

SPU # 22 **Interior Douglas Fir** **Nelson** **1000 - 1800m**
Breeding and orchard production Note overlap with SPU 21
Adjusted for new Parent Tree Area of use. Previously 1000-1600m **Seedling need (million): 1.8**
Program category: First-generation filename: 22 Fdi NE high Aug 31/10

STRATEGY Parent-tree selections from wild stands tested in open-pollinated progeny tests. Best parents selected for seed orchard development. Focus on stem volume while maintaining wood density. Tests in this zone are merged from the old West Kootenay, Shuswap Adams, and Mica zones. 2nd generation breeding.

TRAITS **Primary: Stem volume** **Secondary: Wood density, Armillaria resistance**

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

	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29
Parents in progeny test:																				
Open pollin.	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208
Polycross																				
Clonal																				
F1		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
F2																				
F3																				

Production forecast (million plantables)

Orchards (#, owner)	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29
324 MFR (Kalamalka)	1.5	2.0	2.5	3.0	3.4	3.7	4.0	4.4	4.7	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1

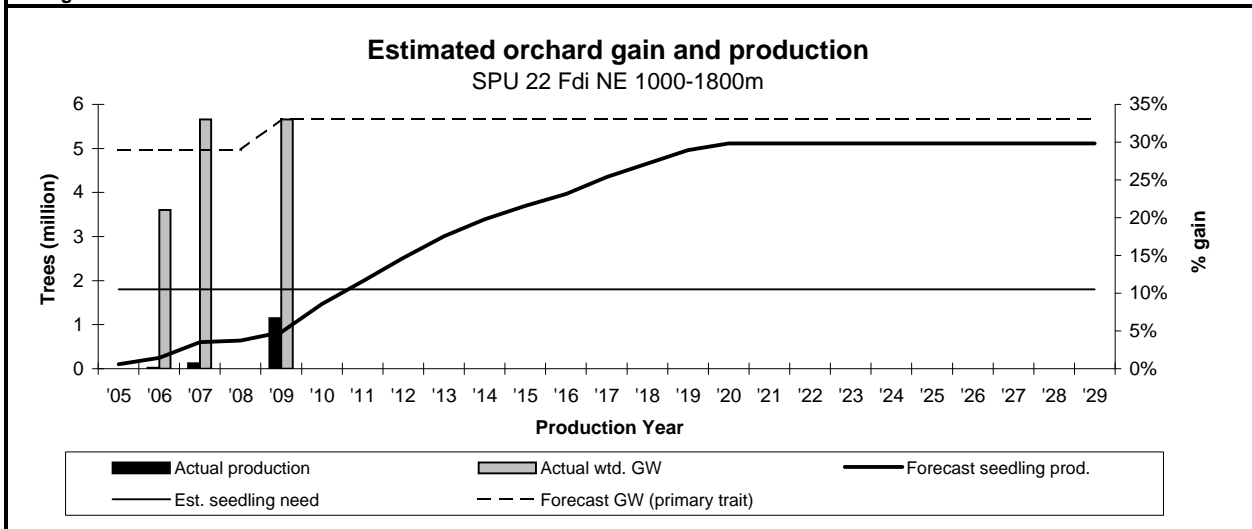
Vegetative prod.:
Phase 1
Phase 2

Estimated gain in primary trait

Orchards (#, owner)	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29
324 MFR (Kalamalka)	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	0.33

Vegetative prod.:
Phase 1
Phase 2

Total Production	1.5	2.0	2.5	3.0	3.4	3.7	4.0	4.4	4.7	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Total gain	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%



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

Interior Douglas Fir Nelson 1000 - 1800m
 Conservation -- Seed Orchards -- Seedling Use

SPU #22

GENE CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	1,839,444	ha
Area protected within SPU	130,616	ha
Percentage of SPU area protected	7%	
Estimated genetic reserves with >5000 mature trees based on botanical sample data	>4	
Confirmed genetic reserves with >5000 mature trees based on forest inventory data	30	

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/cf/gc/>

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
MFR (Kalamalka)	324	40	33%	3,025	3,350	118.9	5.70
Total ramets				3,025	3,350	Total production	5.70

Vegetative propagation	Stecklings/Emblings	0.0
	Total production	5.7

Seed and Nursery Factors

Expected annual average seedling production per ramet = 1,700
Seed weight (seeds/gram) = 86
Seedling recovery factor (seedlings/seed) = 0.56
Seedling recovery factor (seeds/seedling) = 1.79

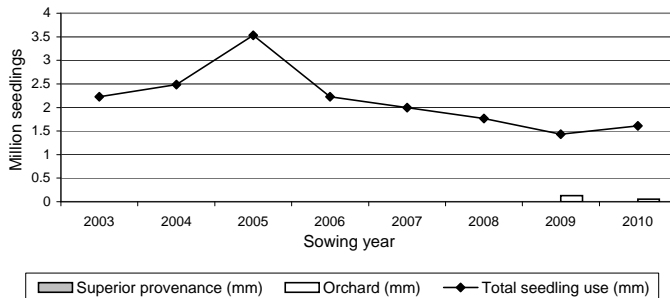
Estimate of Required Orchard Capacity

Annual planting (million seedlings)	1.8
Planned over-production factor	1.3
Ramets required	1,061
Ramets required with over-capacity	1,380
Projected necessary expansion	0

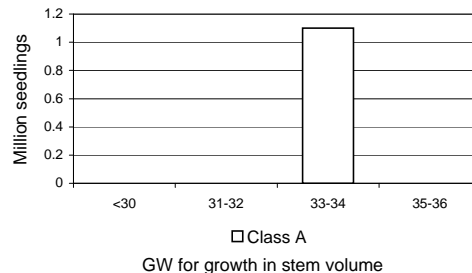
SEEDLING USE AND SEED IN STORAGE

5-year average seedling requests to SPAR (2006 - 2010) **1.8 million**
Estimated years of class-A seed in storage **0.6 years**

Seedling Use Trend - 2003 to 2010



Seed in Storage by GW class



- Seedling use data include 1/2 of adjacent overlap zones, where applicable
- Sowing year: July 1 to June 30 (i.e. 2010 sowing year starts July 1, 2009)

- 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