

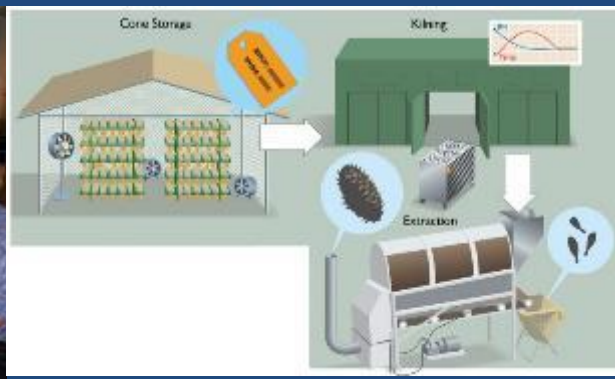
Tree Seed Centre Update



Office of the Chief Forester
Tree Improvement Branch
Tree Seed Centre



Dave Kolotelo ITAC February 2019



After 45 years with the BCFS, 42 at the TSC and 19 as our Manager, Heather Rooke retired last January and married Steven last summer after dating for 33 years.
She passed away on Nov. 1 2018



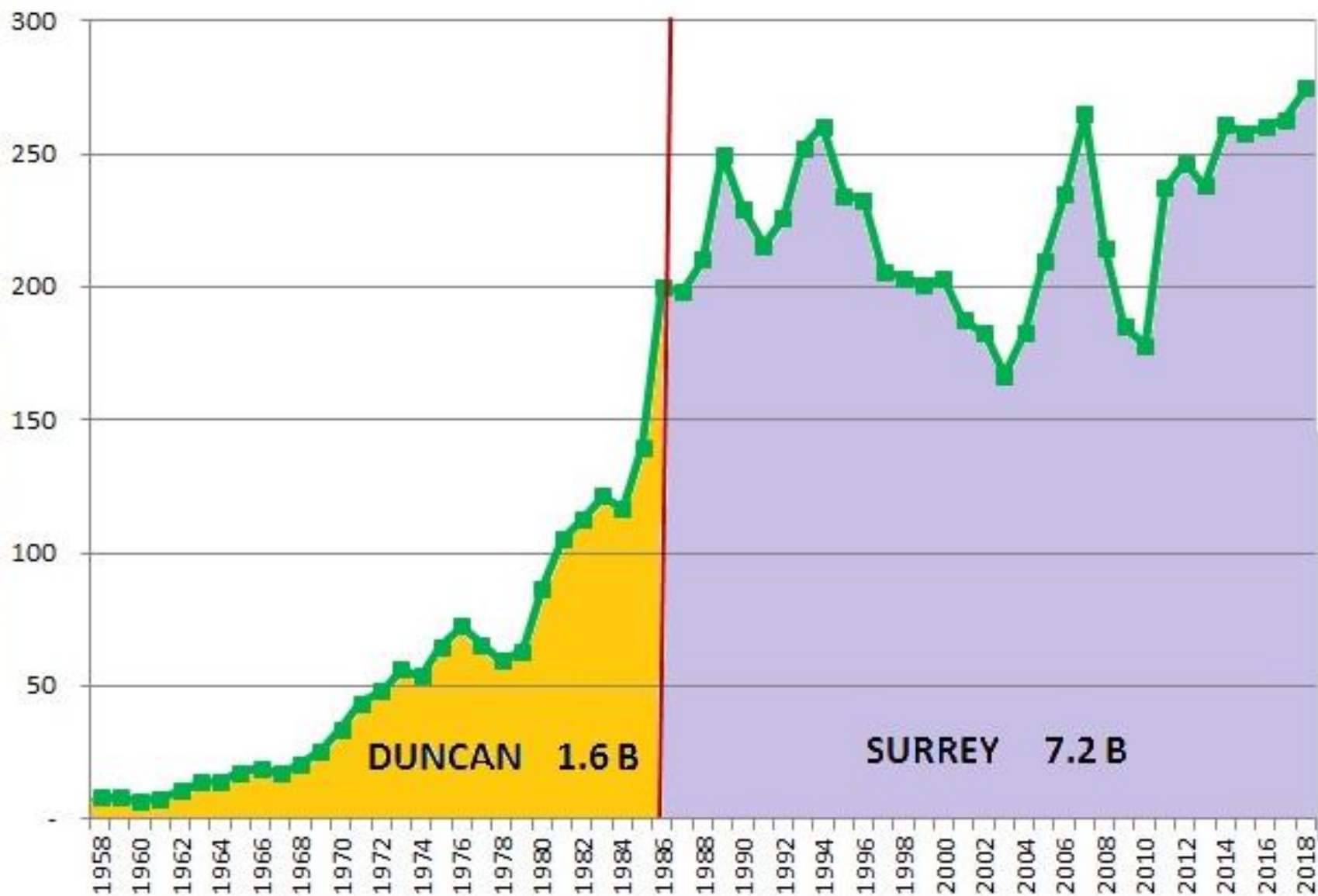
Seedy Dates of Importance

60 years



- 1922 - First BC Tree Seed Plant (NW - Dominion of Canada Forest Branch)
- 1936 – Kamloops and Richmond extraction plants operating
- 1956 – Duncan seed extractory building constructed
- **1957 – Seed extraction equipment installed + operating**
- 1958 - Plant modifications and cone kiln added
- 1959 – seed storage freezer built
- 1966 – extraction plant modifications (HUGE CONE CROP)
- 1969 – first sowing at Surrey Nursery
- 1975 – seed data first entered on a computer! Cards previously
