

SPU # 10 **Interior Lodgepole Pine** **Thompson Okanagan** **700 - 1400m**

Breeding and orchard production

Seedling need (million): **9.8**

Program category: **Advanced-generation**

filename: 10 Pli TO low Aug 31/10

STRATEGY Parent-tree selection in wild stands; open-pollinated progeny tests of selected parents. Select best performing parents based on OP progeny performance in multiple field tests, with focus on stem volume and form. Best forward and backward selections used for seed orchard development. Second generation breeding focus on volume and wood density.

TRAITS Primary: **Stem volume** Secondary: **Wood density, stem form**

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

	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29
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Parents in progeny test:

Open pollin.	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443
Polycross																				
Clonal																				
F1	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
F2																				
F3																				

Production forecast (million plantables)

Orchards (#, owner)	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29
308 PRT	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0
311 PRT	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
338 PRT/SelectSeed	0.9	1.4	2.1	3.1	3.7	4.3	5.0	6.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
MFR (Skimikin) planned	0.0	0.0	0.0	0.0	0.2	0.6	1.0	1.5	2.2	2.7	3.2	3.7	4.5	5.3	5.4	5.4	5.4	5.4	5.4	5.4

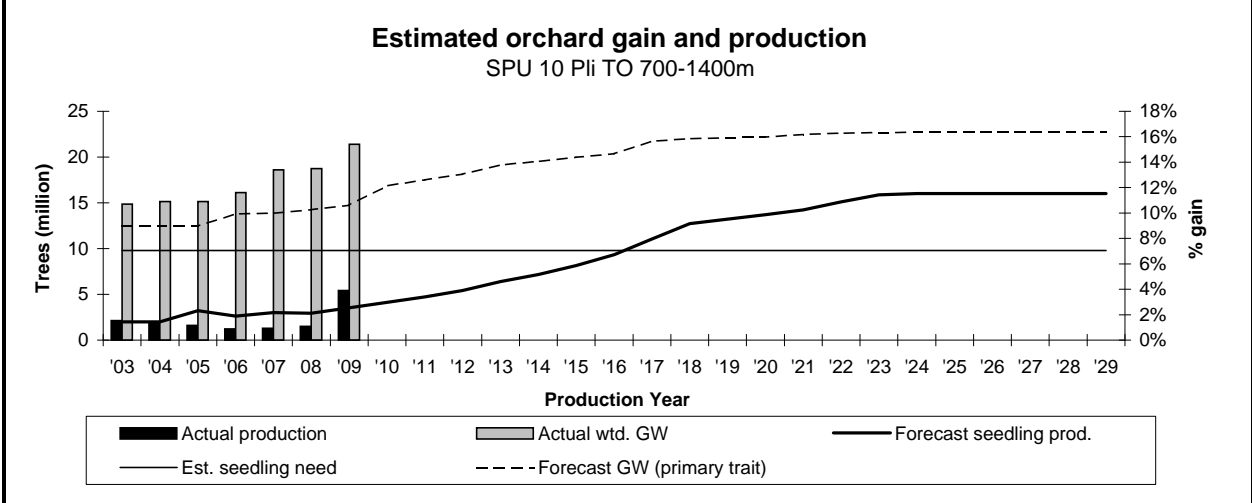
Vegetative prod.:
Phase 1
Phase 2

Estimated gain in primary trait

Orchards (#, owner)	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29
308 PRT	7%	7%	7%	8%	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
311 PRT	16%	16%	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
338 PRT/SelectSeed	16%	16%	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
MFR (Skimikin) planned	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%

Vegetative prod.:
Phase 1
Phase 2

Total Production	4.1	4.7	5.4	6.4	7.2	8.2	9.3	11.1	12.7	13.2	13.7	14.2	15.1	15.9	16.0	16.0	16.0	16.0	16.0	16.0
Total gain	12%	13%	13%	14%	14%	14%	15%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%



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

Interior Lodgepole Pine Thompson Okanagan 700 - 1400m
 Conservation -- Seed Orchards -- Seedling Use

SPU #10

GENE CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	1,307,041	ha
Area protected within SPU	123,078	ha
Percentage of SPU area protected	9%	
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	26	

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	Total Seedling Prod. million seedlings	
PRT	308	59	7%	1,307	1,321	9.9	1.98	
PRT	311	71	16%	1,009	1,047	7.9	1.57	
PRT/Selectseed	338	72	16%	4,733	4,796	36.1	7.19	
MFR (SKIM)	350	67	17%	2,930	3,614	27.2	5.42	
				Total ramets	9,979	10,778	Total production	16.17
Vegetative propagation						Stecklings/Emblings	0.0	
						Total production	16.2	

Seed and Nursery Factors

Estimate of Required Orchard Capacity

Expected annual average seedling production per ramet = 1,500	Annual planting (million seedlings)	9.8
Seed weight (seeds/gram) = 249	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.80	Ramets required	6,524
Seedling recovery factor (seeds/seedling) = 1.25	Ramets required with over-capacity	8,482
	Projected necessary expansion	0

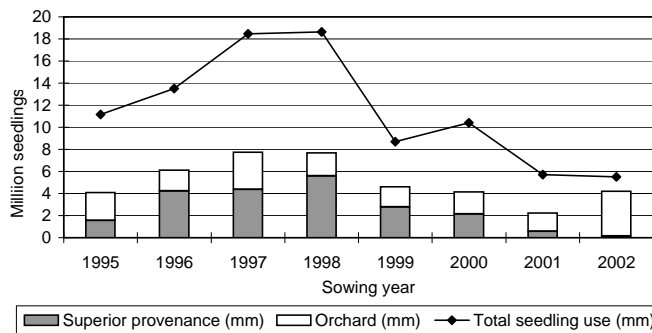
Superior provenances (B+) suitable for this Seed Planning Unit

Canoe Creek, Cartwright Lake, Champion Lakes, China Valley, Inonoaklin Creek, Larch Hills, Lossie Creek, Marl Creek, Rocky Mtn. Trench, Wentworth Creek

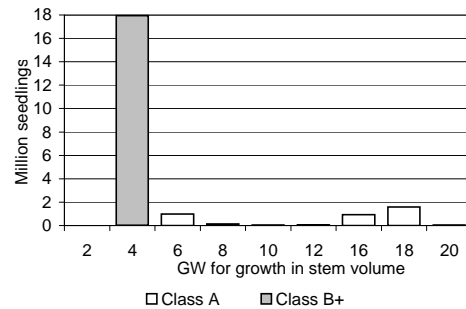
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2006 - 2010) **9.8** million
 Estimated years of class-A seed in storage **0.38** years

Seedling Use Trend - 1995 to 2010



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

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