

SPU # 13	Western Larch Nelson 700 - 1600m
Breeding and orchard production	
Adjusted for new Parent Tree Area of use. Previously 700-1400m	
Program category: Advanced-generation	Seedling need (million): 2.5
filename: 13 Lw NE low July 12, 2015	

STRATEGY Parent tree selection in wild stands; open-pollinated progeny tests. Selection of best parents for seed orchards. Open-pollinated seed production in orchards. Focus on volume while maintaining wood relative density (RD).

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

Parents in progeny test:

Open pollin.	357	357	357	357	357	357	357	357	357	357	357	357	357	357	357	357	357	357	357	357
Polycross																				
Clonal																				
F1 (144 FS families)	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
F2																				
F3																				

(selections for orchard)

Production forecast (million plantables)

Orchards (#, owner)	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34
332 FLNRO (Kalamalka)	6.5	6.9	7.2	7.5	7.8	8.1	8.4	8.6	8.8	8.9	9.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1

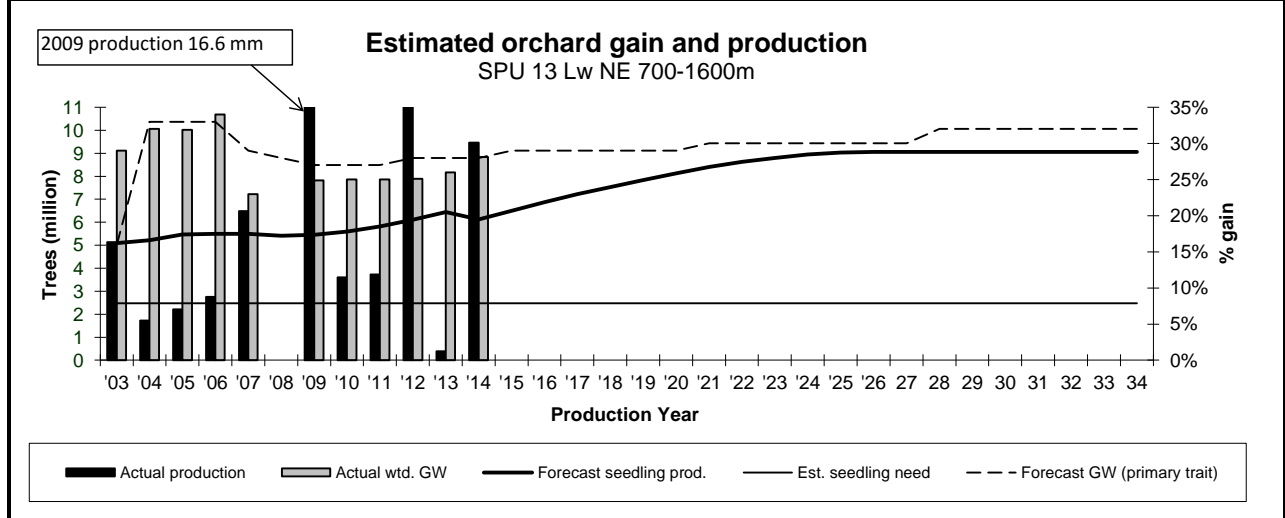
Vegetative prod.:
Phase 1
Phase 2

Estimated gain in primary trait

Orchards (#, owner)	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34
332 FLNRO (Kalamalka)	29%	29%	29%	29%	29%	30%	30%	30%	30%	30%	30%	30%	32%	32%	32%	32%	32%	32%	32%	32%

Vegetative prod.:
Phase 1
Phase 2

Total Production	6.5	6.9	7.2	7.5	7.8	8.1	8.4	8.6	8.8	8.9	9.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
Total gain	29%	29%	29%	29%	29%	30%	30%	30%	30%	30%	30%	30%	32%	32%	32%	32%	32%	32%	32%	32%



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 for current inventory by Seed Planning Unit

Western Larch Nelson 700 - 1600m
 Conservation -- Seed Orchards -- Seedling Use

SPU #13

GENE CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	1,785,807	ha
Area protected within SPU	89,171	ha
Percentage of SPU area protected	5%	
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	13	

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
FLNRO (Kalamalka)	332	50	29%	1,703	1,703	84.8	9.2
Total ramets				1,703	1,703	Total production	9.20

Vegetative propagation	Stecklings/Emblings	0.0
	Total production	9.2

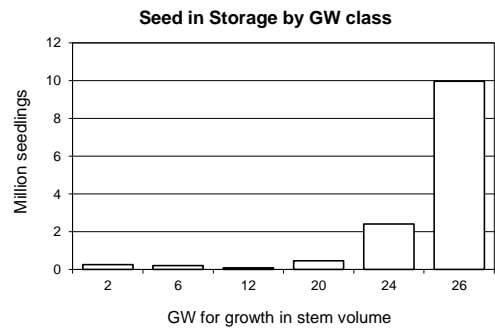
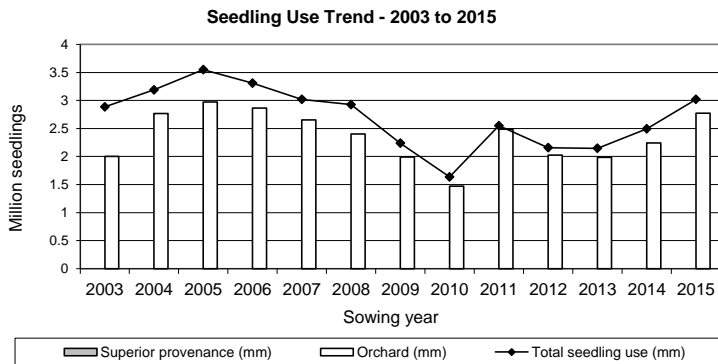
Seed and Nursery Factors

Estimate of Required Orchard Capacity

Expected annual average seedling production per ramet = 5,400	Annual planting (million seedlings)	2.5
Seed weight (seeds/gram) = 241	Planned over-production factor	1.3
Seedling recovery factor (seedlings/seed) = 0.45	Ramets required	458
Seedling recovery factor (seeds/seedling) = 2.22	Ramets required with over-capacity	596
	Projected necessary expansion	0

SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2011 - 2015) 2.5 million
Estimated years of class-A seed in storage 5.4 years



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 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/htl/seedmap for current inventory by Seed Planning Unit