

**SPU # 10**      **Interior Lodgepole Pine**      **Thompson Okanagan**      **700 - 1400m**  
 Breeding and orchard production

**Seedling need (million): 5.6**

**Program category: Advanced-generation**

filename: 10 Pli TO low July 12, 2015

**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)**

	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34
<b>Parents in progeny test:</b>																				
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)																				
308 PRT	Orchard retired																			
311 PRT	1.1	1.1	1.1																	
	Orchard to be retired																			
338 PRT/SelectSeed	4.8	5.1	5.3	5.4	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
350 FLNRO (Skimikin)	0.4	0.7	1.0	1.5	1.9	2.2	2.6	3.3	3.7	4.0	4.1	4.2	4.2	4.3	4.3	4.4	4.4	4.4	4.4	4.4

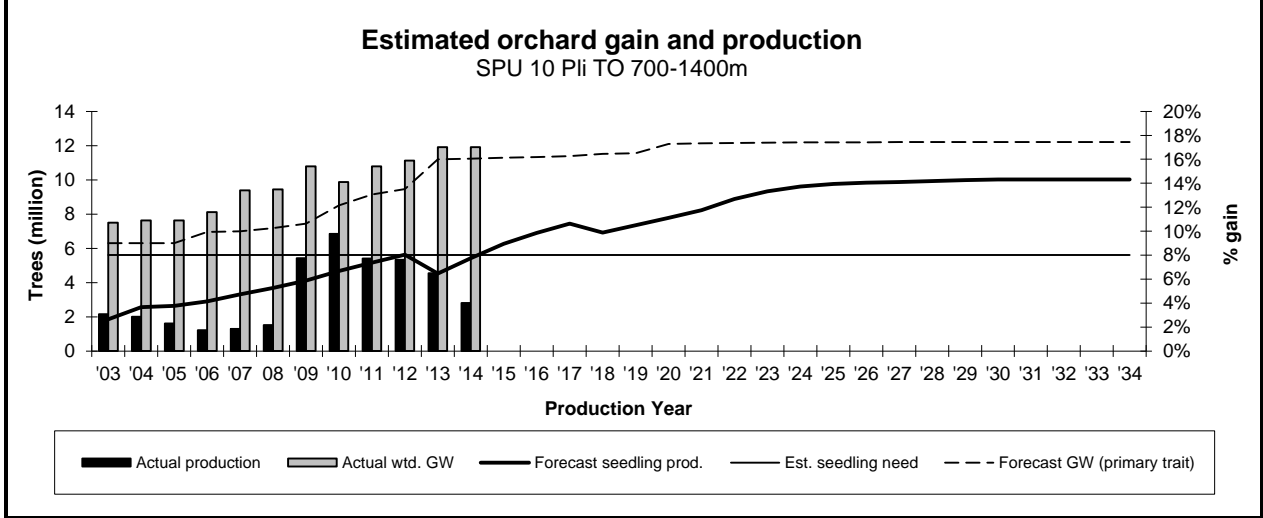
**Vegetative prod.:**  
 Phase 1  
 Phase 2

**Estimated gain in primary trait**

Orchards (#, owner)																				
308 PRT																				
311 PRT	16%	16%	16%																	
338 PRT/SelectSeed	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
350 FLNRO (Skimikin)	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

<b>Total Production</b>	6.3	6.9	7.5	6.9	7.4	7.8	8.2	8.9	9.3	9.6	9.8	9.8	9.9	9.9	10.0	10.0	10.0	10.0	10.0	10.0
<b>Total gain</b>	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	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 Lands and Natural Resource Operations to confirm data. See SeedMap on [www.for.gov.bc.ca/hti/seedmap](http://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	<b>1,307,041</b>	<b>ha</b>
Area protected within SPU	<b>123,078</b>	<b>ha</b>
Percentage of SPU area protected	<b>9%</b>	
Estimated genetic reserves with >5000 mature trees based on botanical sample data	<b>&gt;9</b>	
Confirmed genetic reserves with >5000 mature trees based on forest inventory data	<b>26</b>	

**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	Orchard retired
PRT	308			0	0	0.0	<b>0.00</b>	
PRT	311	71	17%	992	1,047	7.8	<b>1.27</b>	
PRT/Selectseed	338	72	16%	4,671	4,796	35.6	<b>5.80</b>	
FLNRO (SKIM)	350	64	18%	3,315	3,614	26.8	<b>4.37</b>	
<b>Total ramets</b>				<b>8,978</b>	<b>9,457</b>	<b>Total production</b>	<b>11.44</b>	

Vegetative propagation	<b>Stecklings/Emblings</b>	<b>0.0</b>
	<b>Total production</b>	<b>11.4</b>

**Seed and Nursery Factors**

**Estimate of Required Orchard Capacity**

Expected annual average seedling production per ramet = 1,210	<b>Annual planting (million seedlings)</b>	<b>5.6</b>
Seed weight (seeds/gram) = 253	<b>Planned over-production factor</b>	<b>1.3</b>
Seedling recovery factor (seedlings/seed) = 0.65	<b>Ramets required</b>	<b>4,634</b>
Seedling recovery factor (seeds/seedling) = 1.55	<b>Ramets required with over-capacity</b>	<b>6,024</b>
	<b>Projected necessary expansion</b>	<b>0</b>

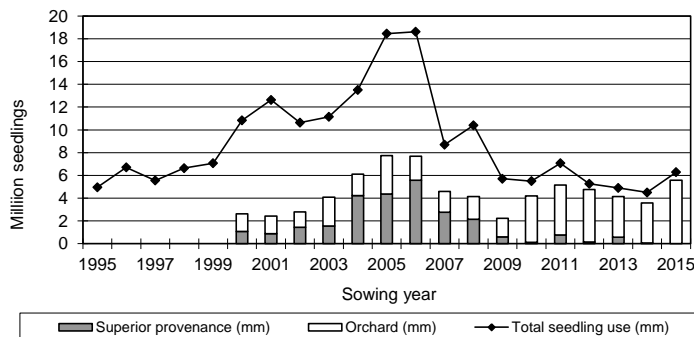
**Superior provenances (B+) suitable for this Seed Planning Unit**

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

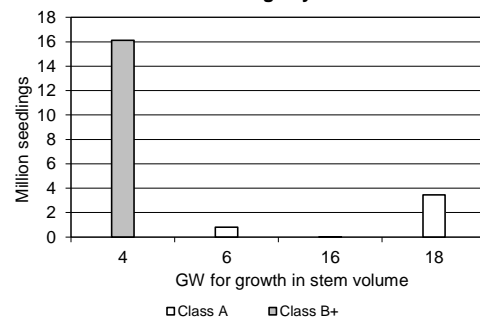
**SEEDLING USE AND SEED IN STORAGE**

**Average 5-year seedling use from SPAR (2011 - 2015)**      **5.6 million years**  
**Estimated years of class-A seed in storage**      **0.76 years**

**Seedling Use Trend - 1995 to 2015**



**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

- 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)

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](http://www.for.gov.bc.ca/hti/seedmap) for current inventory by Seed Planning Unit