

SPU # 2	Western Redcedar	Maritime	1 - 600m
Breeding and orchard production			
Program category: Advanced-generation			Seedling need (million): 7.3 * Includes Georgia Lowlands (GL) filename: 2 Cw M low June 28/08

STRATEGY First generation: polycross progeny testing for early growth; testing grafted progeny for wood durability. Backward selections for seed orchard production and advanced generation breeding population. Significant attention to inbreeding impacts and their effect on seed production.

TRAITS Primary: Stem volume Secondary: Wood durability, deer resistance, stem form

TESTING AND PRODUCTION Production Year (July 1 to June 30) -- (Cone harvest year shown)

	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27
Parents in progeny test:																				
Open pollin.																				
Polycross	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950
Clonal																				
F1	40	80	120	160	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
F2																				
F3																				

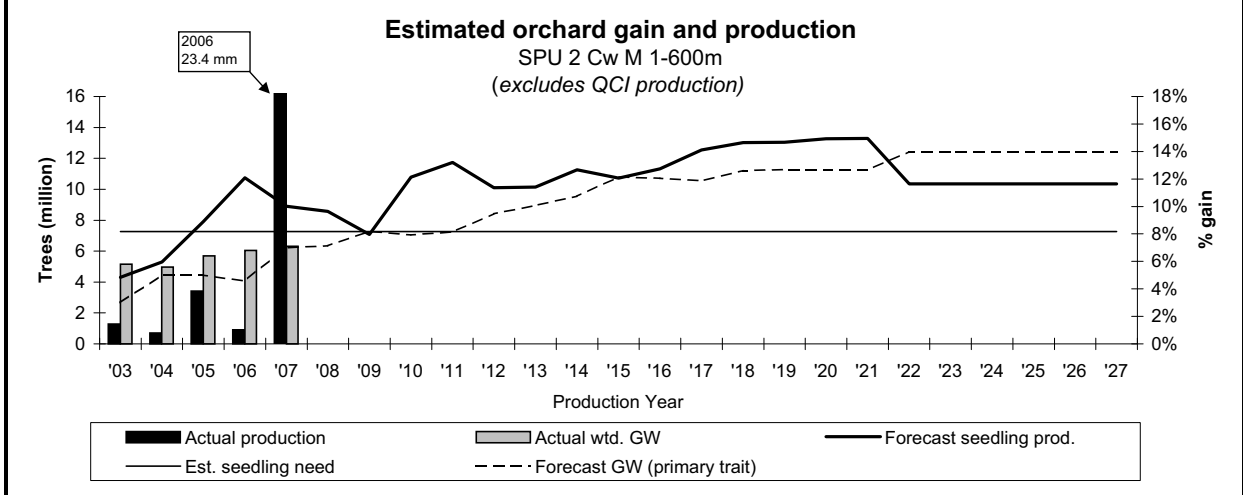
Production forecast (million plantables)																				
Orchards (#, owner)																				
186 Canfor (Sechelt)	1.8	1.9	1.9	2.0	2.0	1.8	2.9	3.2	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
140 TW (Mt Newton)	1.6	1.7	1.7	1.7	1.7	1.7	1.7	0.8	0.8	0.8	1.0	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7
152 TW (Mt Newton)	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5									
189 WFP (SFC)	3.4																			
190 WFP (SFC) (QCI)	1.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4									
184 MOFR (container)	1.3	1.8	2.6	2.8	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0						
198 WFP (SFC)	0.1	1.3	4.1	4.8	3.0	3.2	3.2	3.2	3.7	4.8	5.1	5.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3

Vegetative prod.:
Phase 1
Phase 2

Estimated gain in primary trait																				
Orchards (#, owner)																				
186 Canfor (Sechelt)	7%	8%	8%	8%	9%	9%	12%	12%	12%	12%	12%	12%	12%	12%	14%	14%	14%	14%	14%	14%
140 TW (Mt Newton)	8%	8%	8%	8%	8%	8%	8%	12%	12%	12%	12%	12%	12%	12%	14%	14%	14%	14%	14%	14%
152 TW (Mt Newton)	8%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%									
189 WFP (SFC)	6%																			
190 WFP (SFC) (QCI)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%									
184 MOFR (container)	9%	9%	9%	10%	10%	12%	12%	15%	15%	15%	15%	15%	15%	15%						
198 WFP (SFC)	7%	7%	7%	7%	10%	10%	10%	10%	10%	10%	10%	12%	12%	12%	12%	14%	14%	14%	14%	14%

