

SPU # 7 **Interior Lodgepole Pine** **Nelson** **700 - 1400m**
 Breeding and orchard production
Seedling need (million): 3.1
Program category: Advanced-generation
 filename: 7 Pli NE low June 30.08

STRATEGY Parent-tree selection in wild stands; progeny testing wind-pollinated seeds from selected parents; focus on stem volume. 1.5 gen seed orchard with forward or backward selections from progeny tests. Second generation breeding focus on volume and wood density.

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

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.	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286
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
307 MoFR (Kalamalka)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
313 PRT (Grandview)	1.0	1.2	1.4	1.5	1.7	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
337 PRT/SelectSeed	0.2	0.3	0.5	0.6	0.7	0.8	1.0	1.1	1.3	1.5	1.6	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
347 MFR (Kalamalka)			0.0	0.0	0.0	0.0	0.1	0.4	0.6	0.9	1.3	1.5	1.7	2.0	2.3	2.7	3.0	3.4	3.6	3.7

Vegetative prod.:

Phase 1

Phase 2

Estimated gain in primary trait

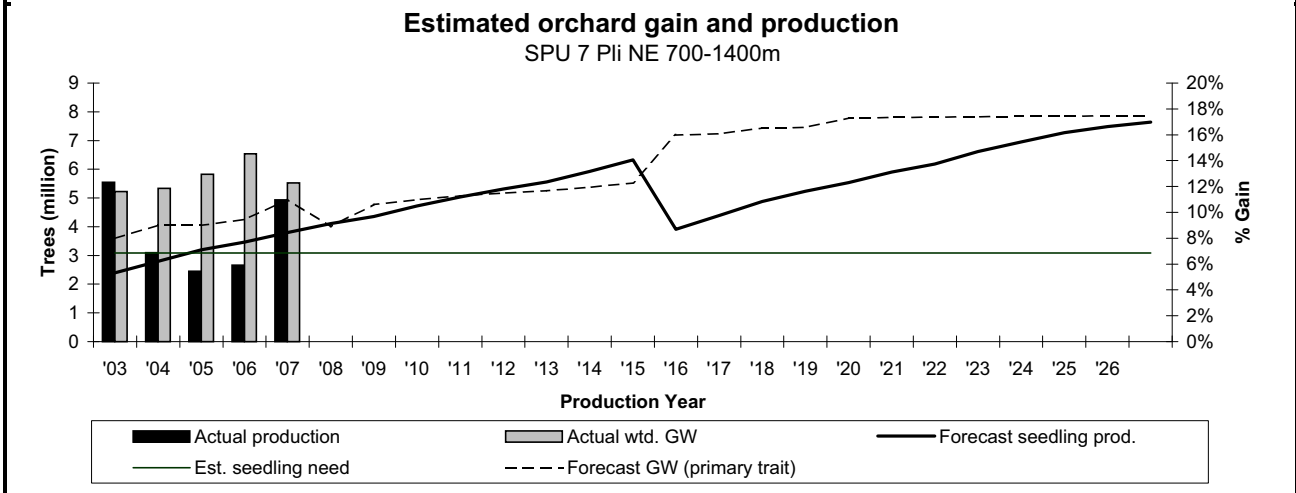
Orchards (#, owner)	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27
307 MoFR (Kalamalka)	6%	8%	8%	8%	8%	8%	8%	8%												
313 PRT (Grandview)	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%
337 PRT/SelectSeed	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	16%	16%	17%	17%	17%	17%	17%	17%	17%
347 MFR (Kalamalka)			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	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.3	3.9	4.4	4.9	5.2	5.5	5.9	6.2	6.6	6.9	7.3	7.5	7.6
Total gain	9%	11%	11%	11%	12%	12%	12%	12%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	0.2



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/ht/seedmap for current inventory by Seed Planning Unit

Interior Lodgepole Pine Nelson 700 - 1400m
 Conservation -- Seed Orchards -- Seedling Use

SPU #7

GENE CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	2,049,372	ha
Area protected within SPU	131,798	ha
Percentage of SPU area protected	6%	
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	27	

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
MoFR (Kalamalka)	307	64	6%	1,656	0	0.0	0.00
PRT (Grandview)	313	40	16%	1,171	1,178	8.9	1.77
PRT/SelectSeed	337	38	14%	998	1,000	7.5	1.50
MoFR (Kalamalka)	347	40	TBD	0	2,100	15.8	3.15
				Total ramets	3,825	Total production	6.42
Vegetative propagation						Stecklings/Emblings	0.0
						Total production	6.4

Seed and Nursery Factors

Estimate of Required Orchard Capacity

Expected annual average seedling production per ramet = 1,500	Annual planting (million seedlings)	3.1
Seed weight (seeds/gram) = 249	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.80	Ramets required	2,057
Seedling recovery factor (seeds/seedling) = 1.25	Ramets required with over-capacity	2,674
	Projected necessary expansion	0

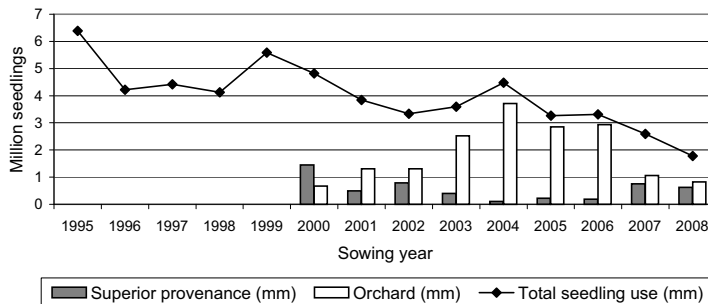
Superior provenances (B+) suitable for this Seed Planning Unit

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

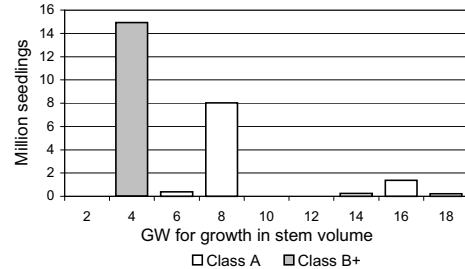
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2004 - 2008) 3.1 million
Estimated years of class-A seed in storage 3.3 years

Seedling Use Trend - 1995 to 2008



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: July 1 to June 30 (i.e. 2006 sowing year starts July 1, 2005)

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 Julne sample.
- For up-to-date information use SPAR, or contact the Tree Improvement Branch of the Ministry of Forests and Range

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