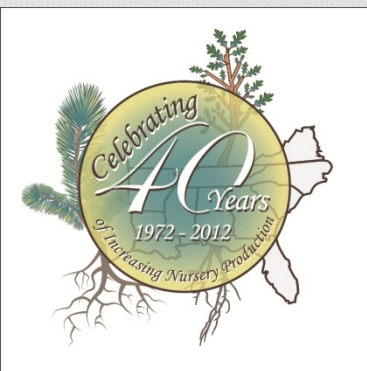


Family Comparison of Container and Bareroot Stock

Tom Starkey, Barry Brooks & Scott Enebak
Southern Forest Nursery
Management Cooperative
School of Forestry & Wildlife Sciences
Auburn University



Family comparison

- Coastal Plain Loblolly Pine
- All seed stratified together
- Bareroot sown April 10, 2011
- Container sown April 20, 2011

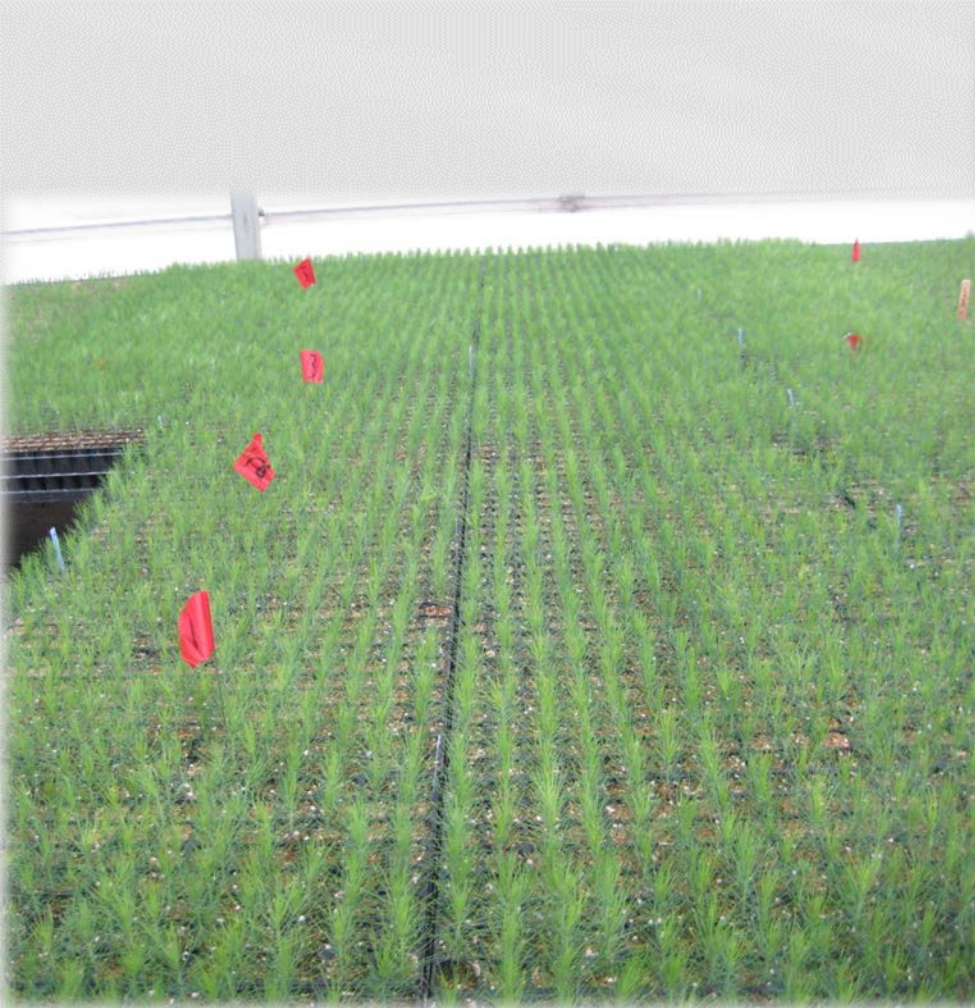
Family comparison

- Container Nursery

- 10 sown containers marked for seedling counts
- May, June, July, August, December

