



Young Tree Pruning

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Pruning goals for young trees focus primarily on plant health and structure. Remove dead, dying, diseased, crossing and conflicting limbs to maintain plant vitality. Structural pruning of young trees provides a strong framework for future growth. Pruning young trees can prevent structural problems that could require cabling and bracing later in life or could contribute to premature decline or failure.

General Considerations - Emphasis should be placed on the following when pruning young trees:

- Remove co-dominant or multiple leaders (Figure 1).
- Maintain a strong central leader especially in trees with excurrent habits.

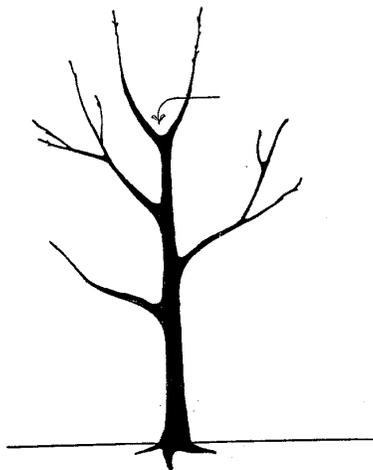


Figure 1. Co-dominant Leader

- Maintain at least one-half the foliage on branches arising from the lower two-thirds of the tree. This increases trunk taper and distributes weight and stress along the stem.
- Provide adequate spacing for primary scaffold limbs. Six to eight inch spacings are necessary for small maturing species while twelve to eighteen inch spacings are required for larger trees (Figure 2).

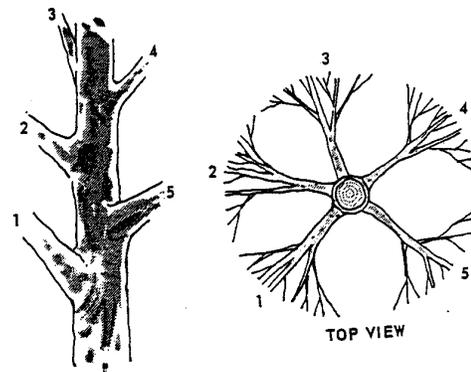


Figure 2. Provide spacing between scaffold limbs.

- Maintain radial symmetry when selecting scaffold limbs (Figure 3).
- Select scaffold limbs which form branch angles with the trunk at 45-60° (10 and 2 o'clock) (Figure 4). Remove branches, which have included bark in the crotch between the stem and limb (Figure 5).

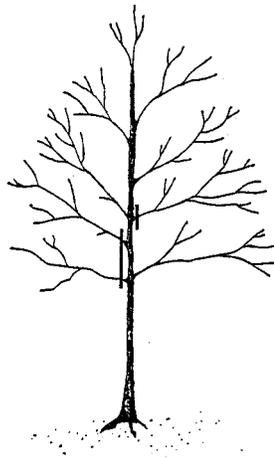


Figure 3. Maintaining Radial symmetry on scaffold limbs

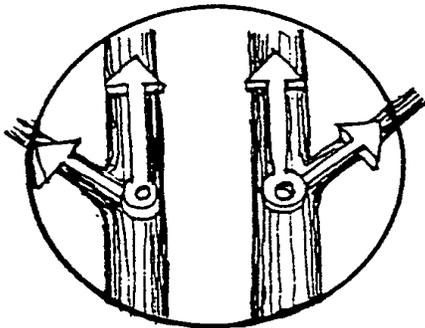


Figure 4. Ideal branch angles for scaffold limbs

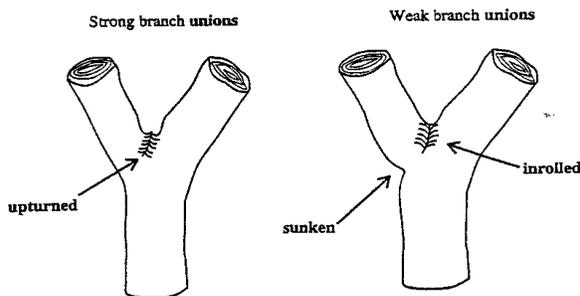


Figure 5. Weak branch unions (right) have inrolled (included bark).

- Maintain crown shape typical of the species. Remove branches, which protrude from the canopy and those, which grow inwardly or unnaturally downward.

- Dead, dying, diseased, broken, rubbing limbs, root suckers and water sprouts should be removed as necessary. Light thinning should be done as necessary to reduce weight of branches and shape the crown.

