

NEBRASKA

STATEWIDE



Arboretum

Tree Selection

Propagation & Nursery Production



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“The future of the profession of arboriculture (and sustainability of urban forestry) begins in the nursery.”

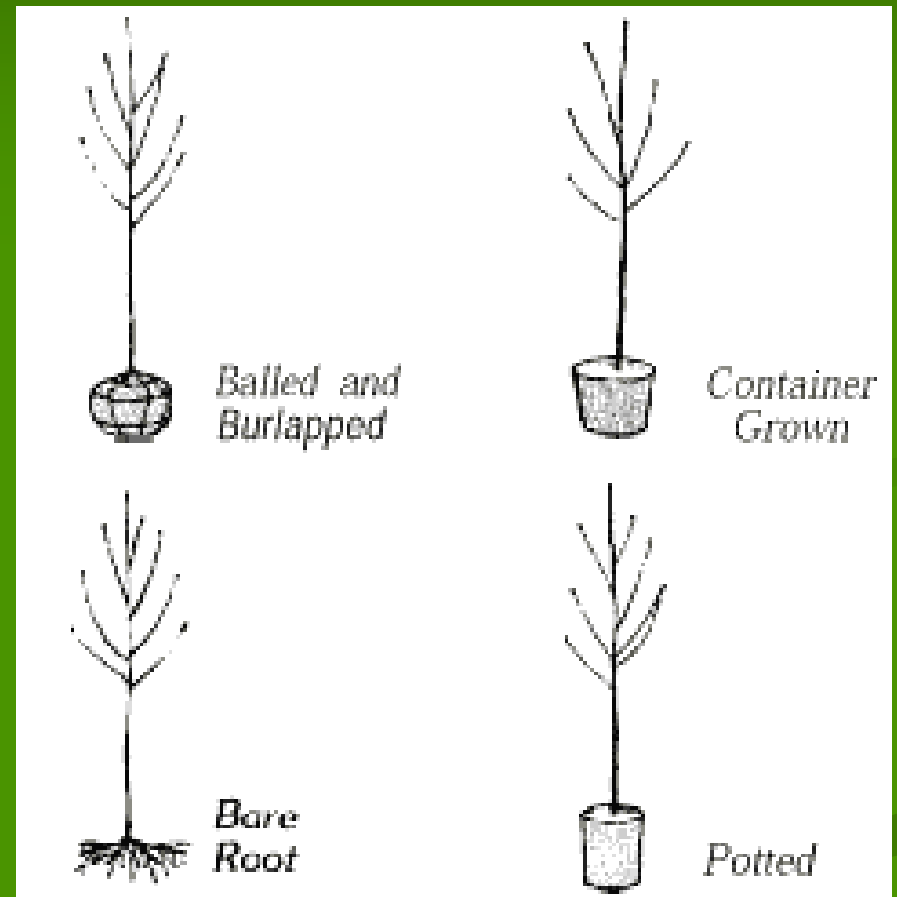
Joe Samnik, founding president, Florida Chapter ISA.

Nursery Growers

Customers today, especially the good landscapers, are better educated and have been exposed to more things than ever before. None of us in the business can afford to stop learning. Continuously “Getting Better” is absolutely necessary if you are going to survive.

Type of Planting Stock

1. Balled & Burlapped
2. Container Grown
3. Bare Root
4. Growbag







Containerized most common



Containers typically the most problems





Containers typically the most problems







Root Selection:



Balled & Burlapped



Containerized



Bareroot



Anybody can plant a tree correctly!



A tree transplanted from the field will lose over 95% of it's original root system.

The roots will form callus tissue to seal off these cut wounds to prevent pathogens from entering the root system.

This takes energy and time adding to transplant shock and recovery.

