

Wire Baskets

Why Leave Them Intact?

Insights from the Roots Plus Field-Growers Association of Florida

As members of the Roots Plus Field-Growers Association of Florida (RPG), we're often asked about tree-related practices. One of the most frequent questions is: **"Should wire baskets be removed when planting field-grown trees?"** Our answer, based on experience and research, is simple — no. Wire baskets have proven over more than sixty years to be the most reliable system for handling, planting, and establishing trees. Not only are they not detrimental to a tree's growth or long-term success, they actively contribute to it.

Research shows field-grown trees consistently outperform others, particularly during severe storm events, due to their heavier native soils and fewer root defects compared to other production methods.

What Wire Baskets Do

Wire baskets serve as structural support for the root ball. The top loops and side wires keep the root system intact during loading, shipping, and transplanting. This support — combined with the root ball's natural weight — typically means field-grown trees don't need staking. Avoiding staking not only cuts costs, but also prevents damage caused by improper installation or delayed removal of staking materials.



One Significant Advantage

The significant advantage wire baskets provide in the ability to lift trees of all sizes without strapping the trunk cannot be overstated. A wire basket is designed to support the tree by distributing the weight over the entire root ball. Professionals agree this is the preferred method of lifting trees; lifting the entire weight of a tree by strapping directly around the trunk often causes damage to the trunk and cambium. Damage to the cambium may not be visible immediately and symptoms can appear months or years after improper handling as the trunk tissue dies and the tree declines in the landscape.

Addressing Common Concerns

Some industry guidelines suggest removing the top third or quarter of the wire basket and burlap during planting. These suggestions are well intentioned, but scientific research continues to confirm that leaving the basket and burlap intact has no adverse effect on a tree's establishment or long-term health.

Do Wire Baskets Girdle Roots?

The short answer? No. Roots may grow into the wire, initially indenting around it, but will eventually envelop the wire and reconnect xylem vessels on either side. This process allows the root to remain fully functional. Dye flow tests show that water movement remains unaffected, and researchers found nearly identical xylem structures in roots that had grown around wire versus those that hadn't.



What the Research Says

Dr. Glen Lumis's article in *American Nurseryman* confirms:

- Roots grow around wire baskets, forming a complete bark and wood union
- No permanent girdling occurs
- Wire does not cause injury or promote pathogen entry
- Water and nutrient flow through these roots remains consistent

His advice: leave baskets intact, but remove rope across the root ball and bend back top loops. Proper basket sizing is essential, and the top horizontal wire should sit several inches below the top of the soil ball. RPG members wholeheartedly agree with Dr. Lumis, and believe the extensive track record of wire basket success around the world reinforces his conclusions.

More Evidence from the Field

Another study by Dr. Edward Gilman, published in *FNGLA Greenline* (September 1995), tracked 14-inch caliper trees planted 12 years prior with wire baskets.

His findings:

- There were no signs of root restriction or damage
- Wire spacing in baskets allows room for root expansion
- No evidence the wire impeded tree or root growth
- Live oaks planted in 1992 now exceed 2 feet in trunk diameter with no basket-related stress

In fact, excavation around the root flare revealed that roots had entirely engulfed the baskets — and the trees were thriving.

Key Insights

- Wire baskets support healthy transplanting and reduce staking
- Roots adapt to wire without losing function — no girdling occurs
- Scientific and observational research supports leaving baskets intact
- Remove rope and **synthetic** burlap at planting; bend loops back post-establishment
- Live oaks and other mature trees are not negatively impacted by wire baskets

With more than 40 million wire basket plantings over the past 60 years and minimal reports of decline due to basket interference, RPG stands firm: wire baskets are a superior system.

We welcome questions, feedback, and opportunities to share our knowledge with industry professionals, municipalities, or educational groups.

For inquiries, contact a member of the Roots Plus Field-Growers Association of Florida.



For more information about the **Roots Plus Growers** Association of Florida