

SPU # 21 **Interior Douglas** **Nelson** **400 - 1200m**

Breeding and orchard production
 Adjusted for new Parent Tree Area of use. Previously 400-1000m

Program category: Advanced generation **Seedling need (million): 3.5**
 Note overlap with SPU 22
 filename: 21 Fdi NE low July 12, 2015

STRATEGY Parent-tree selections from wild stands tested in open-pollinated progeny tests. Best parents selected for seed orchard development. Some material from the sub-maritime zone in test. 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)**

	'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.	541	541	541	541	541	541	541	541	541	541	541	541	541	541	541	541	541	541	541	541
Polycross																				
Clonal																				
F1	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
F2																				
F3																				

Production forecast (million plantables)

Orchards (#, owner)																				
321 PRT/SelectSeed	2.6	2.8	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1

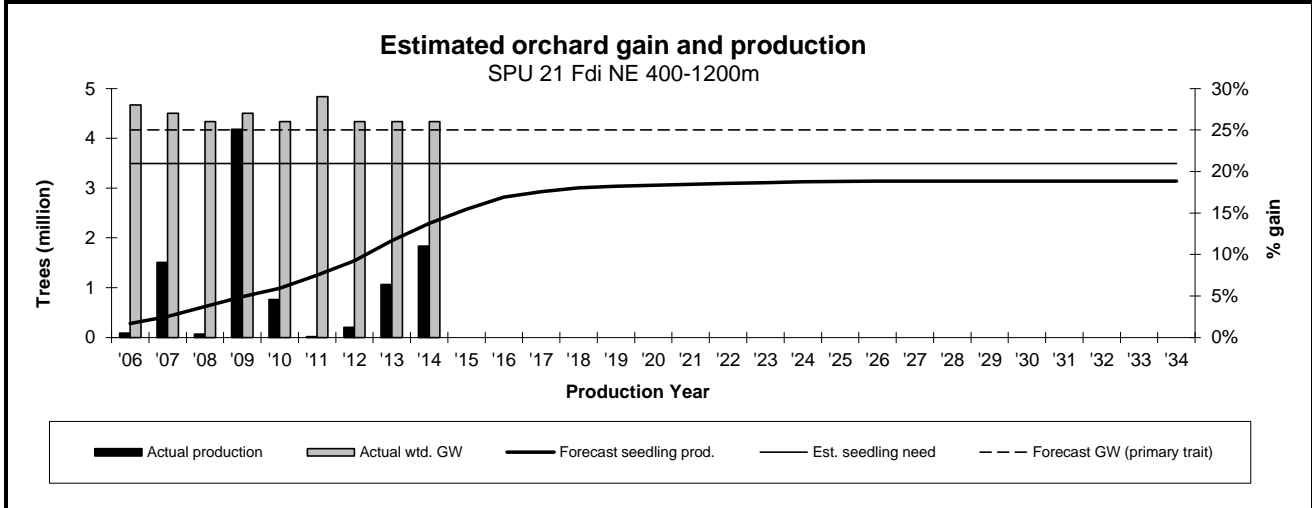
Vegetative prod.:
 Phase 1
 Phase 2

Estimated gain in primary trait

Orchards (#, owner)																				
321 PRT/SelectSeed	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%

Vegetative prod.:
 Phase 1
 Phase 2

Total Production	2.6	2.8	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Total gain	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%



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 for current inventory by Seed Planning Unit

Interior Douglas Nelson 400 - 1200m Conservation -- Seed Orchards -- Seedling Use

SPU #21

GENETIC CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	1,252,848	ha
Area protected within SPU	53,666	ha
Percentage of SPU area protected	4%	
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	63	

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 99/00	# of ramets currently established	# of ramets planned for final orchard size	Target Seed production kg/y at maturity	Total Seedling Prod. million seedlings
PRT/SelectSeed	321	40	25%	2,144	2,199	70.0	3.20
Total ramets				2,144	2,199	Total production	3.20

Vegetative propagation	Stecklings/Emblings	0.0
	Total production	3.2

Seed and Nursery Factors

Expected annual average seedling production per ramet =	1,457
Seed weight (seeds/gram) =	87
Seedling recovery factor (seedlings/seed) =	0.53
Seedling recovery factor (seeds/seedling) =	1.90

Estimate of Required Orchard Capacity

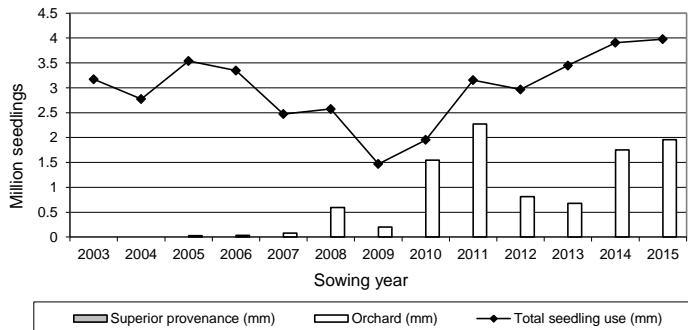
Annual planting (million seedlings)	3.5
Planned over-production factor	1.3
Ramets required	2,396
Ramets required with over-capacity	3,115
Projected necessary expansion	916

Production / ramet adjusted up from 1500 in 2010 to reflect higher-than-anticipated production in Fdi orchards

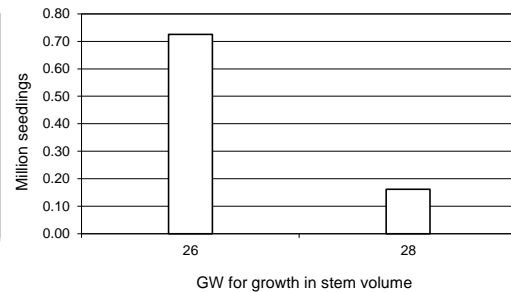
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2011 - 2015) **3.5 million**
Estimated years of class-A seed in storage **0.3 years**

Seedling Use Trend - 2003 to 2015



Seed in Storage by GW class



- 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

- 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)

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