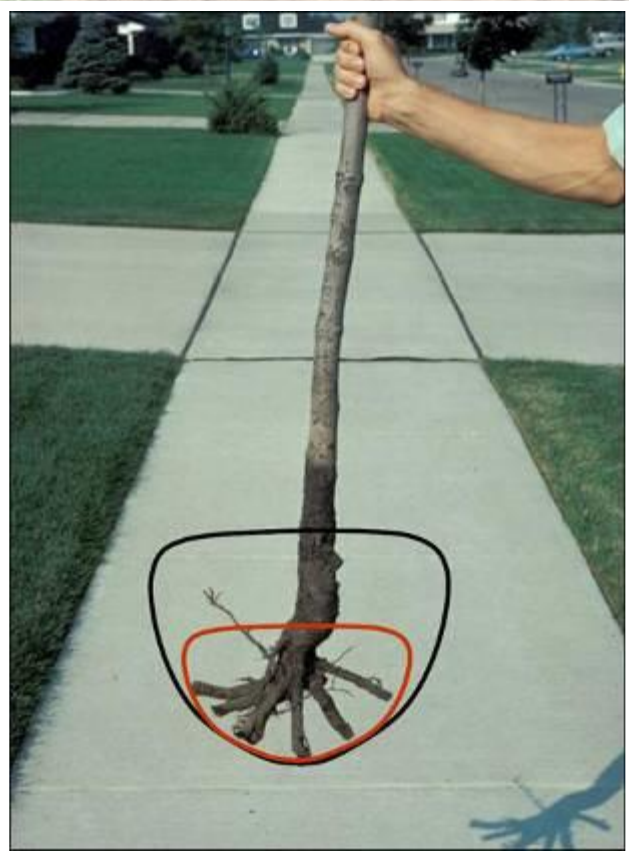
The larger the tree, the longer it takes for the root system to recover and develop.











Find the Root Collar



Balled & Burlapped

IT STARTS WITH THE ROOTS



Root Pruning
Container System

Start Strong

- Air-root-pruning stimulates root branching! Left, without the benefit of air-root-pruning. Right, air-root-pruned in the RootMaker®II container. This critical air-root-pruning accelerates growth and increases efficiency. Continue the root branching with each complementary step of the Whitcomb System®.



Finish Strong

- This 6-inch caliper bur oak was grown with the Whitcomb System® and is 6 years old from seed germination. Notice root branching in all directions. After 3 months in the RootMaker® propagation container, and 2.5 years of constriction-pruning in the knit fabric container, this oak was transplanted and grown 3 years with the fabric removed. The only mechanical root cutting was by a 52" tree spade at harvest.



Roomaker®

The Original root pruning container system®

Nature didn't consider transplanting... RootMakers® do

- Root pruning containers create fibrous root systems using air, constriction or trapping, from propagation to large trees. Rootmaker containers promote root branching and new roots.
- This results in a root system that has a greater surface area than conventional production, and therefore achieves greater efficiency in the absorption of water and nutrients.
- an increase in growth rate, establishment, transplant survivability, and ultimately, superior performance.