Specific Objectives: (See Figure 6) At planting, remove only defective branches. This includes: dead, dying and diseased, split and broken branches. Remove root suckers. A central trunk or leader or well spaced multiple trunks or leaders (as most appropriate for the species and specimen) should be developed by removing competing leaders and removing, heading or thinning laterals on vigorously growing branches which compete with selected leader(s). Do not cut back to compensate for root loss. Do not remove lower branches at this time nor perform any crown thinning. This should wait until the tree is established. Crown reduction pruning can actually stunt root development. Perform a root collar inspection at this time to verify correct planting depth and determine if wire baskets, nylon cord or plastic burlap are present.

At 2 to 4 years following planting, begin pruning for structure. Branches arising on the lower 8-12 feet of the trunk are usually considered temporary limbs. Remove some lower limbs. Select permanent scaffold branches, which have a wide angle of attachment. Remove closely spaced branches. Allow 12-18 inches between major scaffold limbs at this time (6-8" for small maturing trees).

Cutback branches that turn inward or that extend beyond the natural outline of the tree. Remove root suckers, deadwood, and other objectionable branches. Perform a root collar inspection at this time. Ensure

proper planting depth and remove any girdling roots. Also remove guys if still present.

At 5 to 7 years after planting, remove additional lower, temporary, limbs if necessary to provide for clearance. At this time the remaining branches will become the permanent lower limbs. Provide 12-18 inches of space between these branches (6-8" for small maturing trees). Head back any limbs that protrude from the natural outline. Lightly thin the interior growth. Remove rubbing branches, suckers,

deadwood and co-dominant leaders. Remove root suckers.

At 8 to 10 years and thereafter, prune to remove dead, dying, broken and conflicting and competing limbs and perform light thinning. Cutback protruders, which extend from the natural outline. Remove branches which grow inward or unnaturally downward. The height of the lowest branch will depend on the intended purpose of the tree, potential infrastructure conflicts and client (owner) preferences.

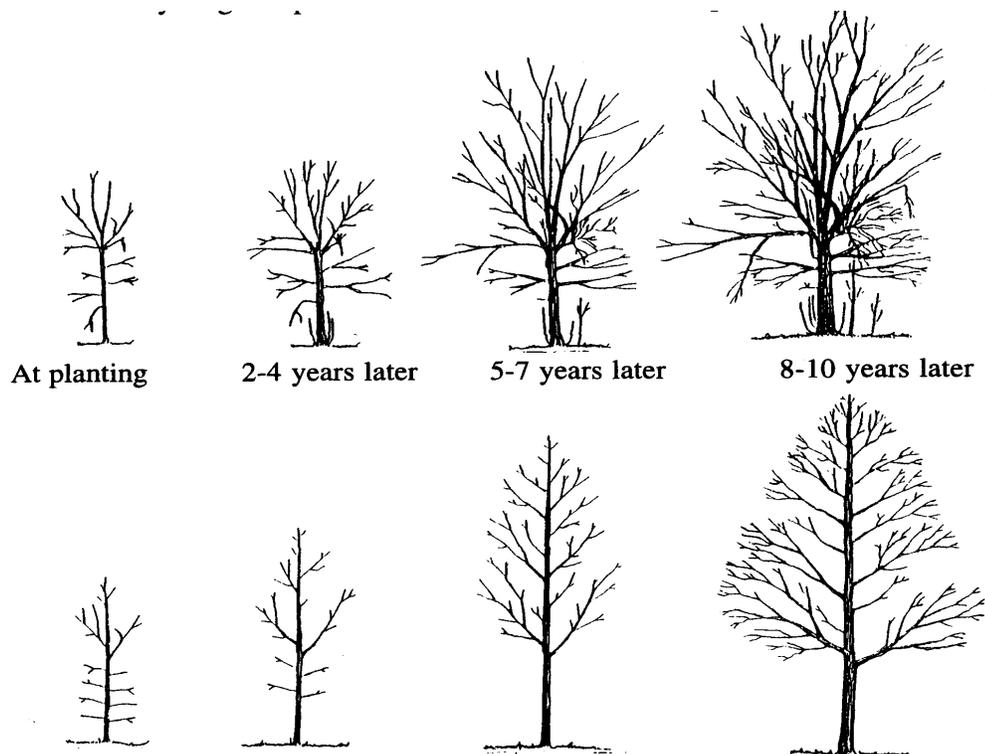


Figure 6. Growth habit of a shade tree that has been properly pruned when young compared to a similar tree that received no pruning.