	G.G. Cossens G.S. Crossan	November 1995	May / 02 \$50
29	Soil fauna populations in agroforestry trials ( <i>Unavailable – never completed</i> )	B. Willoughby	May 1996	
47	The effects of a Wairarapa shelterbelt on agricultural parameters	M.F. Hawke A.G. Gillingham D. Bell	May 1998	May / 02 \$50
54	An evaluation of poplar on New Zealand hill country.	H. McElwee L. Knowles	November 1998	May / 02 \$50
63	See report no. 54 above			
64	Lateral root growth of <i>Pinus radiata</i> adjacent to developed pastures	M.F. Hawke A.G. Gillingham J.P. Maclaren	June 1999	May / 02 \$50
67	The effects of shelterbelts on pasture and soil parameters at Poukawa Research Station, Hawkes Bay	M.F. Hawke M. Gray A.G. Gillingham M. Slay	November 1999	May / 02 \$50
88	Profitability of converting pastoral farmland to Forestry in the Taupo Basin Part I: Marginal analysis at the one-hectare level Part II: Farm-level sustainability	L.W. Hansen R.L. Knowles A. Laroze	May 2004	May 2005 \$50

### Agroforestry Research Collaborative Reports

07	New Zealand experience with silvopastoral systems: A review	R.L. Knowles	November 1990	May / 02 \$50
08	Survey of landowners attitudes to trees on farms	E. Enewoldsen	November 1990	May / 02 \$50
23	Effect of agroforestry on soil pH and nutrient levels at Tikitere	M.F. Hawke M.B. O'Connor	November 1992	May / 02 \$50
24	Tara Hills High Country Research Station, Omarama: Tree shelter trials for irrigated pasture	N.J. Ledgard G.C. Baker	November 1992	May / 02 \$50
27	The effects of trees on the microclimate at Tikitere	M. Hawke E. Wedderburn	May 1993	May / 02 \$50

## 7. SPECIAL PURPOSE SPECIES

### Plantation Management Cooperative Reports

36	Evaluation of <i>Eucalyptus Globoidea</i> grown on Matakana Island	A. Somerville S. Gatenby	November 1996	May / 02 \$50
90	Realistic alternatives to radiata pine in New Zealand – a critical review	J.P. Maclaren	May 2004	Nov 05 \$50
97	Coast redwood silviculture trials – installation report	M. Dean	May 2006	

### Agroforestry Research Collaborative Reports

04	Which timber species do sheep prefer to eat?	V. Paton M. Kimberley	May 1990	May / 02 \$50
15	Genetic improvement of Cypresses in New Zealand	C.J.A. Shelbourne J.T. Miller	November 1991	May / 02 \$50

## 8. MISCELLEANEOUS

### Plantation Management Cooperative

84	USA Forestry Study Tour Background Notes Part I – Pacific North West ( <i>available in hard copy only</i> )	J.D. Tombleson	September 2002	Nov / 04 \$50
85	USA Forestry Study Tour Background Notes Part I – South East ( <i>available in hard copy only</i> )	J.D. Tombleson	October 2002	Nov / 04 \$50
91	Functionality contained in the NZ Farm Forestry Association radiata pine calculator Version 2	L.W. Hansen R.L. Knowles M. Kimberley	August 2004	Confidential
102	A review of the Plantation Management Research Cooperative trials and PSP's	C. Goulding	June 2006	Confidential