

SPU # 10 **Interior Lodgepole Pine** **Thompson Okanagan** **700 - 1400m**
Breeding and orchard production
Seedling need (million): 14.4
Program category: Advanced-generation filename: 10 Pli TO low June 30/08

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)**

	'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.	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)	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27
308 PRT	1.9	2.0	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
311 PRT	1.0	1.2	1.4	1.5	1.7	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
338 PRT/SelectSeed	0.0	0.3	0.9	1.4	2.2	2.9	3.5	4.0	4.7	5.3	6.2	6.9	7.7	8.1	8.5	8.6	8.6	8.6	8.6	8.6
MFR (Skimikin) planned		0.0	0.0	0.0	0.0	0.0	0.3	0.7	1.2	1.8	2.4	2.9	3.3	3.9	4.4	5.2	5.8	6.4	6.8	7.1

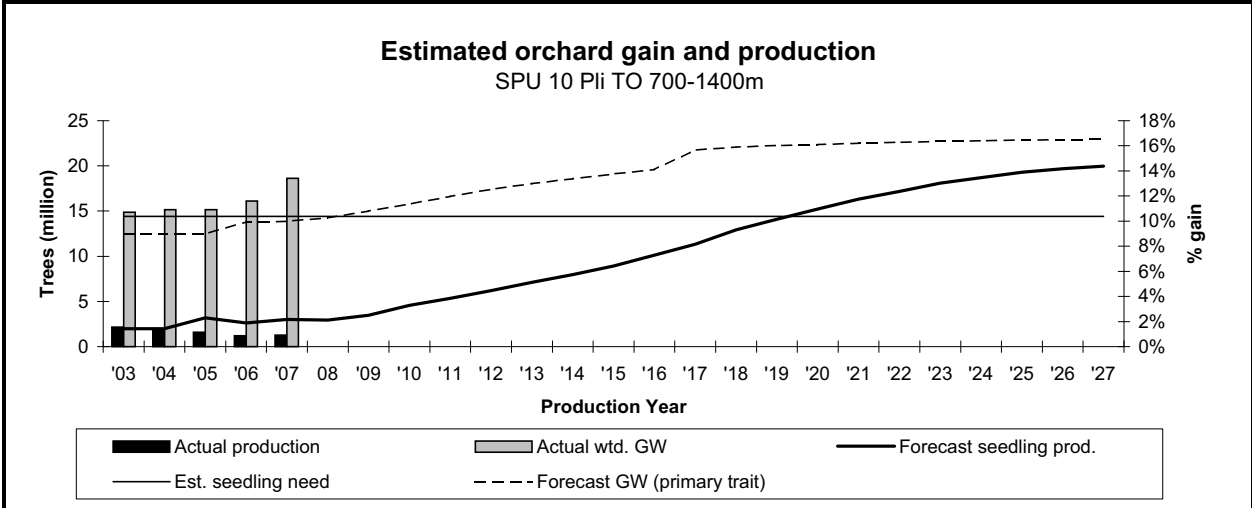
Vegetative prod.:
Phase 1
Phase 2

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
308 PRT	7%	7%	7%	7%	7%	7%	7%	7%	7%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
311 PRT	16%	16%	16%	16%	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
338 PRT/SelectSeed	16%	16%	16%	16%	16%	16%	16%	16%	16%	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%

Vegetative prod.:
Phase 1
Phase 2

Total Production	2.9	3.5	4.6	5.3	6.2	7.1	8.0	8.9	10.1	11.3	12.9	14.1	15.2	16.3	17.2	18.1	18.7	19.3	19.7	20.0
Total gain	10%	11%	11%	12%	13%	13%	13%	14%	14%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	17%



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	47	7%	1,200	1,322	10.0	1.98	Planned
PRT	311	65	16%	1,046	1,047	7.9	1.57	
PRT/Selectseed	338	72	16%	4,524	4,796	36.1	7.19	
MoFR (SKIM)				0	4,000	30.1	6.00	
Total ramets				6,770	11,165	Total production	16.75	
Vegetative propagation						Stecklings/Emblings	0.0	
						Total production	16.7	

Seed and Nursery Factors

Estimate of Required Orchard Capacity

Expected annual average seedling production per ramet = 1,500	Annual planting (million seedlings)	14.4
Seed weight (seeds/gram) = 249	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.80	Ramets required	9,598
Seedling recovery factor (seeds/seedling) = 1.25	Ramets required with over-capacity	12,477
	Projected necessary expansion	1,312

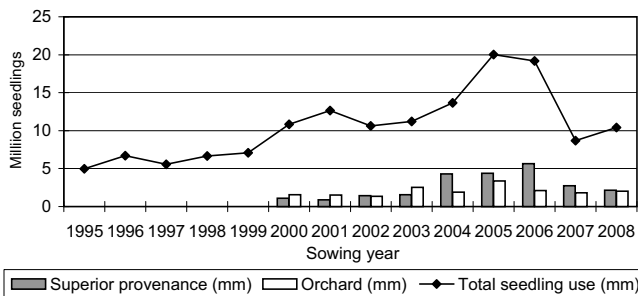
Superior provenances (B+) suitable for this Seed Planning Unit

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

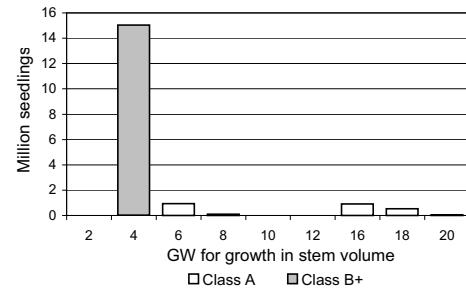
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2004 - 2008) **14.4** million
 Estimated years of class-A seed in storage **0.18** years

Seedling Use Trend - 1995 to 2008



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

- Notes:**
- Seedling use data prior to the 2000 sowing year are estimated from old seed planning zones and are approximate.
 - 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)

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