

SPU # 40 Low	Interior Spruce	Peace River	450 - 650m
Breeding and Orchard Production			
Program category: First-generation			Seedling need (million): 0.6
			Program rank: 22
filename: 40 Sx PR low July 12, 2015			

STRATEGY Parent tree selection from wild stands in the PR zone. Progeny tests using open-pollinated seed from selected parents. Focus on stem volume. Best parents, based on offspring performance on progeny tests, are selected for seed production in an open-pollinated seed orchard.

TRAITS	Primary: Stem volume	Secondary: Wood density, weevil
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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.	351	351	351	351	351	351	351	351	351	351	351	351	351	351	351	351	351	351	351	351
Polycross																				
Clonal																				
F1	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
F2																				
F3																				

Production forecast (million plantables)

Orchards (#, owner)																				
213 FLNRO (Skimikin)	2.9	3.8	4.8	5.5	6.0	6.2	6.4	6.5	6.6	6.8	7.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1

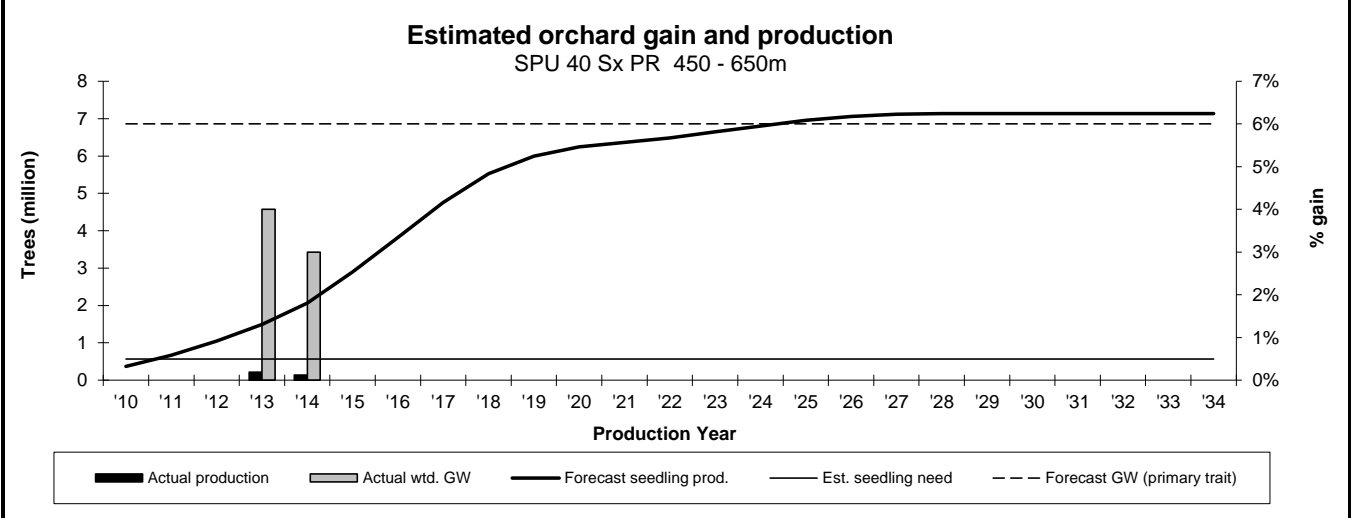
Vegetative prod.:
Phase 1
Phase 2

Estimated gain in primary trait

Orchards (#, owner)																				
213 FLNRO (Skimikin)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%

Vegetative prod.:
Phase 1
Phase 2

Total Production	2.9	3.8	4.8	5.5	6.0	6.2	6.4	6.5	6.6	6.8	7.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Total gain	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%



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

GENETIC CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	11,644,978	ha
Area protected within SPU	255,930	ha
Percentage of SPU area protected	2%	
Estimated genetic reserves with >5000 mature trees based on botanical sample data	0	
Confirmed genetic reserves with >5000 mature trees based on forest inventory data	3	

Conservation status

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

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	
FLNRO (Skimikin)	213	39	6%	1,186	1,186	40.1	7.12	Low elevation (<650m)
Total ramets				1,186	1,186	Total production	7.1	
Vegetative propagation							Stecklings/Emblings	0.0
							Total production	7.1

Seed and Nursery Factors

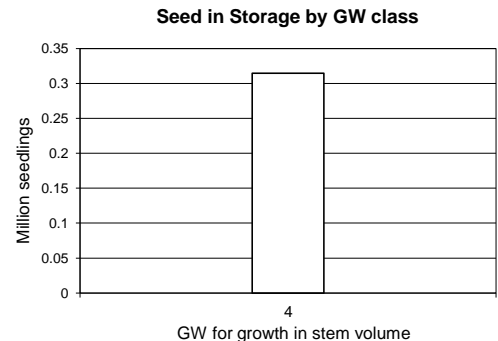
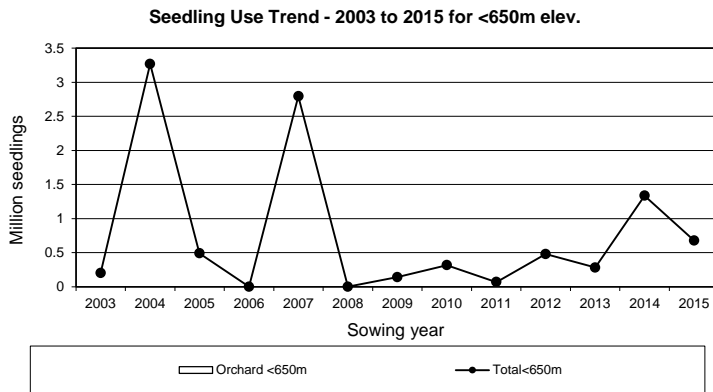
Estimate of Required Orchard Capacity

Expected annual average seedling production per ramet = 6,000	Annual planting (million seedlings)	0.6
Seed weight (seeds/gram) = 394	Planned over-production factor	1.2
Seedling recovery factor (seedlings/seed) = 0.45	Ramets required	95
Seedling recovery factor (seeds/seedling) = 2.22	Ramets required with over-capacity	114
	Projected necessary expansion	0

Progeny test data will determine whether the low-elevation need should be developed in conjunction with mid-elevation, or as a separate orchard.

SEEDLING USE AND SEED IN STORAGE

5-year average seedling requests to SPAR (2011 - 2015) **0.6** million
Estimated years of class-A seed in storage **0.6** years



- 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 an June sample.
 - For up-to-date information use SPAR, or contact the Tree Improvement Branch of the Ministry of Forests and Range

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/hti/seedmap for current inventory by Seed Planning Unit