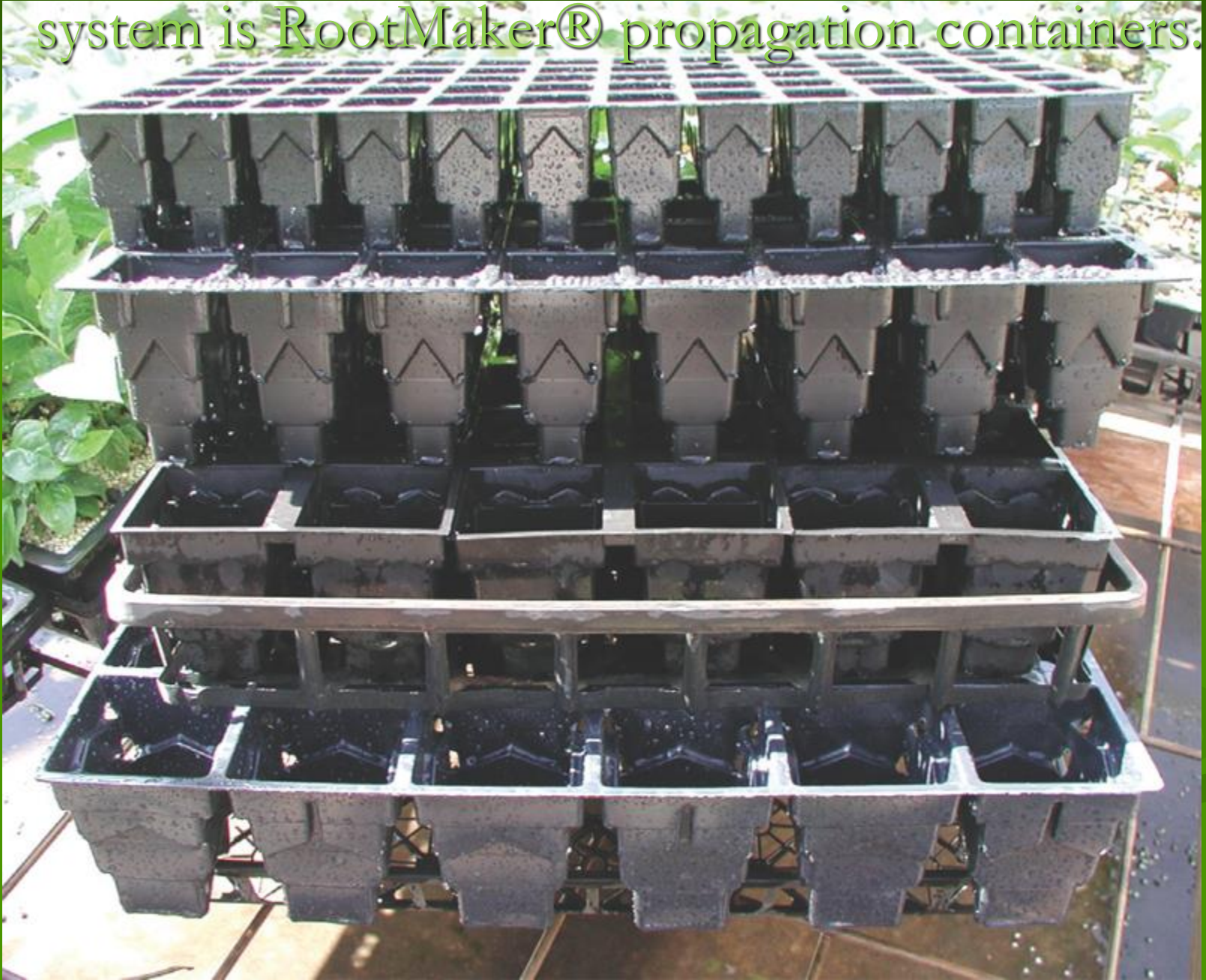
Dr. Whitcomb, inventor of Rootmaker® Products, holds a Ph.D. from Iowa State University and was a professor at Oklahoma State University for 13 years.

An expert on plant root systems, he has been published in hundreds of trade and technical magazines. He is the author of four books and he holds 26 patents, including many container designs.

Propagation Flats with open, mess bottoms to air prune roots



- The first step toward creating a fibrous root system is RootMaker® propagation containers.



RootMakers® require a wire bench or other support 18 to 24" above the floor to allow good air circulation and thus efficient air-root-pruning on all sides of the container, not just the bottom.



Rootmaker Propagation Flats

- The critical start is with propagation containers. Build upon that fibrous root system with each transplant shift.
- Follow the "4-inch Rule" (allow about 4 inches of new sidewall distance between old rootball and the side of the new container) and continue root branching with the container that best fits your production requirements.



Many nurseries shift to 1, 3, or 5 gallon RootMakers®, generally in May, June, or early July, then allow these seedlings to grow in this container until fall planting in the field or the next shift.

All models of 1, 3, and 5-gallon RootMakers® have many openings designed to continue the air-root pruning process.









Knit Fabric Grow Bag



If field planting, the Knit Fabric In-Ground container ranges in size from 8" - 48"





With the Knit Fabric container, small roots extend through the fabric but are unable to expand, causing a constriction which leads to root branching and an accumulation of energy. Water management is less complicated in the field and the root system is protected from temperature extremes.