- 1985 – construction of current Tree Seed Centre
- 1986 – 7 staff move from Duncan, production starts

Millions of Seedlings Planted



TSC 60th Anniversary Activities

National Forest Week Open House / Minister Donaldson visit

Connections Through Seed – October 16-17

<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/events/connections>

Whitebark pine Workshop – October 23

<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/events/whitebark>



Wild Stand Cone Collection / CBST Workshops

- Review cone collection practices and CBST
 - Four locations (June 2018) (145 people!)
 - Nanaimo; Vernon; Castlegar; Prince George
- Forest Genetics: Tree Seed Regulations and Seed Planning
Climate Based Seed Transfer
Seed Planning and Registry System
Seed Biology and TSC
Cone and Seed Pests
Cone Collection

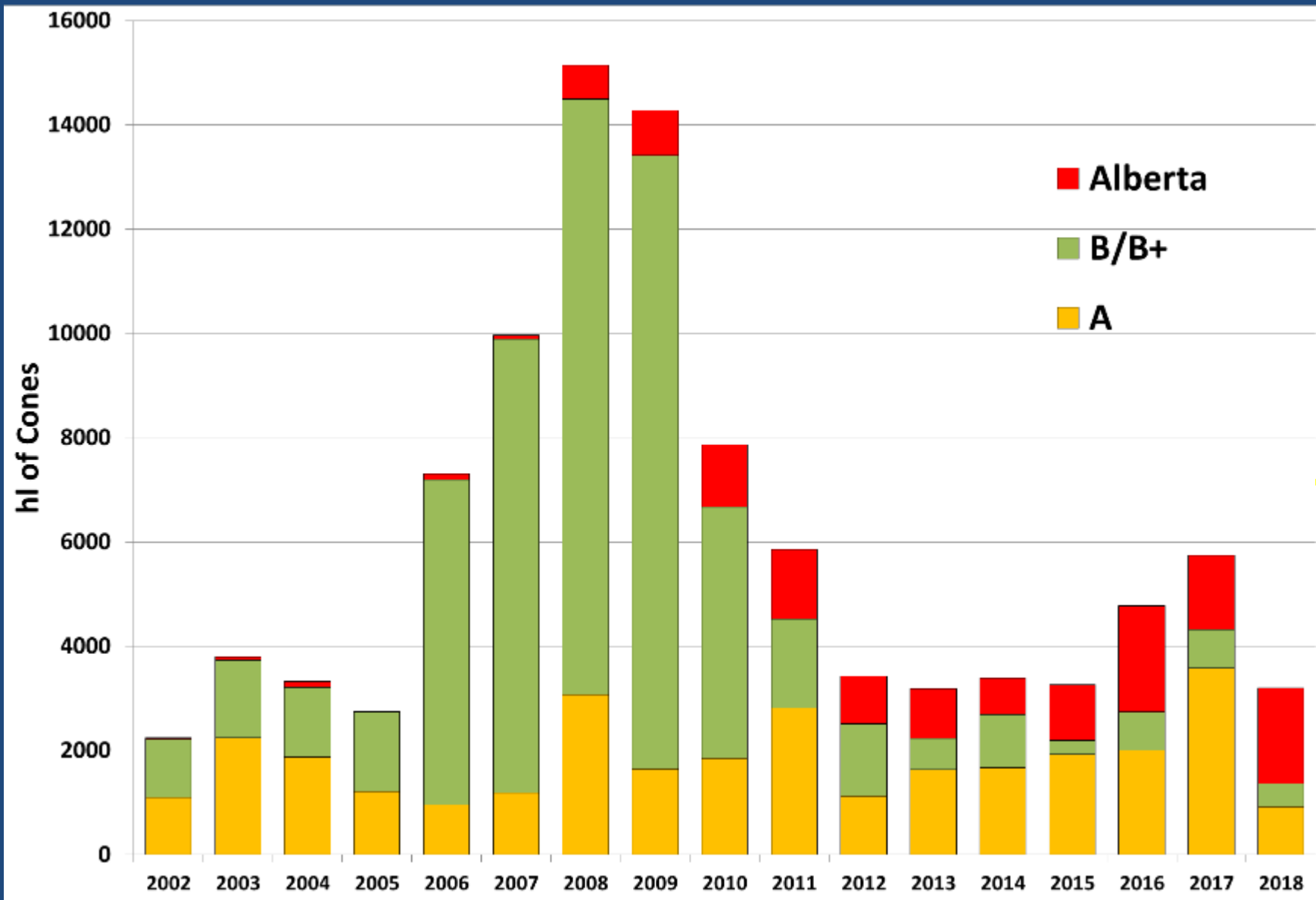
<https://www2.gov.bc.ca/gov/content/industry/forestry/forest-resources/tree-seed/seed-planning-use/c>

