

SPU # 24	Western Hemlock			Maritime			600 - 1100m													
Breeding and orchard production																				
Program category: First-generation																	Seedling need (million): 0.4			
filename: 24 Hw M high July 12, 2015																				
STRATEGY	First-generation open-pollinated and polycross testing. Selection of best parents for open-pollinated seed orchards. No second generation breeding planned.																			
TRAITS	Primary: Stem volume						Secondary: Stem form, wood quality													
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.																				
Polycross	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Clonal																				
F1																				
F2																				
F3																				
Production forecast (million plantables)																				
Orchards (#, owner)																				
187 WFP (SFC)	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
130 Twest	Orchard retired																			
143/196 FLNRO (Saanich)	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Vegetative prod.:																				
Phase 1																				
Phase 2																				
Estimated gain in primary trait																				
Orchards (#, owner)																				
187 WFP (SFC)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
130 Twest	Orchard retired																			
143/196 FLNRO (Saanich)	12%	12%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Vegetative prod.:																				
Phase 1																				
Phase 2																				
Total Production	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Total gain	11%	11%	11%	11%	11%	11%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Estimated orchard gain and production SPU 24 Hw M 600-1100m																				
<div style="display: flex; justify-content: space-around; align-items: center;"> ■ Actual production ■ Actual wtd. GW — Forecast seedling prod. — Est. seedling need - - - Forecast GW (primary trait) </div>																				
<p>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/hti/seedmap for current inventory by Seed Planning Unit</p>																				

Western Hemlock Maritime 600 - 1100m
 Conservation -- Seed Orchards -- Seedling Use

SPU #24

GENE CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	3,086,225	ha
Area protected within SPU	381,263	ha
Percentage of SPU area protected	12%	
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	32	

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 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	
WFP (SFC)	187	33	11%	212	221	4.0	0.77	orchard retired
TW (Mt Newton)	130					0.0	0.00	
FLNRO (Saanich)	143/196	16	13%	129	137	2.5	0.48	
Total ramets				341	358	Total production	1.25	
Vegetative propagation						Stecklings/Emblings	0.0	
						Total production	1.3	

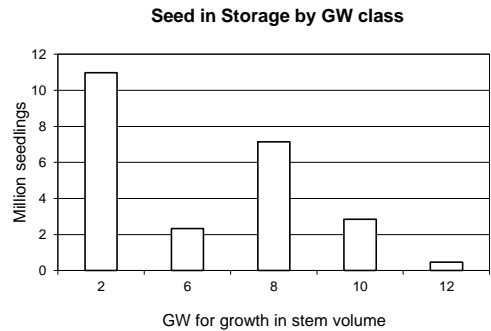
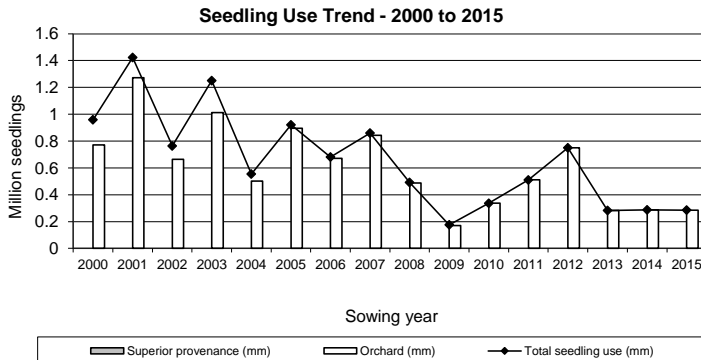
Seed and Nursery Factors

Estimate of Required Orchard Capacity

Expected annual average seedling production per ramet = 3,500	Annual planting (million seedlings)	0.4
Seed weight (seeds/gram) = 428	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.45	Ramets required	121
Seedling recovery factor (seeds/seedling) = 2.22	Ramets required with over-capacity	157
	Projected necessary expansion	0

SEEDLING USE AND SEED IN STORAGE

5-year average seedling requests to SPAR (2011 - 2015) 0.4 million years
Estimated years of class-A seed in storage 57.2 million years



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)

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