- Bareroot Nursery

- 3 plots in beds 2, 4, 6, 8 of one nursery unit marked for seedling counts
- May, June, July, August, December
- East and west-side counts kept separate



Research Toward Increasing Nursery Productivity

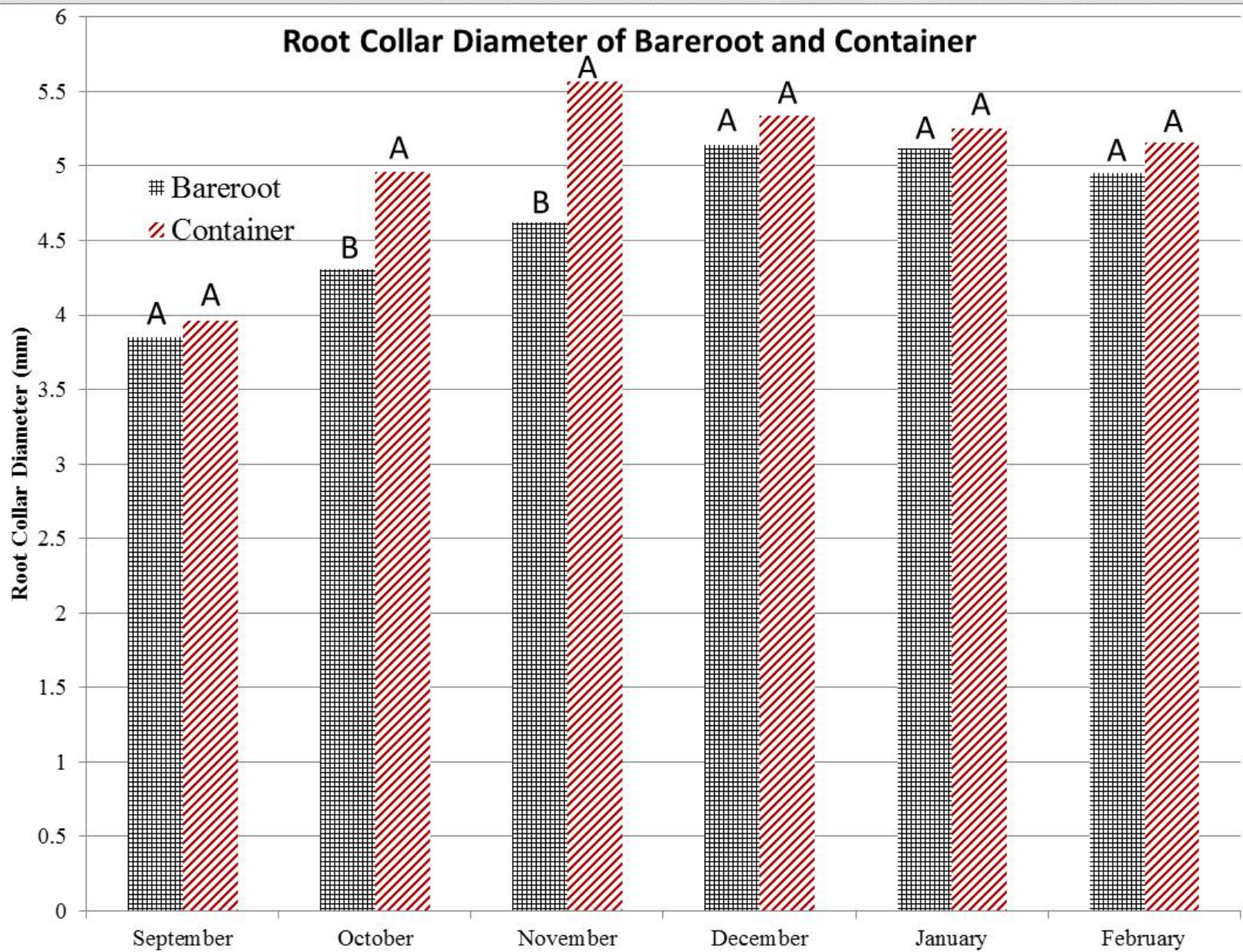
