

SPU # 1	Douglas-fir Maritime 1 - 900m	Seedling need (million): 15.4
Breeding and Orchard Production		* Includes Georgia Lowlands (GL)
Adjusted for new Parent Tree Area of use. Previously 1-700m		filename: 01FdcM low July 12 2015
Program category: Advanced-generation		

STRATEGY Full-sib F1 diallel tests planted 1975 to 1985; OP tests 1986 and 1987; F2 design using small sublines with forward selections from all F1 test series; currently over 3/4 established. Focus on stem volume while maintaining stem form and wood density. Upgrade orchards as information and selections allow.

TRAITS	Primary: Stem volume	Secondary: Wood density, stem form
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TESTING AND PRODUCTION	Production Year (July 1 to June 30) -- (Cone harvest year shown)																			
	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34

Parents in progeny test:																				
Open pollin.	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
Polycross	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
Clonal																				
F1	372	372	372	372	372	372	372	372	372	372	372	372	372	372	372	372	372	372	372	372
F2	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360
F3	220	220	220	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	331.58	331.58

Production forecast (million plantables)																				
Orchards (#, owner)																				
134 TW (Mt Newton)	1.5	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
154 TW (Mt Newton)	0.8	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
166 WFP (SFC)	0.5	0.6	0.7	0.7	0.8	1.0	1.1	1.2	1.4	1.5	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
405 WFP (SFC)	0.3	0.4	0.6	0.8	1.1	1.2	1.4	1.5	1.6	1.7	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
183 TW (Mt Newton)	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
197 TW (Mt Newton)	0.9	1.3	1.7	2.2	2.6	3.1	3.5	3.9	4.3	4.6	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
199 FLNRO (Saanchi)	0.2	0.3	0.5	0.7	1.0	1.4	1.8	2.2	2.5	2.7	2.9	3.2	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4
149 FLNRO (Bowser)	Orchard retired																			
162 FLNRO (Bowser)	Orchard retired																			
177 Canfor (Sechelt)	Orchard retired																			

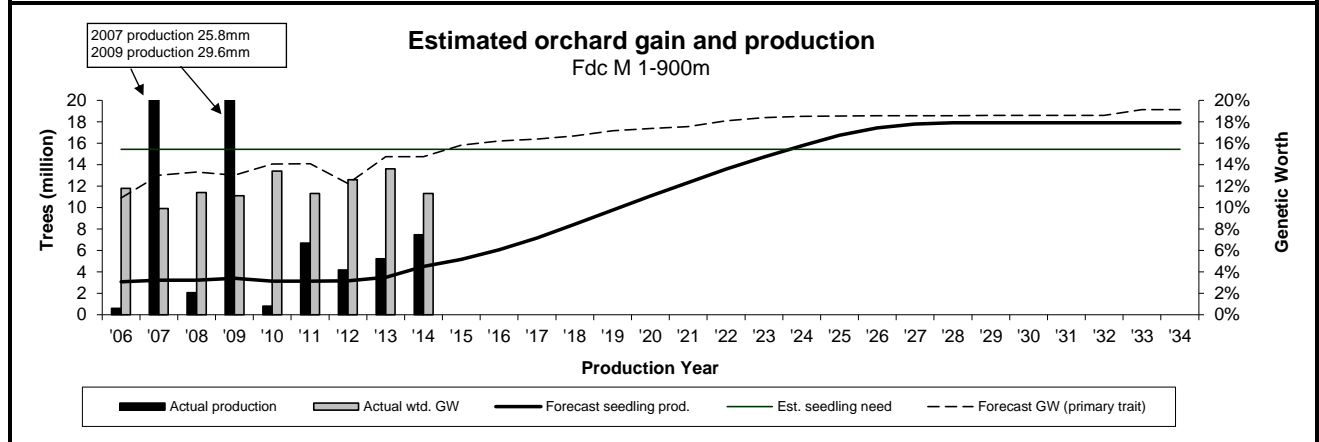
Vegetative prod.:
Somatic embplings

Estimated gain in primary trait

Orchards (#, owner)																				
134 TW (Mt Newton)	15%	15%	15%	15%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	18%	18%
154 TW (Mt Newton)	15%	15%	15%	15%	15%	15%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	18%	18%
166 WFP (SFC)	15%	15%	15%	16%	16%	17%	17%	18%	18%	19%	19%	19%	19%	19%	19%	19%	19%	19%	20%	20%
405 WFP (SFC)	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
183 TW (Mt Newton)	15%	15%	15%	15%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	18%	18%
197 TW (Mt Newton)	17%	18%	18%	18%	18%	18%	18%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	20%	20%
199 FLNRO (Saanchi)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

Vegetative prod.:
Somatic embplings

Total Production	5.2	6.1	7.1	8.4	9.8	11.1	12.3	13.6	14.7	15.8	16.7	17.4	17.8	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Total gain	16%	16%	16%	17%	17%	17%	18%	18%	18%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%