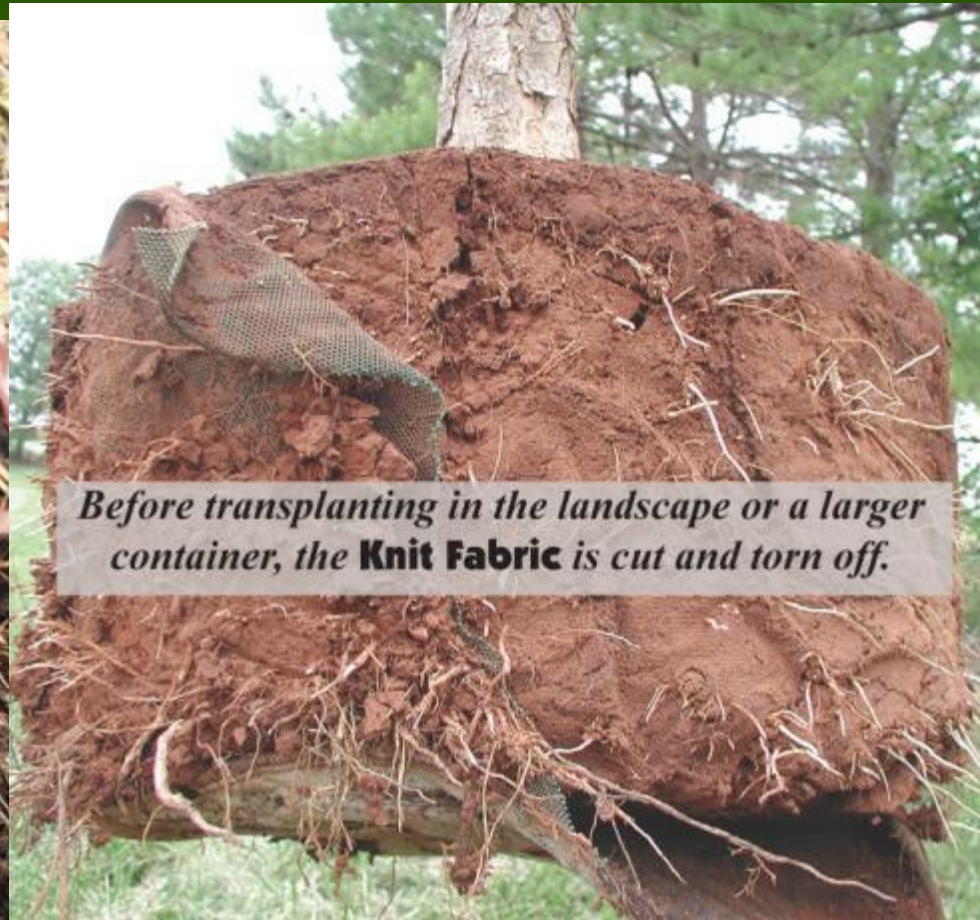
When a tree in the Knit Fabric container is harvested, the fabric is removed and, once planted, is provided the benefit of having a great majority of the root system not only intact, but well branched and equipped to establish into the surrounding soil horizontally rather than just downward.



Although somewhat labor intensive during installation, harvesting is almost a treat. For the smaller sizes (8 to 14") one person can spade around the outside of the container to sever the small roots, rock the tree back and forth, and lift the tree out of the ground.

- Create a fibrous, non-circling root system.
- Promote horizontal root branching.
- Accelerates plant growth, increases vigor.
- Creative solutions for water conservation, insulation, and blow-over and .
- Plants are equipped for rapid transplant success and long-term health.





*Before transplanting in the landscape or a larger container, the **Knit Fabric** is cut and torn off.*





The RootTrapper® Soft-sided Container

The RootTrapper® provides the mobility of remaining above ground and is generally 5 to 30-gallons at this shift. This is a black, spun-bonded fabric which has been laminated with a white coating. This unique container stops circling roots and continues to stimulate root branching by trapping root tips.

