

SPU # 17	Interior Lodgepole Pine	Bulkley Valley	700 - 1400m
Breeding and orchard production			
Adjusted for new Parent Tree Area of use. Previously 700-1200m			Seedling need (million): 16.7
Program category: Advanced-generation			
filename: 17 Pli BV low Aug 31/10			

STRATEGY Selection of parent trees in wild stands. Open-pollinated progeny tests on multiple sites. Selection for seed orchards of best parents and offspring, with a focus on stem volume and form. Second generation breeding will 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)

	'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.	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295
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)

219 VSOC (Vernon)	6.3	6.4	6.5	6.6	6.6	6.7	6.8	6.9	Retire orchard											
228 MFR (PGTIS)	2.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8	Retire orchard											
234 VSOC/SelectSeed	1.1	1.6	2.0	2.3	2.8	3.5	4.0	4.1	4.2	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
240 Sorrento/Selectseed	0.6	1.0	1.5	1.9	2.3	2.8	3.4	4.0	4.1	4.3	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
230 MFR (Kalamalka)	1.4	1.4	1.4	1.1	1.1	1.1	1.1	1.2	1.3	1.35	1.5	1.6	1.7	1.8	1.9	2.1	2.3	2.3	2.3	2.3
219 VSOC (Quesnel)	0	0	0	0	0.0	0.3	0.7	1.5	2.3	3.3	3.9	4.5	5.3	6.5	7.5	7.5	7.5	7.5	7.5	7.5

Vegetative prod.:
Phase 1
Phase 2

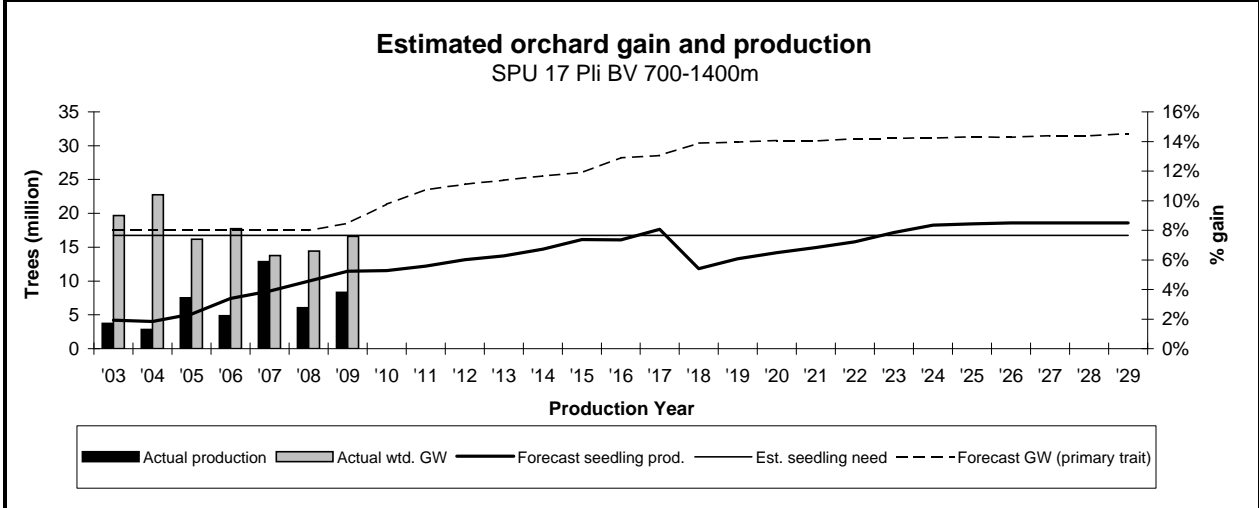
Estimated gain in primary trait

Orchards (#, owner)

219 VSOC (Vernon)	11%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
228 MFR (PGTIS)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
234 VSOC/SelectSeed	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
240 Sorrento/Selectseed	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
230 MFR (Kalamalka)	4%	4%	5%	5%	6%	6%	7%	7%	8%	8%	9%	9%	10%	10%	10%	11%	11%	12%	12%	13%
219 VSOC (Quesnel)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%

Vegetative prod.:
Phase 1
Phase 2

Total Production	11.5	12.2	13.2	13.7	14.7	16.1	16.1	17.6	11.8	13.3	14.2	15.0	15.8	17.2	18.3	18.5	18.6	18.6	18.6	18.6
Total gain	10%	11%	11%	11%	12%	12%	13%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	15%



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 Lodgepole Pine Bulkley Valley 700 - 1400m
 Conservation -- Seed Orchards -- Seedling Use

SPU #17

GENE CONSERVATION STATUS

Conservation statistics

Seed planning unit (SPU) area	3,442,345	ha
Area protected within SPU	516,127	ha
Percentage of SPU area protected	15%	
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	28	

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	
VSOC (Vernon)	219	72	11%	4,600	0	0.0	0.00	
MFR (PGTIS)	228	40	6%	1,206	1,206	9.1	1.81	
VSOC/SelectSeed	234	92	15%	2,900	3,000	22.6	4.50	
Sorrento/SelectSeed	240	82	15%	3,088	3,100	23.3	4.65	
Kalamalka (MFR)	230	67	6%	908	1,500	11.3	2.25	Reconfigured NST orchard
VSOC (Quesnel)	219 replcmnt	60	15%	0	4,000	30.1	6.00	
Total ramets				12,702	12,806	Total production	19.21	
Vegetative propagation						Stecklings/Emblings	0.0	
						Total production	19.2	

Seed and Nursery Factors

Expected annual average seedling production per ramet = 1,500
Seed weight (seeds/gram) = 249
Seedling recovery factor (seedlings/seed) = 0.80
Seedling recovery factor (seeds/seedling) = 1.25

Estimate of Required Orchard Capacity

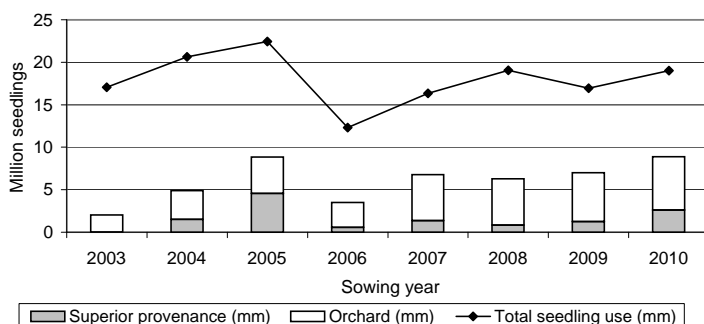
Annual planting (million seedlings)	16.7
Planned over-production factor	1.3
Ramets required	11,154
Ramets required with over-capacity	14,501
Projected necessary expansion	1,695

Superior provenances (B+) suitable for this Seed Planning Unit
 Nechako River, Oie Lake, Telkwa Low, Udy Creek, Whittier Creek

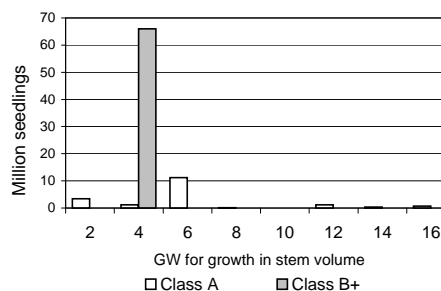
SEEDLING USE AND SEED IN STORAGE

Average 5-year seedling use from SPAR (2006 - 2010) **16.7** **million**
Estimated years of class-A seed in storage **1.1** **years**

Seedling Use Trend - 2003 to 2010



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

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