Feedback on need/desire for 2019 work

**Margot
Susan
Brian
Don
Dave
Kona**



Cone and Seed Processing (CSP) Over Time



2018 Cone Crops

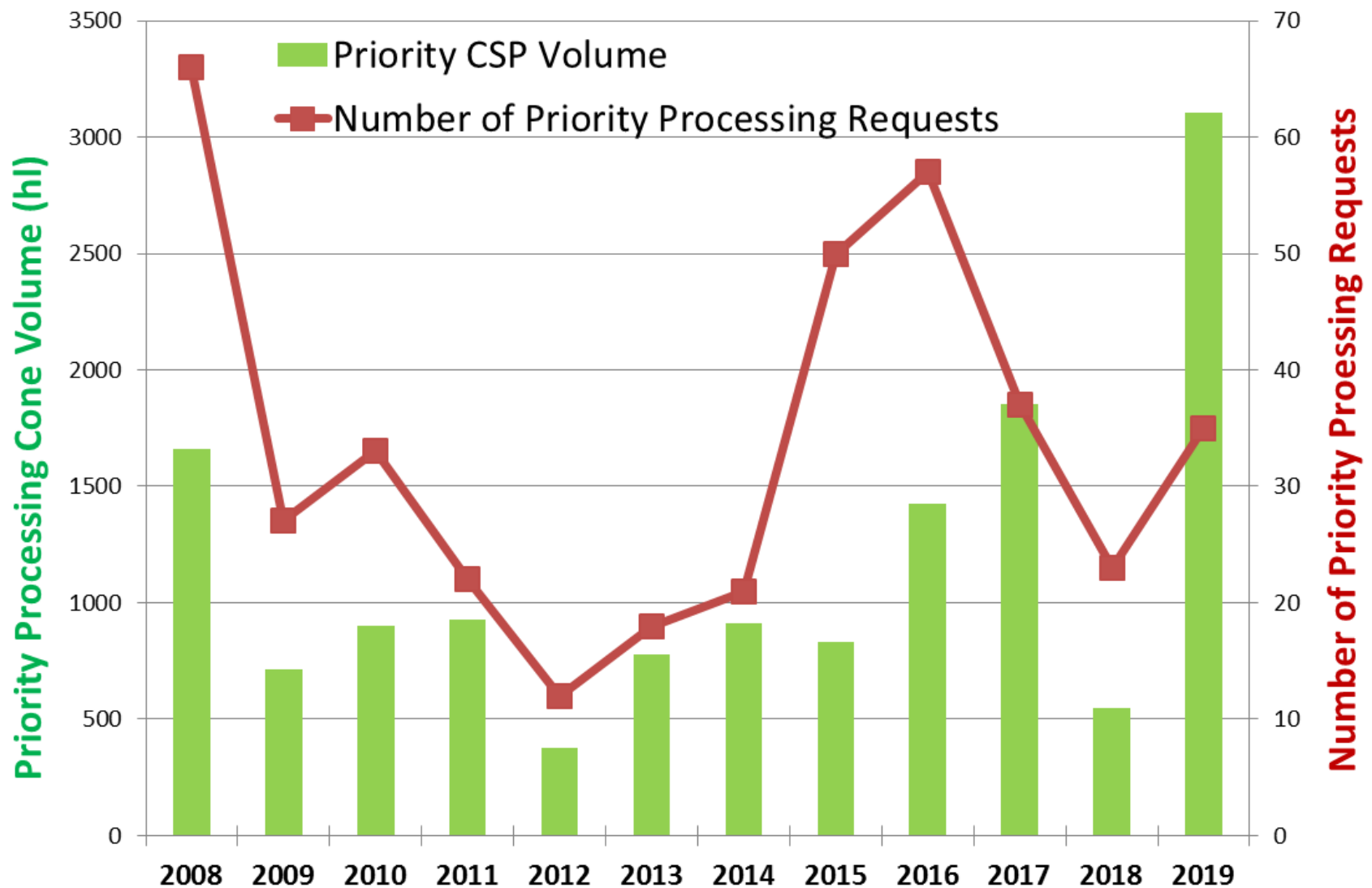
- Bumper crops for many species
- Over 7000 hl (*not counting any Alberta crops*)
- Over 32 000 cone sacks! **Generally pest-free**
- 76% from orchards – 24% from wild stands
- 57% of volume is Douglas-fir (**Fdi+Fdc**)