Vegetative prod.:
Phase 1
Phase 2

Total Production	8.6	7.1	10.8	11.7	10.1	10.1	11.3	10.7	11.3	12.5	13.0	13.0	13.3	13.3	10.3	10.3	10.3	10.3	10.3	10.3
Total gain	7%	8%	8%	8%	9%	10%	11%	12%	12%	12%	13%	13%	13%	13%	14%	14%	14%	14%	14%	14%



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 and Range to confirm data. See SeedMap on www.for.gov.bc.ca/htl/seedmap for current inventory by Seed Planning Unit

Western Redcedar Maritime 1 - 600m
 Conservation -- Seed Orchards -- Seedling Use

SPU #2

GENE CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	896,402	ha
Area protected within SPU	60,026	ha
Percentage of SPU area protected	7%	
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: **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/cfg/>

ORCHARD STATUS

Orchard location	Orchard number	Number of parents	Mean BV	# of ramets currently established	# of ramets planned for final orchard size	Target Seed production kg/y at maturity	Target seedling production (mm/yr) at full production	
Canfor (Sechelt)	186	57	8%	200	400	16.8	4.00	
TW (Mt Newton)	140	38	8%	165	150	6.3	1.50	
TW (Mt Newton)	152	29	8%	92	50	2.1	0.50	
WFP (SFC)	189	24	6%	338	0	0.0	0.00	
WFP (SFC)	190 (QCI)	53	2%	159	40	1.7	0.40	QCI and north coast only
MoFR Saanich	184	26	15%	332	300	6.3	1.50	
WFP (SFC)	198	96	8%	528	529	11.1	2.65	
Total ramets				1,814	1,469	Total production	10.55	
Vegetative propagation						Stecklings/Emblings	1.0	
						Total production	11.5	

Seed and Nursery Factors

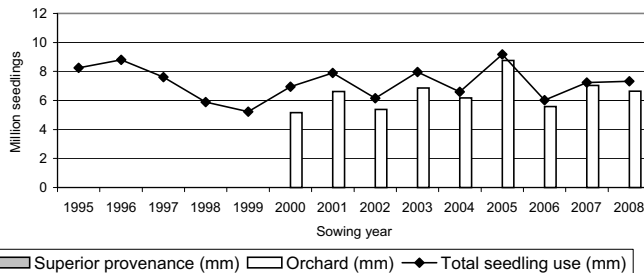
Estimate of Required Orchard Capacity

Expected annual average seedling production per ramet = 10,000	Annual planting (million seedlings)	7.3
Seed weight (seeds/gram) = 723	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.33	Ramets required	727
Seedling recovery factor (seeds/seedling) = 3.03	Ramets required with over-capacity	946
	Projected necessary expansion	0

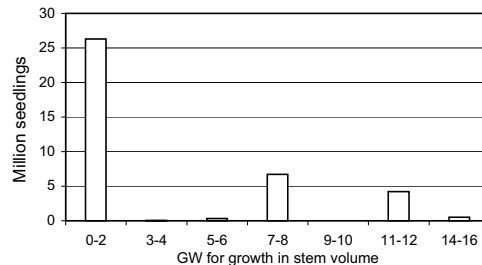
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2004 - 2008) 7.3 million
Estimated years of class-A seed in storage 5.2 years

Seedling Use Trend - 1995 to 2008



Seed in Storage by GW class



Notes:
 - Seedling use data include 1/2 of adjacent overlap zones, where applicable
 - Sowing year: July 1 to June 30 (i.e. 2006 sowing year starts July 1, 2005)

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

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 and Range to confirm data. See SeedMap on www.for.gov.bc.ca/ht/seedmap for current inventory by Seed Planning Unit