

DIFFERENCES IN SUMMER VS. SPRING PLANT FOREST SEEDLINGS

SPRING PLANT (e.g. 1+0, 2+0, ½ + 1½)

- because stock is frozen, it can be “custom” thawed for delivery as desired (as sites become ready for planting)
- once thawed, seedlings rapidly lose dormancy and hardiness, and flush shortly after planting
- prior to bud flush root activity is high, thus under favourable soil conditions roots quickly egress into the surrounding soil, reducing the seedling’s reliance on conditions within the plug
- while flushing, seedlings are very sensitive to stresses (e.g. drought, frost, high temperature)
- it is recommended that you do not plant later than the middle of June, as seedlings may become out of sync with the planting site (i.e. there may not be enough time for the seedling to form a good bud and develop cold hardiness before fall frosts)
- in general, the use of freezer storage is not harmful to seedlings - however, prolonged storage depletes carbohydrates and reduces seedling vigour

SUMMER PLANT (1+0)

- seedlings are still physiologically active, thus speedy stock handling from nursery to the planting hole is essential
- as height growth has ceased and seedlings are moving into dormancy, they have developed some hardiness (i.e. resistance to drought & frost)
- in general, seedlings will not flush after planting as the nursery has applied cultural treatments to limit reflush; thus stock has lower water requirements and better control over moisture loss
- as there is generally no new shoot flush in the first year of planting, seedlings are initially able to put more of their resources into root and stem growth
- this stock may require blackout in the nursery to shut the trees down (i.e. put on a bud), as seedlings are too succulent for shipment during active shoot growth
- depending on stock type combinations, summer planting can begin early June (e.g. 410 pine)
- late summer planting may not allow enough time for sufficient root egress to prevent frost heaving on susceptible sites (e.g. fine textured soils, MSP areas with exposed mineral soil)
- this stock requires close communication with the nursery (e.g. delivery date, stock condition)

STOCK HANDLING

SPRING PLANT

- proper short-term storage is required to maintain seedling vigour - keep them cool
- portable reefers (if feasible) provide proper conditions - set at 2°C and monitor
- select a field cache in the shade (e.g. timber, north slope, near streams, patches of snow) where there is good air circulation. Shelter can be provided by stringing a tarp (white side up) above the cache
- never stack boxes more than three high
- keep enough space between boxes for adequate air circulation (i.e. use spacing boards)
- monitor seedlings: ensure the temperature within the box does not exceed 10°C, look for root-shoot activity, disease, and drying out
- if seedlings are partly frozen, sort the bundles and finish thawing slowly in the shade, never in direct sun or near a heat source
- bareroot and plug-transplant stock roots are particularly sensitive to drying, thus should be dipped in a peat-water slurry (for no longer than one minute) at the planting site

SUMMER PLANT

- the essence of “hot-planting” is speed, for although summer stock shoots are partially dormant, the seedlings are still physiologically active and must be shipped to the field and planted as soon as possible after lifting
- seedlings should be kept out of direct sunlight, but allowed indirect light (e.g. dappled light through a forest canopy, or tarp suspended a couple of feet above the boxes)
- boxes should not be stacked, but opened to prevent heat buildup, facilitate watering, & most importantly, allow light to reach the seedlings to prevent a harsh blackout and the resultant slowing of stem and root growth
- if packaged horizontally, seedlings must be placed upright
- to maintain adequate moisture in the plug (seedlings can still transpire and lose water even under cloudy conditions), seedlings most likely will need to be watered while in the box. Plug moisture can be monitored using the *squeeze* test - you should be able to squeeze water from the plug. Surplus water in the bottom of box must be drained. Also, punctured boxes should be repaired to prevent excessive moisture loss

