

SPU # 8 **Western White Pine Maritime 1 - 1400m**
Breeding and orchard production
Seedling need (million)*: 1.5
 Program category: **Advanced-generation** * estimated need with resistant stock; includes GL zone
 filename: 8 Pw M-SM June 29/08

STRATEGY Development of an F1 population from slow canker growth (SCG) and difficult to infect (DI) open pollinated progeny from all existing test programs (CFS, Texada Island, with and better material from Idaho and Dorena, Oregon programs for comparison). Best selections will be put in open-pollinated seed orchards.

TRAITS **Primary: Rust resistance** **Secondary: Stem form, wood properties**

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.	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Polycross																				
Clonal																				
F1	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
F2							150	300	300	300	300	300	300	300	300	300	300	300	300	300
F3																				

Production forecast (million plantables)

Orchards (#, owner)	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27
174 Canfor (Sechelt)	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.3	1.5	1.5	1.6	1.6
175 MoF (Puckle Rd)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.7
403 TW (Mt Newton)	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.8	0.8
407 WFP (Saanich)		0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.049

Vegetative prod.:
 Phase 1
 Phase 2

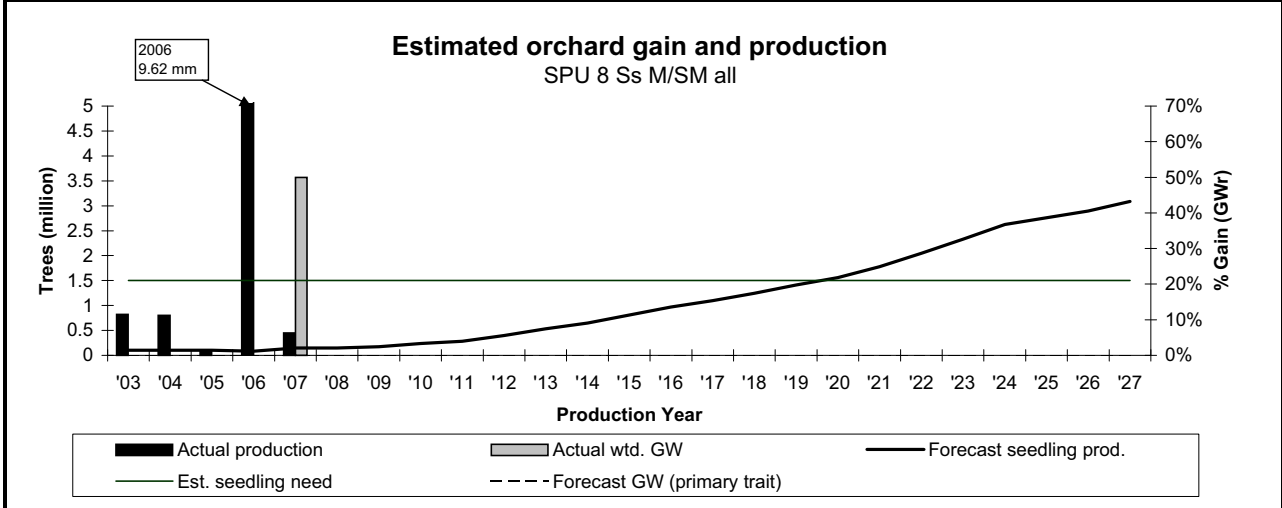
Estimated gain in primary trait

Orchards (#, owner)	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27
174 Canfor (Sechelt)																				
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403 TW (Mt Newton)																				
407 WFP (Saanich)																				

Gains in blister rust resistance are not quantified for estimating increased wood volume production. Genetic Worth values for resistance (GWr) are estimated for individual seedlots.

Vegetative prod.:
 Phase 1
 Phase 2

Total Production	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.8	1.0	1.1	1.2	1.4	1.6	1.8	2.0	2.3	2.6	2.8	2.9	3.1
Total gain	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%



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/hti/seedmap for current inventory by Seed Planning Unit

Western White Pine Maritime 1 - 1400m
 Conservation -- Seed Orchards -- Seedling Use

SPU #8

GENE CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	6,542,815	ha
Area protected within SPU	609,531	ha
Percentage of SPU area protected	9%	
Estimated genetic reserves with >5000 mature trees based on botanical sample data	>2	
Confirmed genetic reserves with >5000 mature trees based on forest inventory data	2	

Conservation status

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

* Ground truthing required as inventory data are less reliable for this species

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

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	Total Seedling Prod. million seedlings
Canfor (Sechelt)	174	50	none	525	800	108.7	2.00
MoFR (Puckle Rd)	175	68	none	297	760	103.3	1.90
TW (Mt Newton)	403	125	none	293	300	40.8	0.75
WFP (Saanich)	407	25	none	0	75	10.2	0.19
				Total ramets	1,115	Total production	4.84

Vegetative propagation	Stecklings/Emblings	0.0
	Total production	4.8

Seed and Nursery Factors

Estimate of Required Orchard Capacity

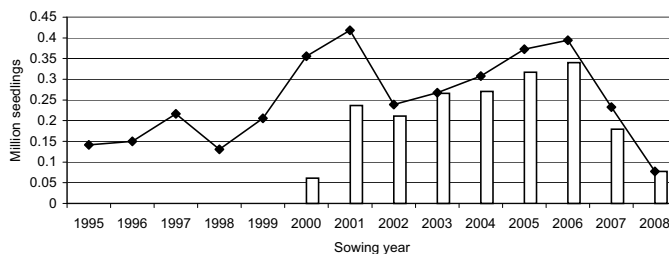
Expected annual average seedling production per ramet = 2,500	Annual planting (million seedlings) **	1.5
Seed weight (seeds/gram) = 46	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.40	Ramets required	600
Seedling recovery factor (seeds/seedling) = 2.50	Ramets required with over-capacity	780
	Projected necessary expansion	0

** Assumed demand with seed of high blister rust resistance

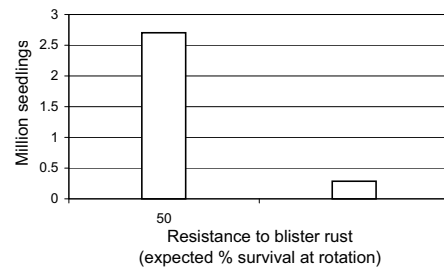
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2004 - 2008) **0.28** million
 Estimated years of class-A seed in storage **3.0** years

Seedling Use Trend - 1995 to 2008



Class A Seed in Storage



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/hti/seedmap for current inventory by Seed Planning Unit