

# Plantline

August 2013

A Newsletter from Carlton Plants LLC

## The **Mighty** Oak



By Esteban Herrera

A wise old owl sat on an oak;  
the more he saw the less he spoke;  
the less he spoke the more he heard;  
why aren't we like that wise old bird?"

Look kids, my old jungle gym is still standing. These words can be mentioned for generations to come whenever discussing an oak tree.

are stored. Oak is favored by fine craftsman to create beautiful furnishings and many of their tools have oak handles. In the past, the Vikings built impressive ships of strong

friends protection. On the contrary, their wide dispersed limbs provide shade for those escaping the heat during the hot months and for some of our furry and feathered friends

IN THIS ISSUE

ALL ABOUT

OAKS



You'll find in these trees endurance, longevity, strength and grace: all characteristics many of us might strive to have. To find a good example of this is as easy as walking down to the old oak grove at the city park.

The purpose by which individuals and nature utilize oaks is exceptionally diverse. For those that partake in the ageless joys of wine, the rich bold flavors are enhanced by the oak barrels in which they

oak to withstand the harsh lashings of the northern seas and our grandparents remedy for sore gums was none other than oak bark tea.

Oaks have been a significant contributor to both developed and underdeveloped landscapes for centuries. In nature, oaks provide a substantial source of habitat, shelter and food. They tend to hold their leaves well into the winter months giving our rodent

they will furnish housing for generations to come.

For all of these reasons and many more we have tried to recapture and enhance some of the characteristics and values of oak. They are being grown in large numbers both in the urban and natural landscapes for continual use. Take a casual walk down West Oak Street to joggle a memory and to enjoy these magnificent specimens!



**A**s nurserymen it is a common goal to strive to grow the best trees despite what measures and obstacles we may need to overcome. Sometimes it may feel as if 'who is growing whom' when it comes to the relationship between a grower and their tree. That special relationship has developed between us as growers and the genus *Quercus*.

Oaks have a reputation of being difficult to transplant due to their coarse and tap rooted nature. This common perception within the arboricultural world has pushed growers to delve into the inner cavities of creativity in order to be able to offer this unique genus to others. Here at Carlton Plants we are no exception and have gone through considerable measures to enhance root structure. Efforts made carry the goal of providing a quality plant that will perform and endure for others.



*In order to start off on the right root with oaks, one must be meticulously active. The recipe for the first two years is as follows:*

**Fall:** Sown in air flats (first air pinch of roots)

**Spring:** Plucked and graded for the straightest and healthiest looking roots

**Spring:** Planted into air prune pot with additional mycorrhizal amenities to assist in nutrient uptake and root dispersal (second air pinch of roots)

**Fall:** Prepped for planting: Graded again for the strongest growers and root pruned when necessary (third pinch of roots)



The above recipe provides strong liners to be planted into the field enabling production to take part in the improvement process. Our oaks are grown typically for either three and/or four years, dependent upon the variety.

Four year programs will provide the larger 6' - 1 1/2" branched sizes, while three year programs may cater to those who want to practice their horticultural hand with whips and light branched trees.



**A**fter the first year of life on the propagation farm, oak liners are planted in the field and left alone to grow wild and free as a shrub while developing a good root system. Following one year in the field they are once again root pruned via undercutting to allow for more breaks in the root system and like most things in life there comes a time when you just have to start straightening out. For an oak this happens in year three.



*Photos top to bottom:  
Air pruning seed boxes;  
*Quercus bi-color* pushing out of the acorn;  
Seedling enhanced root system;  
Air pruning pots*

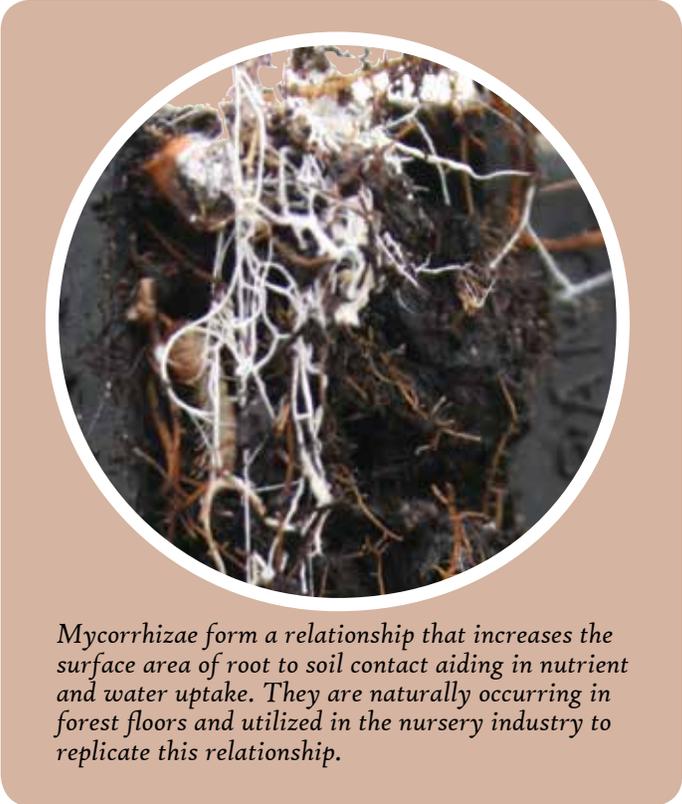
*continued on page 3*

**A**t the beginning of the third year in the field they are cut back to the ground and trained up the stake as a whip. To further enhance root development, some varieties receive an additional undercut. The fourth and final year marks the beginning of head construction. They are double topped and pruned extensively to encourage uniform branching while maintaining a controlled central leader. The results and measures taken over the course of multiple years are placed right in front of us. The roots are primed to perform with all the necessary components for establishment.

