

<b>SPU # 18</b>	<b>Interior Lodgepole Pine</b>	<b>Central Plateau</b>	<b>700-1300m</b>
<b>Breeding and orchard production</b>			
Adjusted for new Parent Tree Area of use. Previously 700-1100m			<b>Seedling need (million): 17.9</b>
<b>Program category: Advanced-generation</b>			
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**STRATEGY** Parent-tree selection in wild stands; OP testing to rank parents for second-gen breeding and seed orchards; breeding for growth and wood density; forward selections from second-gen testing based on growth for third-gen breeding and advanced-gen seed orchards; screen families for disease resistance.

<b>TRAITS</b>	<b>Primary: Stem volume</b>	<b>Secondary: Wood density</b>
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<b>TESTING AND PRODUCTION</b>	<b>Production Year (July 1 to June 30) -- (Cone harvest year shown)</b>																			
	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36

<b>Parents in progeny test:</b>																				
Open pollin.	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277
Polycross																				
Clonal																				
F1	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
F2					80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
F3																				

<b>Production forecast (million plantables)</b>																				
<b>Orchards (#, owner)</b>																				
201 FLNR (PGTIS) (+202)	Orchard retired																			
218 VSOC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
223 FLNRO (PGTIS)	Orchard to be retired																			
238 KRISO/SelectSeed	2.7	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
241 Sorrento/SelectSeed	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
246 VSOC Quesnel	0.0	0.1	0.2	0.5	0.8	1.1	1.5	1.8	2.2	2.6	2.9	3.2	3.3	3.3	3.2	3.2	3.2	3.1	3.1	3.1
352 FLNRO Skimikin	0.6	0.9	1.1	1.3	1.6	1.9	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2

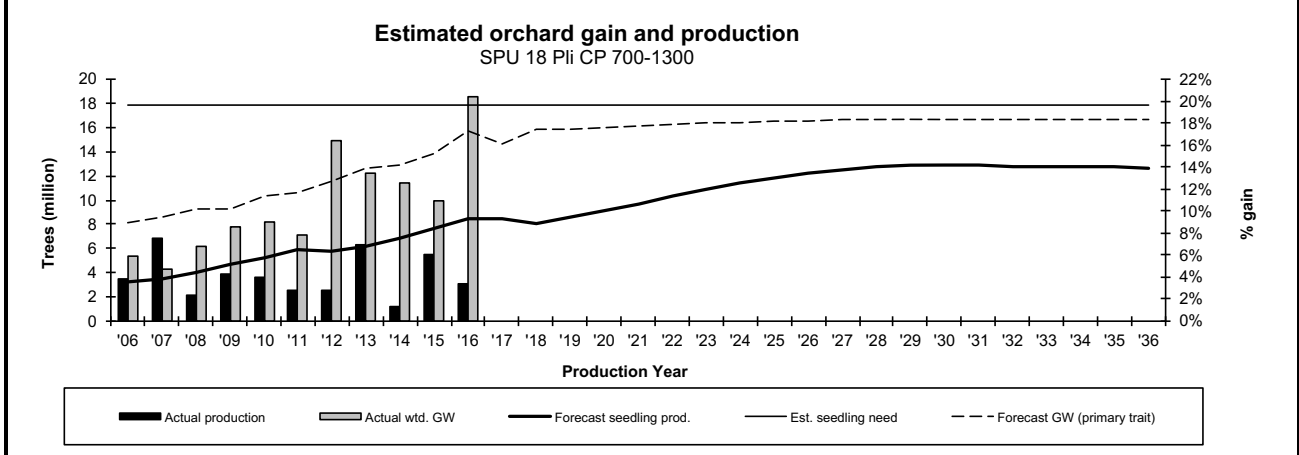
**Vegetative prod.:**  
Phase 1  
Phase 2

**Estimated gain in primary trait**

<b>Orchards (#, owner)</b>																				
218 VSOC	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
223 FLNRO (PGTIS)	6%																			
238 KRISO/SelectSeed	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
241 Sorrento/SelectSeed	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
246 VSOC Quesnel	16%	18%	18%	18%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
352 FLNRO Skimikin	Rust resistant orchard - not included in GWg line in graph below																			

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

<b>Total Production</b>	8.4	8.0	8.5	9.1	9.7	10.3	10.9	11.4	11.8	12.2	12.6	12.8	12.9	12.9	12.9	12.8	12.8	12.8	12.7	12.7
<b>Total gain</b>	16%	17%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%



The above forecasts are based on orchard status, seed inventories and seed use as of June, the year of publication, and are subject to change. Refer to the seed Planning and Registry System (SPAR) or contact the orchard manager for current seed inventories. Contact the Forest Improvement and Research Mgt. Branch, Ministry of Forests, Lands, Natural Resource Operations and Rural Development, to confirm data if used for silviculture or timber-supply planning.