trees (**FES and GCTAC funding**)

Priority Processing Process

- TSC estimates year's supply of surplus seed by SPU with GW>5 on August 1
- The seedlots on which priority processing is requested are then placed into categories
 1. Early sow species (Fd, Sx, Hw, Pw, Cw) < 1 years supply
 2. Late sow species (Pli, Lw, Py) < 1 years supply
 3. More than 1 years supply
 4. Family lots and trials
- *Pest or low dormancy issues may increase priority status*
- *Cone+ Seed Processing and Testing all priorities*
- ***Interim storage is clients responsibility***



- 34 of the 35 priority processing requests are for the interior
- 25 of the 35 priority processing requests completed
- 97% of the volume is for seed orchard crops



BIG 4

2018 SRQ's

275 M

92.5% seedlings

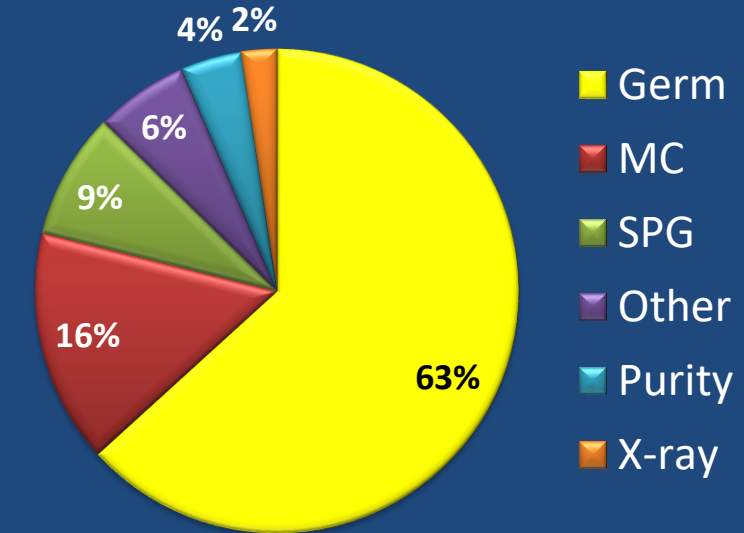
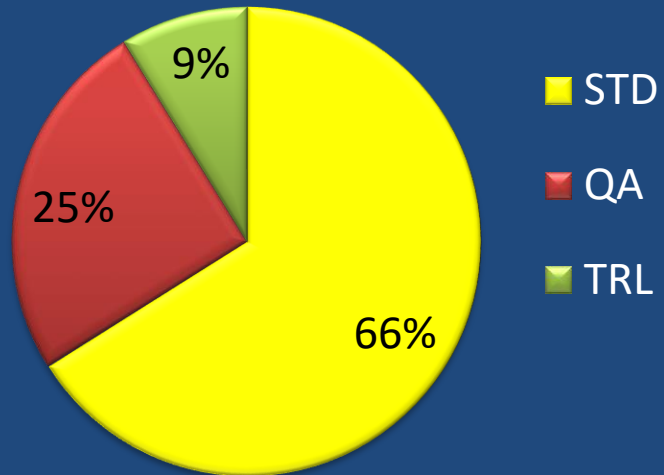


