



Cone and Seed Improvement Program BCMoF Tree Seed Centre

Available on website for 2006 FNABC meeting



5-Year Average SRQ Germination Falldowns (2002-2006)

Species	LAB		Seed Preparation			Nursery		
	n	GC%	n	GC%	Falldown ¹	n	GC%	Falldown
Ba	23	71	23	77	+ 6.1%	15	75	+3.3 %
Bg	21	74	21	75	+1.6 %	15	67	-3.1 %
Bl	58	67	58	64	-2.2 %	28	63	-8.7 %
Cw ²	202	82	202	78	-4.3 %	114	80	-3.0 %
Dr	22	72	22	69	-3.0 %	15	64	-8.8 %
Fdc	85	91	85	91	+0.4 %	46	88	-1.6 %
Fdi	89	89	89	91	+2.2 %	72	89	-0.8 %
Hm	15	82	15	88	+5.5 %	14	78	-5.7 %
Hw	63	88	63	88	+0.3 %	46	87	-0.2 %
Lw	93	86	93	86	+0.7 %	67	87	+0.5 %
Plc	12	94	12	94	-0.2 %	5	92	+0.2%
Pli	141	93	141	93	-0.4 %	86	93	-1.4 %
Pw ³	126	91	118	81	-10.1 %	88	83	-8.2 %
Py	53	90	52	87	-3.0 %	26	90	-1.6 %
SS	36	92	36	91	-1.3 %	26	90	-2.0 %
Sx	158	88	157	91	+2.3 %	112	88	+0.2 %
SxS	19	87	19	90	+3.9 %	12	87	-1.1 %
Total	1216		1206			787		

¹ **Falldown** estimates are relative to the lab germination. A negative number indicates that the sowing request GC was less than the Lab GC and a positive number indicates the request had a higher GC than the lab test. Nursery Falldowns do not always equal the table Nursery GC – Lab GC as sample sizes are different.

² LAB germination for Cw is based in naked seeds, but Seed Preparation and Nursery germination is based on pelleted Cw seed.

³ The 2006 Seed preparation falldown for Pw was estimated at -4.3% and the nursery falldown estimated at -7.0%. There have been steady improvements in the GC of Pw sowing requests over the past five years.

- Our TSC Quality Assurance (QA) program includes testing a sample of sowing requests for germination prior to shipping
- This allows for a comparison between **LAB** germination, germination of sowing requests at shipping (**Seed Preparation**), and actual germination at the **Nursery** for SRQ's in which the data has been supplied
- **LAB** germination is used in BCMOF sowing guidelines and is the main variable used for planning purposes.
- Falldowns are presented as the difference between **LAB** germination and actual germination of sowing requests (**Seed Preparation**) or at the Nursery (**Nursery**). A negative falldown indicates value at shipping or at the nursery is less than **LAB** germination. Only species with ≥ 10 SRQ's are included.
- The falldown estimates are important in prioritizing pretreatment improvements.
- Some possible reasons for the falldowns are proposed below:

SRQ 'Falldown'

- More intensive and random sampling used for **LAB** testing compared to **Seed Preparation** withdrawal
- Larger volume of seed can be problematic for optimal pretreatment results (i.e. Pw)
- Cw sowing requests are based on a pelleted product and **LAB** tests are based on naked seed
- extended stratification (up to 3 weeks compared to lab tests) is often provided (**may increase SRQ GC**)

Nursery 'Falldown'

- More intensive sampling used for **LAB** testing compared to **Seed Preparation** withdrawal
- No consistent method of determining germination in the **Nursery** (i.e. sample size; some nurseries do not do germination counts or only monitor filled cavities)
- Germination criteria quite different between **LAB** tests and the **Nursery**
- Germination results from the **LAB** are generally over a shorter time compared to the **Nursery**
- Germination conditions can be quite different between **LAB** and **Nursery**
- Germination conditions more uniform in **LAB** compared to **Nursery**
- Seed pretreatment may be different or additional treatments may take place at **Nursery** (i.e. seed upgrading, priming, Sanitation treatmentd, different stratification methods)
- Cw sowing requests are based on a pelleted product and **LAB** tests are performed on naked seed
- extended stratification (up to 3 weeks compared to lab tests) is often provided (**may increase SRQ GC**)

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