gation newly transplanted palms will benefit from foliar sprays of macro- and micronutrient fertilizers, since the root system will not be adequate to absorb sufficient water and nutrients for up to a year. As the root system develops, fertilization with complete fertilizers containing both macro- and micronutrients can be applied to the soil by broadcasting the material in a broad band starting about 1 foot and extending out about 5 feet from the trunk. Palms typically show little top growth during the first year following transplanting as their root system becomes established in the soil. Normal production of new leaves generally begins the second year.

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ROOT PRUNING BROADLEAF TREES PRIOR TO TRANSPLANTING

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More than 50% of tree roots are beyond the branch drip-line (4, 9). Watson (8) presented a model of nursery grown trees where roots appeared to extend to three times the drip-line. Gilman (5) indicated that *Gleditsia triacanthos* roots on plants in the ground for 3 years spread approximately three times as far as the branches. It is easy to see why only a small portion (2-8%) of tree root systems is harvested from unroot pruned, field-grown nursery stock (4, 9).

Lateral root pruning and root stock undercutting is practiced in field production nurseries. It is intended to produce a compact, fibrous root system, a higher root:shoot ratio and better transplant survival. However, root pruning is not uniformly practiced in Florida. Timing, depth and distance from the trunk vary widely among nurseries which root prune, and not all nurseries and tree movers practice root pruning.

Lateral roots formed in response to pruning reportedly originate close to the pruning cut (1, 9, 10). Therefore, it is hard to visualize a more compact root system developing unless roots are cut close to the trunk. Root-pruning *Quercus virginiana* 5 cm inside the root ball 1 year prior to harvest and then again 6 months before harvest at the edge of the harvestable rootball increased dry weight of fibrous roots inside the root ball six fold compared to unpruned plants (6). Root-pruning *Pieca pungens* 20 cm inside the edge of the harvestable root ball 5 years before harvesting resulted in a 4-fold increase in root surface area in the root ball (9). Apparently, root density within the root ball can be increased by harvesting the ball beyond the point of root pruning.

Root pruning reduces above-ground plant size and may increase time to harvest a field-grown nursery crop. However, long-term growth is either unaffected or increased (2, 7).

Number of new roots generated by root-pruning vary among species. *Platanus occidentalis* generated an average of 32 new roots whereas *Quercus virginiana* and *Ulmus parvifolia* 'Drake' had less than 10. For five of the six species, 69% or more of the new roots originated within 2.5 cm of the cut. However, only 56% of new *Acer* roots originated within the zone. *Acer* had 27% of new roots more than 5 cm behind the cut; all other genera had 14% or less. Growth of existing lateral roots were stimulated by root pruning on five of six species tested.

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