Sp	M seedlings	% orchard	GC (A/B)	Yield (A / B) (Kg/hl)	Ave. GVO	Cumulative %
PLI	103.8	27.9	95% / 94%	0.245 / 0.283	13	37.7
SX	101.0	95.2	87% / 92%	0.642 / 0.679	23	74.4
FDI	25.0	39.8	94% / 94%	0.563 / 0.898	27	83.5
FDC	13.4	91.3	95% / 93%	0.368 / 0.364	11	88.4
CW	11.4	57.1	91% / 91%	0.635 / 1.261	18	92.5
LW	8.4	98.8	87% / 89%	0.629 / 0.590	22	95.6

TSC stratifies over 98% of SRQ's

Testing

- 3945 tests performed in 2017/18



- Fungal assay testing continues under a MOU with MAgri Plant Health lab
- Looking at developing a molecular tool for Fusarium species ID vs current identification to genus (coastal problem only??)

Tree Seed Centre Facility

- 30 year-old building and infrastructure
- TSC Facility Condition Report – good serviceable condition = pro-actively maintained (Facility Condition Index = 2.5) that's good, but also trying to update to more modern technology
- Emphasis on
 - implementing general recommendations
 - backup spares of 'everything' (i.e. motors to sensors)
 - evaluating freezer insulation (non-destructive)
 - evaluating kiln functionality / improvements

New Service Fees are on their way !

ISSS Meeting



- I was fortunate to attend the International Society for Seed Science meeting in Fort Collins, CO at the USDA – Agricultural Research Service National Laboratory for Genetic Resource Preservation (US Seed Bank) = mecca
- This was the “Second Seed Longevity workshop” and spanned a large diversity of perspectives on the topic among the big seed brains of the world (humbling)
- Spanned the range of plants from the major crops to the rarest of orchids
 - Genetic architecture and molecular dissection of longevity
 - Seed banking to Landscape restoration
 - Germplasm integrity during storage
 - Seed quality for Conservation
 - Seed Traits and biodiversity Conservation

EXTENSION Resources

TSC webpage

<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/tree-seed-centre>

The screenshot shows the official website of the British Columbia Tree Seed Centre. The header includes the BC logo and navigation links for Careers & MyBC, Services & FE, Organisations & FE, Forms & FE, News, and Contact Us. A search bar is located at the top right. The main navigation bar lists various sectors: Agriculture & Forestry, Construction Industry, Electricity & Alternative Energy, Forestry, Mineral Exploration & Mining, Natural Gas & Oil, and Natural Resource Use. Below this, a secondary navigation bar highlights 'Forest Sustainability' and other related topics. The main content area is titled 'Tree Seed Centre' and provides an overview of the center's role as the primary provider of cone and seed services to BC's forest industry and government staff. It lists various services offered, including sustainable forest management, timber supply reviews, forest inventory, forest stewardship plans, silviculture, tree seed, tree seed centres, seed storage, seed processing, seed testing, priority processing, species diversity, cone & seed improvement programs, cone & seed processing, seed schedule, forest genetics, seed use and seed planning, seed distribution, occupational tree improvement, legislative & standards events, publications, forest health, wildlife management, visual resource management, and integrated resource monitoring. A sidebar on the right contains a 'Tree Seed Centre Brochure and Report' section with links to publications and contact information.

Tree Seed Centre

The Tree Seed Centre is the primary provider of cone and seed services to B.C.'s forest industry and B.C. government staff.

Tree Seed Centre clients include forest managers, commercial foresters, District and B.C. Timber Sales, seed orchards, forest nurseries, tree seed dealers, forest planters, researchers, educators and the public.