**Interior Lodgepole Pine Central Plateau 700-1300m**  
Conservation -- Seed Orchards -- Seedling Use

**SPU #18**

**GENETIC CONSERVATION STATUS**

**Conservation statistics**

Seed planning unit (SPU) area	<b>2,106,646</b>	<b>ha</b>
Area protected within SPU	<b>151,237</b>	<b>ha</b>
Percentage of SPU area protected	<b>7%</b>	
Estimated genetic reserves with >5000 mature trees based on botanical sample data	<b>&gt;2</b>	
Confirmed genetic reserves with >5000 mature trees based on forest inventory data	<b>20</b>	

**Conservation status**

Current in-situ protection status: **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	
VSOC (Vernon)	218	61	10%	3,000	3,009	16.1	<b>2.71</b>	
FLNRO (PGTIS)	223	40	6%	788	788	5.7	<b>0.95</b>	
KRSO/SelectSeed	238	72	22%	2,923	3,100	18.5	<b>3.10</b>	
Sorrento/SelectSeed	241	80	22%	1,975	2,000	10.7	<b>1.80</b>	
VSOC (Quesnel)	246	28	18%	1,818	2,539	21.9	<b>3.68</b>	
FLNRO (Skimikin)	352	72	?	2,229	2,246	13.4	<b>2.25</b>	Increased rust resistance
Orchard 352 is seed is also suitable in the PG zone. Half the orchard ramets are represented here and half in the PG zone								
<b>Total ramets</b>				<b>12,733</b>	<b>13,682</b>	<b>Total production</b>	<b>14.49</b>	
Vegetative propagation						<b>Stecklings/Emblings</b>	<b>0.0</b>	
						<b>Total production</b>	<b>14.5</b>	

**Seed and Nursery Factors**

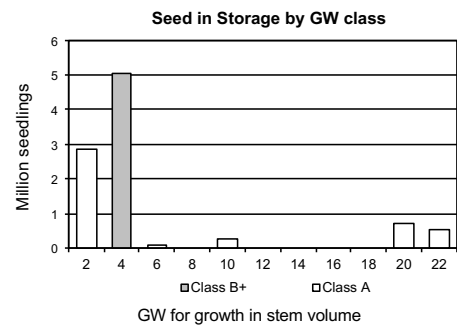
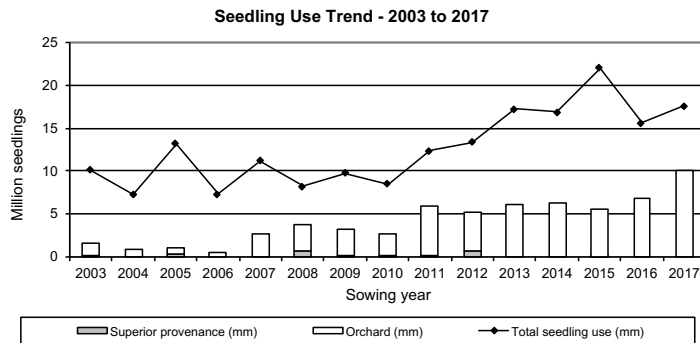
**Estimate of Required Orchard Capacity**

Expected annual average seedling production per ramet = 1,059	<b>Annual planting (million seedlings)</b>	<b>17.9</b>
Seed weight (seeds/gram) = 252	<b>Planned over-production factor</b>	<b>1.3</b>
Seedling recovery factor (seedlings/seed) = 0.67	<b>Ramets required</b>	<b>16,866</b>
Seedling recovery factor (seeds/seedling) = 1.50	<b>Ramets required with over-capacity</b>	<b>21,926</b>
	<b>Projected necessary expansion</b>	<b>8,244</b>

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

**SEEDLING USE AND SEED IN STORAGE**

**Average 5-year seedling use from SPAR (2013 - 2017)** **17.9 million**  
**Estimated years of class-A seed in storage** **0.2 years**



- Notes:
- "Reserve" and "Available" seed in the Seed Planning and Registry System (SPAR) are included.
  - Class A = seed orchard; Class B+ = superior provenance; Class B = wild stand seed.
  - Genetic Wroth (GW) for growth means the projected additional wood volume available at rotation compared to using Class B seed.

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