These root systems are expansive but still light and easily handled during the shipping, receiving, and planting process. A strong head, built ready to take its form in the landscape without the need for extensive construction.

As was mentioned before, who is handling whom here? Oaks have helped us to grow as growers and in addition we have been able to apply some of these techniques to other challenging genres such as Gymnocladus, Ginkgo and Aesculus.

So rather than being frustrated by the oaks nature, we are now humbled by it.



*Mycorrhizae form a relationship that increases the surface area of root to soil contact aiding in nutrient and water uptake. They are naturally occurring in forest floors and utilized in the nursery industry to replicate this relationship.*

### Results of our Root Enhancement Program



Before



After

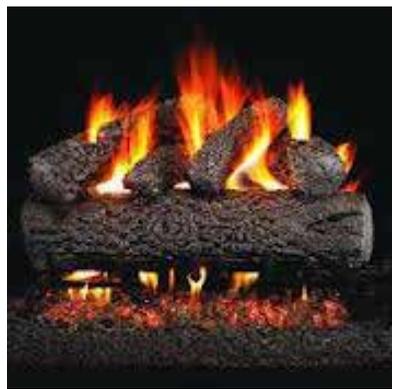
#### Did You Know?

There are about 600 species of oak that exist worldwide. The genus Quercus includes deciduous and evergreen species and is native to the northern hemisphere.

Oak trees can live up to 200 years or more and mature trees have the capacity of absorbing more than 50 gallons of water in one day.

The oak is the National Tree of the United States.

**BENEFICIAL  
OAK**



Photos top to bottom:  
 Red Squirrel with acorn; swing; *Quercus garryana*; *Quercus rubra* (borealis) Northern Red Oak fall color; owl nest, *Quercus macrocarpa*; Kindred Spirit; oak log fire; *Quercus phellos* at Spring Grove Cemetery; oak wine barrels; oak ship steering wheel; acorns



**I**n recent years, there has been much attention given to root systems and rightly so. The roots are essential to the survival and performance of newly planted trees and shrubs.

Undercutting, air-pruning, mycorrhizal fungi, and hormones are all methods we are currently utilizing to enhance root systems particularly on those genres that are more difficult to transplant. These techniques have dramatically improved root systems, reduced transplant loss, and have greatly improved performance and growth. One major advantage of bareroot production is the ability to fully examine root systems prior to planting. Bareroot production offers a well-developed root structure including a balance of feeder



Pruning improved root system

storage, and anchor roots. The management of these improved root systems and their environment is critical to a plants success and performance. Good root management starts with good soil conditions. Potting mixes and field soils should be properly tested and amended accordingly. In addition, any compaction, drainage, pest or pathogen issues should be addressed. Compost has also proven to be beneficial to many of our growers in addition to our own production.

Prior to planting, roots should be maintained moist and protected and not subjected to any freezing temperatures.

One of the most important aspects of root management is root pruning. The best growers we encounter

do very little, if any root pruning. They realize that most of the plants' energy and drive needed to get established and grow are located in the roots. Containers and planting shoes should be matched to the roots. All too often

we see roots, regardless of genus, pruned heavily to fit a smaller pot or shoe. The result is higher loss and less size. This is especially true with plants that are more sensitive to transplanting. For example, a crabapple or maple is going to be much more forgiving than an oak or hackberry. All of

these sensitive genres are currently being undercut and are noted in our catalog. Heavy root pruning on these genres should always be avoided.

Bareroot plants easily adapt and blend with a variety of soils and conditions. A strong watering at planting is a must. In addition to ensuring adequate moisture, a heavy watering will force soil in and around the roots ensuring direct contact with the soil and in turn, the water and nutrients that it holds. Another critical issue is planting



Planting Machine

depth. As a rule of thumb, the trees should be planted at the original soil line just below the bud union. Roots should not be exposed above the soil line nor should the tree be planted too deep; either case usually results in a tree that is stressed and goes into decline.

Caution should also be given to chemical applications. Roots of newly planted trees and shrubs can be especially sensitive to certain herbicides.

Root management is probably the single most important component of a grower's success. It is the foundation of a product's quality and ultimately profitability.



20" Planter

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## ANNUAL OPEN HOUSE

Mark your calendars for our Annual Open House at our main office facility on August 21st.

Tours will be available all day and take a self-guided tour of our equipment display area.

Enjoy a delicious NW traditional Native American style salmon and barbecued pig dinner with all the trimmings starting at 5:30 p.m. Come relax with a cool drink, live music and a visit with your nursery friends. Be sure to leave your business card or name and nursery at our raffle box table for a chance to win one of our fun prizes.

We look forward to the day and hope to see you!



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