Seed production estimates are subject to change. When using this information for silviculture planning or timber supply analysis, contact the Tree Improvement Branch of the Ministry of Forests Lands and Natural Resource Operations to confirm data. See SeedMap on www.for.gov.bc.ca/ht/seedmap for current inventory by Seed Planning Unit

Douglas-fir Maritime 1 - 900m
Conservation -- Seed Orchards -- Seedling use

SPU # 1

GENETIC CONSERVATION STATUS**Conservation statistics**

Seed planning unit (SPU) area	4,634,859	ha
Area protected within SPU	360,774	ha
Percentage of SPU area protected	8%	
Estimated genetic reserves with >5000 mature trees based on botanical sample data	>9	
Confirmed genetic reserves with >5000 mature trees based on forest inventory data	98	

Conservation status

Current in-situ protection status: **Very well protected**
Probability of maintaining > 3 protected areas with adequate population size given natural disturbance regimes: **Very high**

For further information visit <http://www.genetics.forestry.ubc.ca/cfgc/>**ORCHARD STATUS**

Orchard location	Orchard #	# of parents	Mean Breeding Value	# of ramets currently established	Final orchard size (# ramets)	Target seed production at maturity (Kg / yr)	Target seedling production maturity (mm / yr)	
TW (Mt Newton)	134	58	15%	1,236	1,300	59.4	2.69	
TW (Mt Newton)	154	70	13%	718	900	41.1	1.86	
WFP (SFC)	166	147	17%	921	941	43.0	1.95	
WFP (SFC)	405	82	19%	900	951	43.4	1.97	
TW (Mt Newton)	183	62	15%	789	800	36.6	1.65	
TW (Mt Newton)	197	70	18%	2,461	2,500	114.2	5.17	
FLNRO (Saanich)	199	50	20%	1,791	1,860	85.0	3.85	
FLNRO (Bowser)	149							Retired
FLNRO (Bowser)	162							Retired
Canfor (Sechelt)	177						0.00	Retired
TW (Mt Newton)	404							Merged with 197 in 2014
Total ramets				8,816	9,252	Total production	19.13	

Vegetative propagation

Stecklings/Emblings	0.0
Total production	19.1

Seed and Nursery Factors

Expected avg. annual seedling production per ramet =	2,068
Seed weight (seeds/gram) =	86
Seedling recovery factor (seedlings/seed) =	0.53
Seedling recovery factor (seeds/seedling) =	1.90

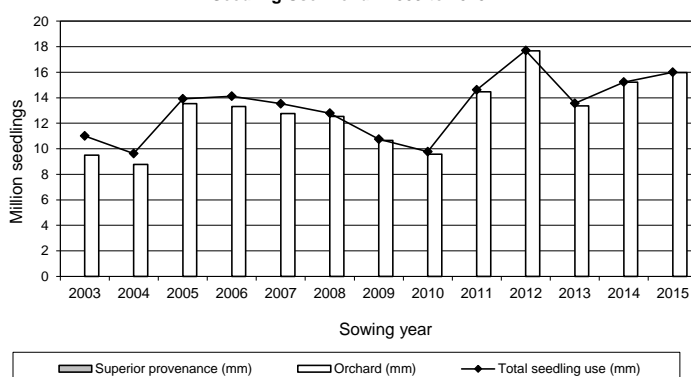
Estimate of Required Orchard Capacity

Annual planting (million seedlings)	15.4
Planned over-production factor	1.3
Ramets required	7,454
Ramets required with over-capacity	9,690
Projected necessary expansion	438

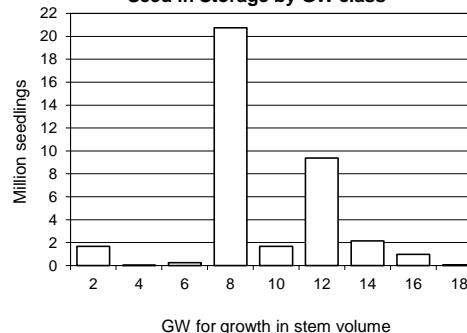
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2011 - 2015) **15.4** million
Estimated years of class-A seed in storage **2.4** years

Seedling Use Trend - 2003 to 2015



Seed in Storage by GW class

**Notes:**

- Seed held in both "reserve" and "available" status in the Seed Planning and Registration (SPAR) system is included
- Seed inventories change with new orders. Data presented here are based on a June sample.
- For up-to-date information use SPAR, or contact the Tree Improvement Branch of the Ministry of Forests and Range

Notes:

- Seedling use data include 1/2 of adjacent overlap zones, where applicable
- Sowing year: Aug 1 to July 31 (i.e. 2015 sowing year starts Aug 1, 2014)

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See SeedMap on www.for.gov.bc.ca/htl/seedmap for current inventory by Seed Planning Unit