Family comparison

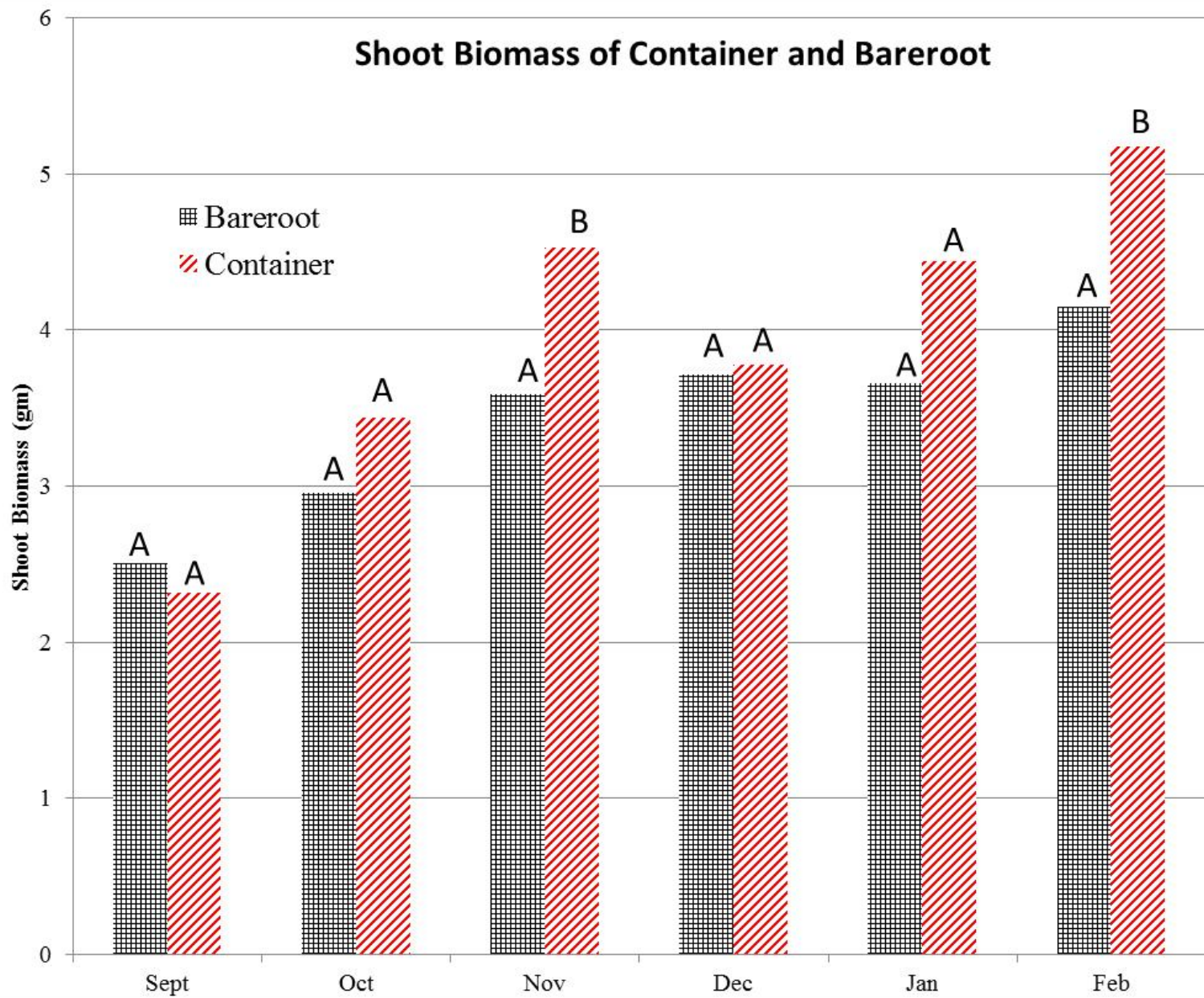
● Root Growth Potential

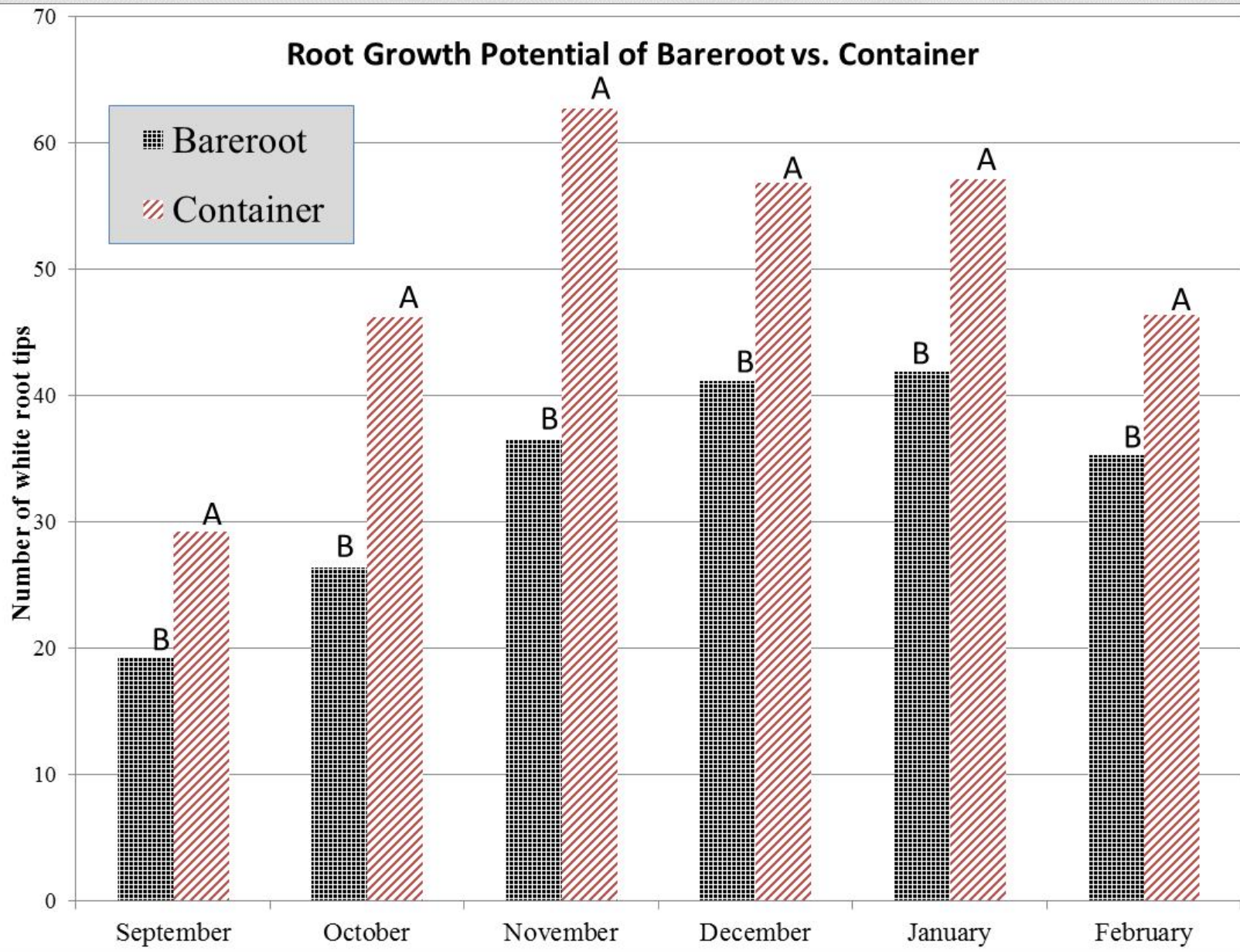
- Seedlings collected in Aug, Sept, Oct, Nov, Dec, Jan at same time each month (Bareroot – lifted with shovel)
- 30 days in RGP tanks and # of white root tips > ½ cm counted
- Also measured RCD and Shoot Biomass

● In December - Plot RCD, Ht and Biomass taken

- Container Seedlings
 - In 10 container, 4 random rows of seedlings, ~ 30 seedlings/container
- Bareroot Seedlings
 - All seedlings in drills 2, 4, 6 for each plot







