



Education

Reclamation: Seedling Characteristics

Seedling Characteristics

Seedling size is usually described by several morphological and empirical nursery rearing attributes which include:

- Height
- Root collar diameter (RCD)
- Volume of rooting media
- Growing density

The table on the right categorizes seedlings into qualitative descriptions of small, medium, and large:

Typical Seedling Size Class



Average seedling RCD range (mm)	2.6 – 3.0	3.0 – 3.4	3.5+
Volume range of rooting media (ml)	40 – 80	80 – 125	125+
Growing density range (seedlings/m²)	> 553	364 – 553	< 364
Styroblock designation	PSB 211A – 240/40	PSB 411B – 128/85	PSB 412A – 77/125
	PSB 310A – 160/60	PSB 410B – 112/80	PSB 415D – 77/170
	PSB 313B – 160/65	PSB 412B – 112/95	PSB 512A – 60/220
		PSB 415B – 112/105	PSB 615A – 45/340
Bareroot designation			P + 1

The amount of vegetation competition on the site is one of the most important parameters to consider when deciding what size of stock to deploy. Generally large stock will perform better than small stock in competitive environments unless there are other site limiting factors such as low snow levels, warm winters, and high potential for winter desiccation damage. Larger stock is taller, has more foliage, and therefore has a greater photosynthetic capacity with which to compete against other vegetation.

Larger containers have greater volumes of rooting media in the plug, which is positively correlated with seedling growth and survival under a wide range of conditions. However, in dry conditions larger stock tends to be more susceptible to drought stress and may perform worse than smaller stock of the same species. Larger stock can also suffer winter desiccation damage in areas that experience low levels of snow cover and high winds.

Therefore, small sized seedlings should be considered for dry, low competition sites or areas that are at risk of winter desiccation damage. Larger stock should be considered for high-competition sites with a low risk of winter desiccation damage.





Tree Time Services
260 - 2121 Premier Way
Sherwood Park, Alberta
Canada T8H 0B8
PH: 1 (780) 472-8878
E: service@treetime.ca

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