

**SPU # 16**      **Interior Lodgepole Pine**      **Thompson/Okanagan**      **1400 - 1600m**

**Seedling need (million): 8.1**

**Program Category: First-generation**

filename: 16 Pli TO high July 12, 2015

**STRATEGY**      Selection of parent trees in wild stands. Open-pollinated progeny tests on multiple sites. Selection for seed orchards of best parents and offspring, with a focus on stem volume and form. No second generation breeding planned.

**TRAITS**      **Primary: Stem volume**      **Secondary: Wood density**

**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.	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277
Polycross																			
Clonal																			
F1																			
F2																			
F3																			

**Production forecast (million plantables)**

<b>Orchards (#, owner)</b>																			
310 Tolko (Eagle Rock)	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
339 Tolko/SelectSeed	3.6	3.8	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1

**Vegetative prod.:**

Phase 1  
Phase 2

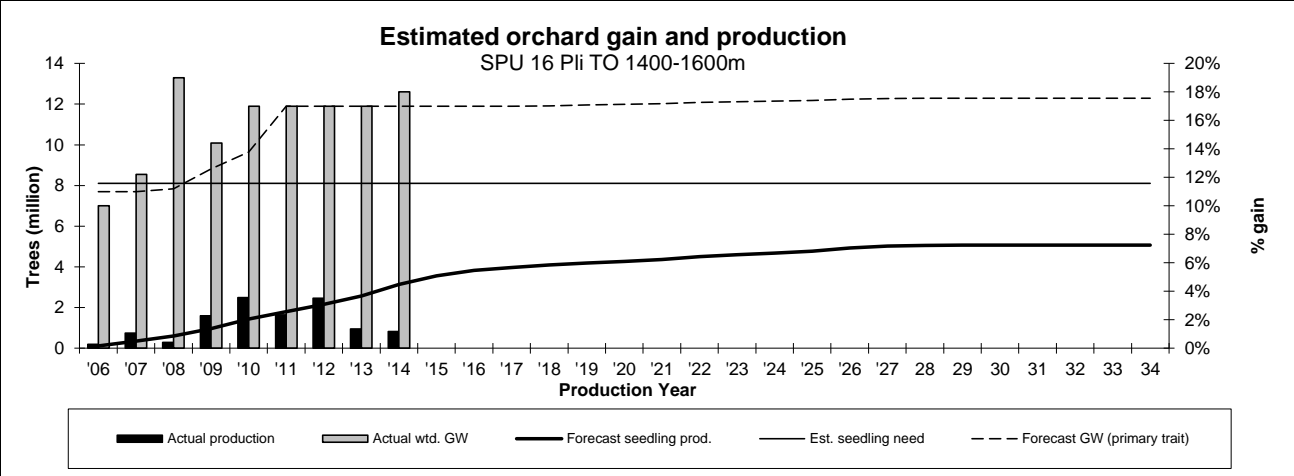
**Estimated gain in primary trait**

<b>Orchards (#, owner)</b>																			
310 Tolko (Eagle Rock)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
339 Tolko/SelectSeed	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%

**Vegetative prod.:**

Phase 1  
Phase 2

<b>Total Production</b>	3.6	3.8	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.1	5.1	5.1	5.1	5.1
<b>Total gain</b>	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	18%	18%	18%	18%	18%	18%	18%



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

**Interior Lodgepole Pine Thompson/Okanagan 1400 - 1600m**  
Conservation -- Seed Orchards -- Seedling Use

**SPU #16**

**GENETIC CONSERVATION STATUS**

**Conservation statistics**

Seed planning unit (SPU) area	<b>1,078,457</b>	<b>ha</b>
Area protected within SPU	<b>109,847</b>	<b>ha</b>
Percentage of SPU area protected	<b>10%</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>26</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
Tolko (Eagle Rock)	310	45	20%	930	950	7.5	1.15
Tolko/SelectSeed	339	61	17%	3,480	3,504	27.5	4.24
<b>Total ramets</b>				<b>4,410</b>	<b>4,454</b>	<b>Total production</b>	<b>5.39</b>
Vegetative propagation						<b>Stecklings/Emblings</b>	<b>0.0</b>
						<b>Total production</b>	<b>5.4</b>

**Seed and Nursery Factors**

**Estimate of Required Orchard Capacity**

Expected annual average seedling production per ramet = 1,210	Annual planting (million seedlings)	8.1
Seed weight (seeds/gram) = 239	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.65	Ramets required	6,693
Seedling recovery factor (seeds/seedling) = 1.55	Ramets required with over-capacity	8,701
	Projected necessary expansion	4,247

**Note:**

Additional testing of local seed sources and selected families started in 2003 for high elevation areas in the west side of the TO zone. Objectives include refinement of seed transfer guidelines, and locating superior stands for cone collection.

**SEEDLING USE AND SEED IN STORAGE**

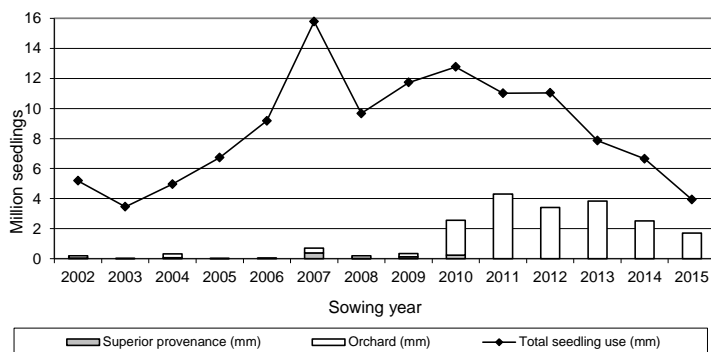
**Average 5-year seedling use from SPAR (2011 - 2015)**

**8.1 million**

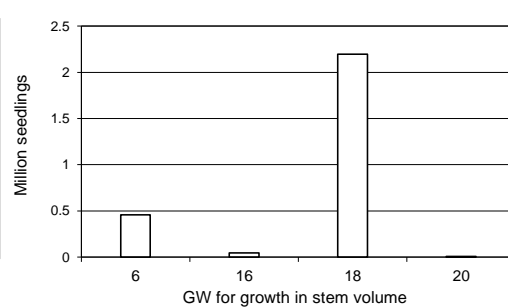
**Estimated years of class-A seed in storage**

**0.3 years**

**Seedling Use Trend - 1995 to 2015**



**Seed in Storage by GW class**



**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: Aug 1 to July 31 (i.e. 2015 sowing year starts Aug 1, 2014)

**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

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