Tree Seed Centre Services

- Sustainable Forest Management Practices
- Timber Supply Review & Sustainable Annual Cut
- Forest Inventory
- Forest Stewardship Plans
- Silviculture
- Tree Seed
- Tree Seed Centres**
- Seed Storage
- Seed Processing
- Seed Testing
- Priority Processing
- Species Diversity
- Cone & Seed Improvement Programs
- Cone & Seed Processing
- Seed Schedule
- Forest Genetics
- Seed Use and Seed Planning
- Seed Distribution
- Occupational Tree Improvement
- Legislative & Standards Events
- Publications
- Forest Health
- Wildlife Management
- Visual Resource Management
- Integrated Resource Monitoring

Tree Seed Centre Brochure and Report

Publications that describe Tree Seed Centre Services:

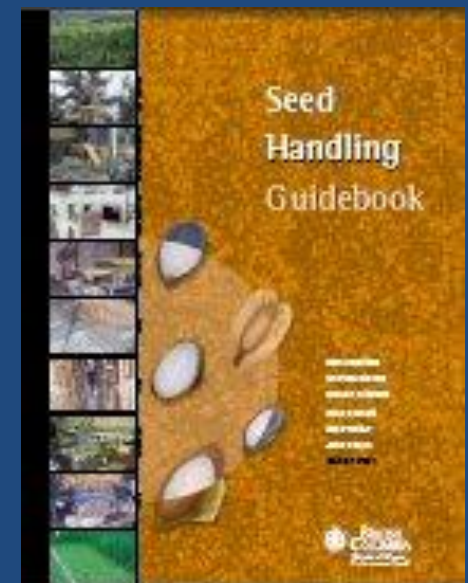
- [Tree Seed Centre Brochure](#)
- [Seed Storage in Cone and Seed Services](#)

Contact Information

Refer to the Tree Seed Centre website [Site for Find out who to contact for specific information](#). Call or email the Tree Seed Centre for general enquiries.

Office:
454-543-1433

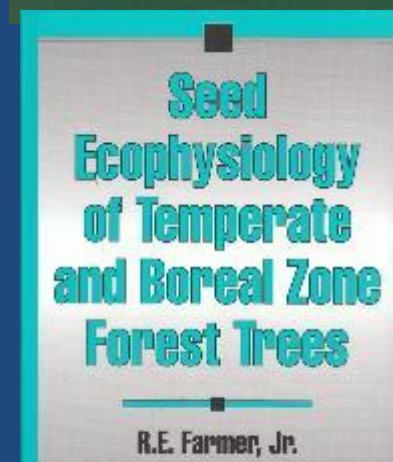
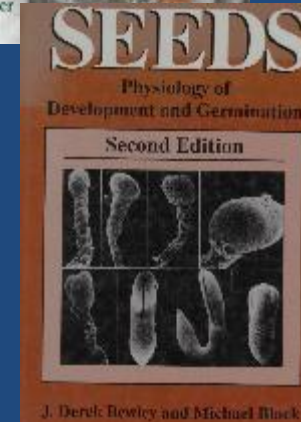
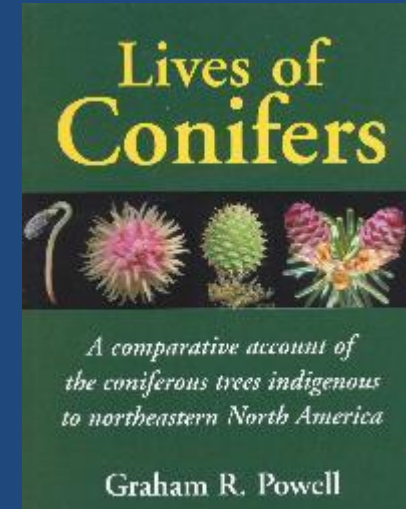
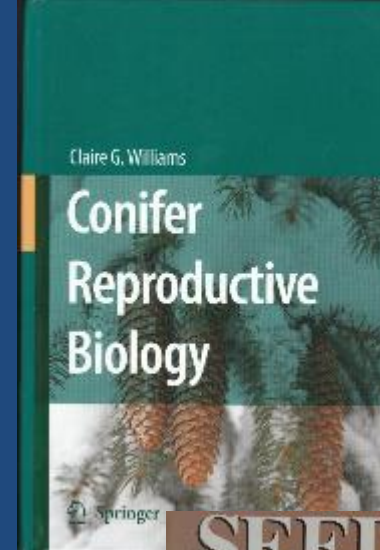
Email:
TreeSeedCentre@bc.ca



Woody Plant Seed Manual



<http://www.rngr.net/publications/wpsm>



Tree Seed Working Group News Bulletin

Electronic News Bulletin distributed in July and January
E-mail Dave to get on distribution list

Dave Kolotelo

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