

Shaping

Shaping of both the root ball and the shoot system of a tree is necessary. As we pot up trees we use a shaping system to “Root Prune” the root ball to remove any form of root curl, as the tree grows this will encourage even division of both feeder and stabilizing roots. As with the root ball the upper circumference of a tree will need some minor trimming to ensure that the bulk of the tree stay’s in proportion. This upper shaping encourages apical dominance and loses foliage weight and distortions which can create bends through the trunk.

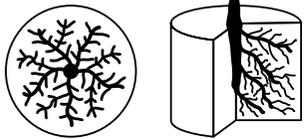
Staking

Staking is a necessary evil within a nursery system. To allow trees to have the necessary space we also leave them exposed to the elements. Wind and light can bend trees in the direction that we know is not conducive to long term tree success, this is why in the landscape we stake trees till they can service their own weight. As in the landscape, the nursery Trees should be staked only when necessary and removal of stakes should occur at the earliest time possible. This encourages caliper girth and self sustaining trees. Staking trees can help us guide “awkward” trees to retain a leader and protect them from extreme weather conditions.

Individuality

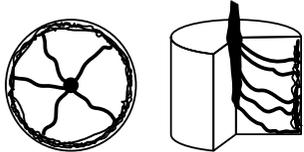
Like people and animals no two trees are the same, its impossible. So we treat all trees as such and ask our clients to accept that different tree have different growth speeds and habits. It would be silly to assume a Eucalypt would grow as fast as a Araucaria or as wide as a Delonix. As such we take each tree on its merits and produce a tree that holds the best of all the characteristics we would expect from its final height, shape, climatic condition and life span.

The Root System



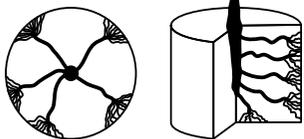
Good Divisional Root System

Division of root system should be progressive in both feeder and structural roots. This allows for the adequate uptake of vital nutrients and water and the “anchoring” of tree’s to the ground.



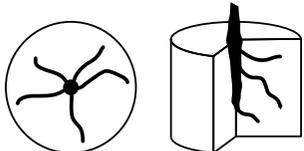
Root Bound And Root Curl

an over abundance of structural roots in a circular pattern around the outer limits of the root ball will produce weak trees in the later stage of growth. Think of these roots as a collar inhibiting plant growth.



Poor Root Ball Occupancy

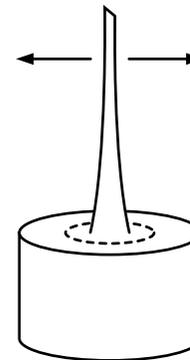
Poor root ball occupancy is often cause by lack of even watering throughout the entire root ball of trees. This can occur in situations of under watering, incorrect root pruning and drying out where the root ball has become hydrophobic. This will restrict the plants ability to absorb nutrients and water in the field.



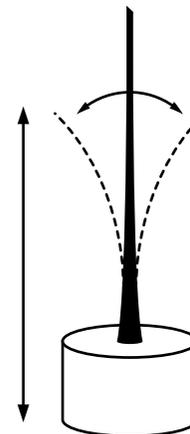
Lack Of Feeder Roots

This occurs from poor nursery practice. This is a direct result from over pruning in both deciduous and evergreen trees. The plant must rely on its stored food reserves to produce more feeder roots before any growth can continue. This leads to necessary staking and often attacks from pests and disease.

Typical Containerized Problems



The potting of pot bound stock into larger container is a wide spread inappropriate practice in the nursery industry. An excellent way to check for this practice is to gentle rock the tree from side to side, when the tree is ready the stem should support or almost support its own root ball and the signs of preexisting pots cannot be seen moving in the base of the tree. Tree which show this feature should be pulled apart for destructive investigation. This is the only true way to see the invisible problems lurking below.