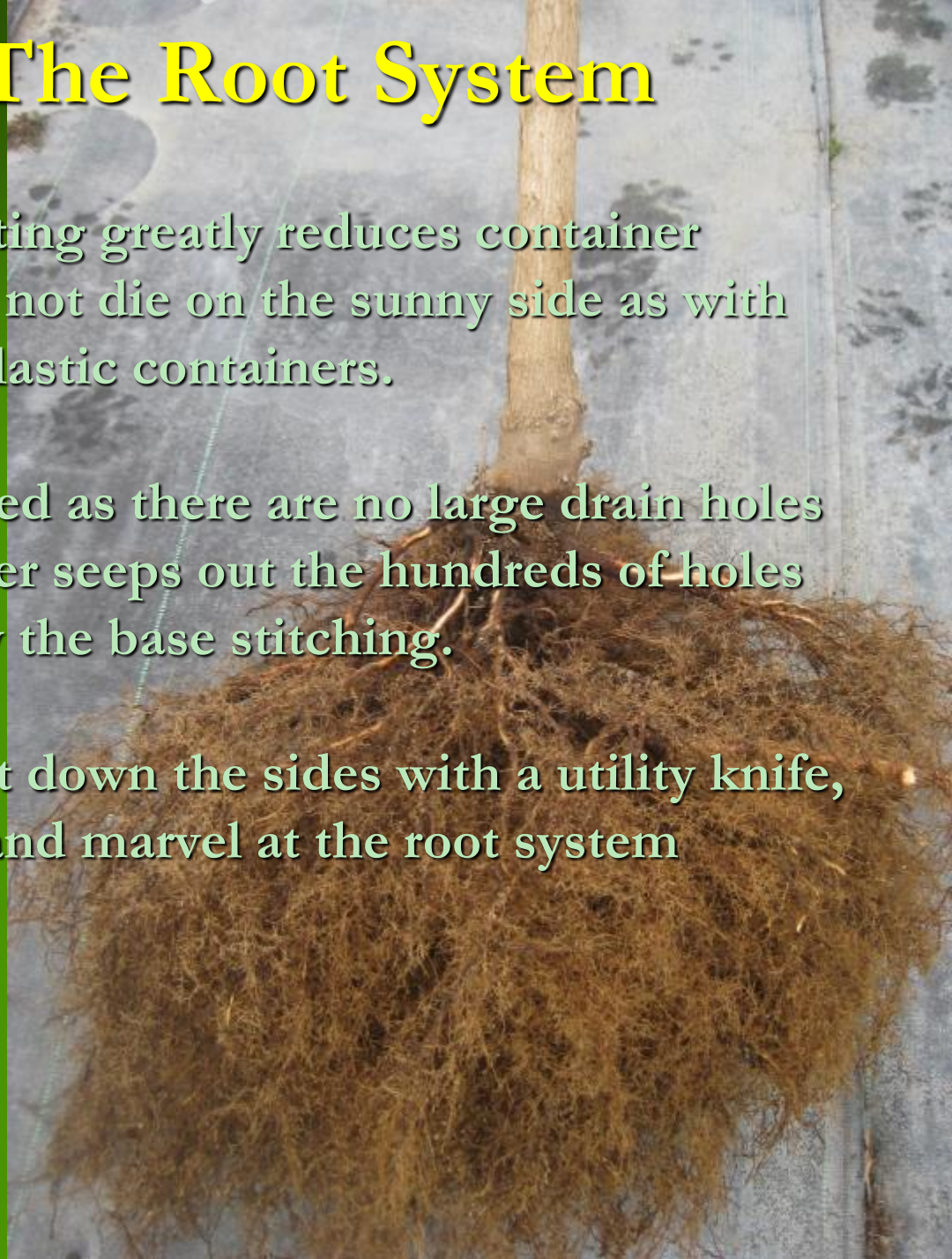


Marvel At The Root System

The white outer coating greatly reduces container temperature so roots do not die on the sunny side as with black plastic containers.
black plastic containers.

Water usage is also reduced as there are no large drain holes or evaporative sides; water seeps out the hundreds of holes created by the base stitching.

When ready to harvest, slit down the sides with a utility knife, peel off container, and marvel at the root system





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