

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

Seedling need (million): 5.5

Program Category: First-generation

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STRATEGY Use OP tests for SPU# 10 (TO Low) to select best families with origins over 1200m elevation to include in seed orchards. Establish a set of family provenance trials in the SPU as a source of future material for seed orchards. Select on growth. No second-gen breeding and testing.

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

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

	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36
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	277
Polycross																				
Clonal																				
F1																				
F2																				
F3																				

Production forecast (million plantables)

Orchards (#, owner)	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36
310 Tolko (Eagle Rock)	0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
339 Tolko/SelectSeed	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4

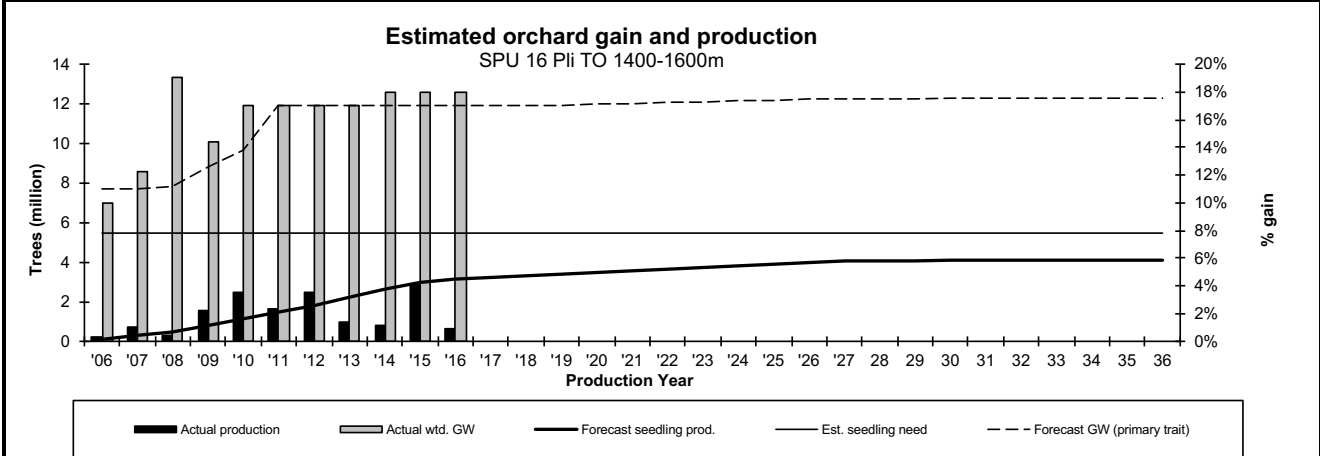
Vegetative prod.:
Phase 1
Phase 2

Estimated gain in primary trait

Orchards (#, owner)	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36
310 Tolko (Eagle Rock)	20%	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%	17%

Vegetative prod.:
Phase 1
Phase 2

Total Production	3.2	3.3	3.4	3.5	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Total gain	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	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 Thompson/Okanagan 1400 - 1600m Conservation -- Seed Orchards -- Seedling Use

SPU #16

GENETIC CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	1,078,457	ha
Area protected within SPU	109,847	ha
Percentage of SPU area protected	10%	
Estimated genetic reserves with >5000 mature trees based on botanical sample data	>2	
Confirmed genetic reserves with >5000 mature trees based on forest inventory data	26	

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/cfg/>

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%	742	950	6.0	0.95
Tolko/SelectSeed	339	61	17%	3,357	3,480	21.8	3.48
Total ramets							4.43
Vegetative propagation						Stecklings/Emblings	0.0
						Total production	4.4

Seed and Nursery Factors

Estimate of Required Orchard Capacity

Expected annual average seedling production per ramet = 1,000	Annual planting (million seedlings)	5.5
Seed weight (seeds/gram) = 239	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.67	Ramets required	5,467
Seedling recovery factor (seeds/seedling) = 1.50	Ramets required with over-capacity	7,107
	Projected necessary expansion	2,677

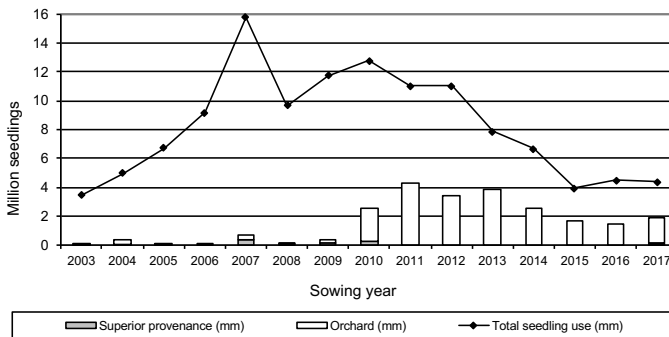
Note:

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.

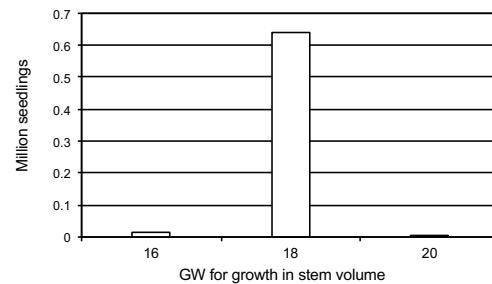
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2013 - 2017) 5.5 million
Estimated years of class-A seed in storage 0.1 years

Seedling Use Trend - 2003 to 2017



Seed in Storage by GW class



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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