Typically trees potted from root bound starter stock will show signs of weakness in the trunk, this can be visualized by inconsistent stem taper or a thin stretched trunk. A typically a over potted tree will have a weak stem often bending from the base and not supporting the tip. Trees should bend but this flexibility should be predominantly in the upper part of the canopy. Do not however be confused with a tree lightly staked to protect it from the elements to a tree which is staked to support it’s own weight, tree’s staked the correct way will still maintain self supporting structure through normal conditions.

Pruning

Pruning needs to be undertaken at regular intervals. By pruning we are trying to achieve a shape or form as dictated by the client or the growth habit of the tree. Pruning should not take place immediately before dispatch, as this can impact on the plants ability to photosynthesis (i.e. produce glucose or food). Pruning is the term we use to remove significant branches to (for example) clear trunk a series of street trees and should be in proportion to the upper part of the tree and no more than 25% per session.

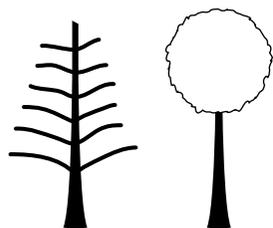
Spacing

Spacing in a nursery is very important. Spacing allows trees better light and air movement, both of these are required to grow a uniform self supporting tree. Air movement encourages girth of stems and self support. Light encourages the correct internode distance, strength and overall plant vigour. Both light and air are used to reduce pesticide and fungicide usage.

Internode length

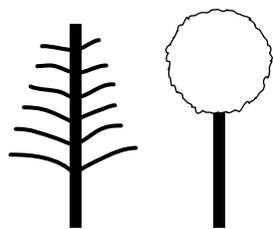
The distance between leaves is know as the internode length. This distance is an excellent way to understand the pressure's put onto a plant over it's growing lifetime. Stretched internodes can indicate plants to close together, inaccurate watering or over fertilization. Tree's with stretched internodes will be weaker and tend to have a harder time being self supporting.

Stem Taper



Caliper thickness is the strength of a tree. It is also spp. Specific so a regimented rule is unable to be specified. In general however trees should show from an early age stem taper, they should show an even progression from basal points through to caliper height

(300mm) through to apical tip. However a extremely quick growing tree will show a lesser progression in the caliper until it is mature and a slow growing tree. Common sense and spp. Knowledge are the key.

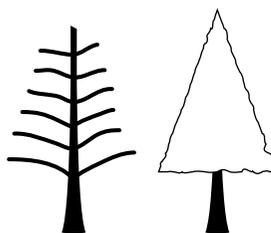


Tree's should not however show a straight even thickness from base to tip and should definitely not show a thickening towards the top of the tree, this is a perfect example of stress in the early stages of the plants development.

Stem thickness is usually due

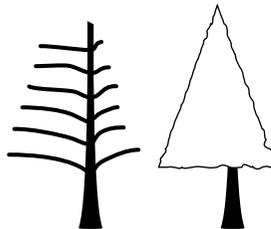
to plants stretching for sunlight, suddenly having more water or fertilizer applied and encouraging thicker growth or the problem of pests or disease.

Crown Uniformity



Plants should display an even crown, proportionate width wise as it is in proportion to height and root ball capacity. Trees extremely high or wide or excessively in growth on one side will not perform as well as tree of balanced shape and appearance.

Often a tree of uniform root ball to canopy will out perform its oversized brother in a single season.



Trees which are one sided , or over sized may have problems with hydrophobia in the field. The oversized tree may also be solid in the bag but will have problems establishing due to the nature of the head acting like a "sail", these tiny movements

which are produce by wind getting caught in the canopy move the root ball and break tiny root hair as they develop or worse can blow untethered tree from the ground.

Branch Uniformity



As trees grow and throw lateral branches we look for symmetry of these radiating limbs. Aesthetically trees with a uniform structure will always look better than trees with a inconsistent habit



In saying this the tree with a uniform branching structure will always support itself better due to the even distribution of weight. Uniform tree are more likely to hold there branches in storms and are thus safer in the built environment.

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