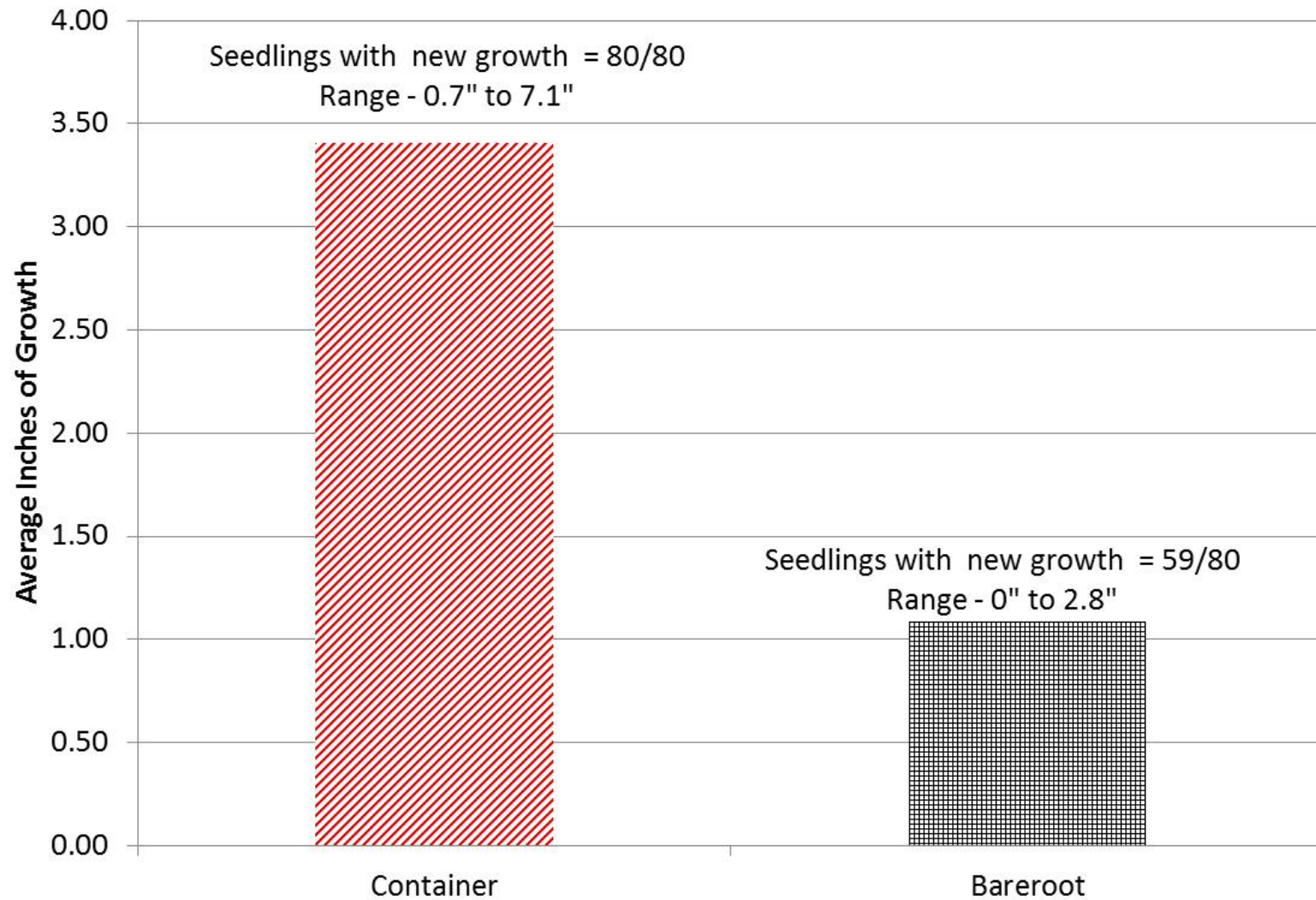
2/15/12

Container

Bareroot

Bareroot

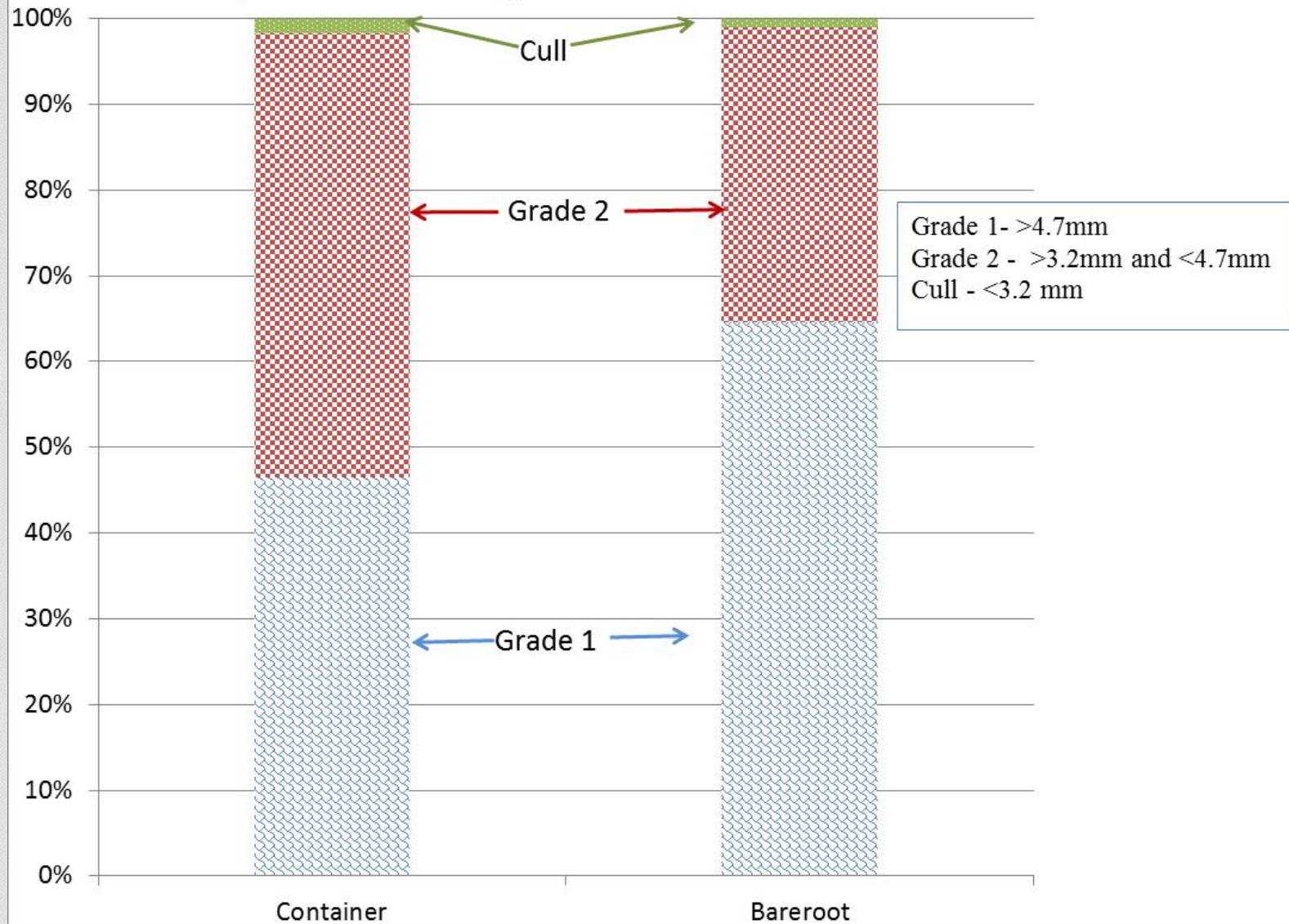
Average New Growth - Mid February



Final Seedling Evaluation (December)

Stock Type	RCD (mm)	Shoot Height (in)	Shoot Biomass (gm)
Container	4.65a	13.3 a	3.2 a
Bareroot	4.98a	11.7 b	3.5 a

Comparison of Seedling Grades for Bareroot and Container



Seedling Loss Over Season

	Seedlings lost/sq ft
Container	0.4
Bareroot	3.9

Summary

- No significant differences in plant growth (RCD, Height, Shoot Biomass)
 - Bareroot would probably have larger RCD average if all seedlings were compared
 - Container RCD was more consistent in size than bareroot (based upon CV)
- Container seedlings had greater RGP than bareroot
- Seedling loss over the season was less with container seedlings
- Container seedlings broke dormancy sooner than bareroot seedlings

