

# Transplanting Hazards of Woody Ornamentals



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# Plant Characteristics and Effects on Transplanting

## ► Root systems

**Coarse rooted** – don't have many fibrous roots tend to regenerate slowly. Also more difficult to dig a hand-good root ball.

**Shallow and finer rooted** - can be subject to dry desiccating periods during the winter.

**Fibrous rooted** – hold a root ball well and are the easiest to transplant.

## ► Bark, branches and leaves

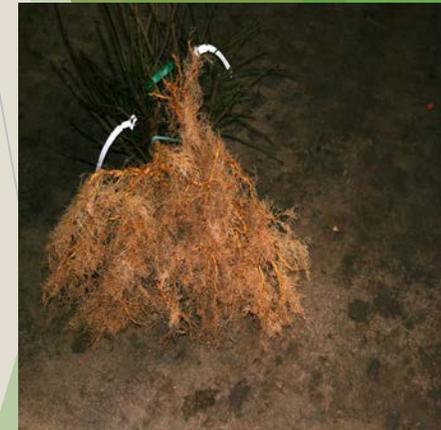
**Thin barked** - There is more cambial activity on sunny days and thin bark does not do a good job of retaining moisture.

**Abundant twigs** - There is an increased surface area exposed to potential inclement conditions allowing trees to dry out quickly.

**Broadleaf Evergreen trees and shrubs** - In general are notoriously difficult to transplant in the fall because they tend not root quickly. This makes them rapidly desiccate during cold windy periods in the winter. The amount of leaf surface is also a factor.

**Compound leaf** - have relatively fewer branches and tend to be the safest to transplant in the fall.

► Plants that 'Harden-off' later in the fall – These plants retain their leaves deep into the fall and digging them too early will promptly dry them up without dropping a leaf.



# Plants That are Difficult to Transplant in General

## ▶ **Timing**

Betula - Early spring/ fall hazard

Daphne - Late spring/ summer

Fraxinus - Spring/ late fall

Liquidambar – Late spring/ fall hazard

Hamamelis sp. - Fall

Pyrus calleryana – Spring/ late fall

Malus sp. - Early spring/ never in leaf

Salix ssp. - Early spring/ fall hazard

Some Viburnums

## ▶ **Fleshy rooted**

Crataegus sp., Hawthorn

Magnolia sp., Magnolia

Parrotia persica sp., Persian Ironwood

## ▶ **Coarse rooted**

Quercus acutissima, Sawtooth Oak,

Quercus alba, White Oak,

Juglans nigra, Black walnut,

Carya glabra, pignut hickory,

Castanea mollissima, Chinese chestnut,

Taxodium distichum, Common Baldcypress

Populus sp.

## ▶ **Tap rooted**

Juglans sp., Hickories

Quercus rubra, Red Oak

Nyssa sylvatica, Tupelo, Blackgum

Sassafras albidum, Sassafras

## ▶ **Twiggy/ thin barked**

Quercus phellos, Willowoak

Betula sp., Birch

Salix sp., Willow

## **Side Note:**

*Scarlet Oak* roots required three to four times more time to regenerate than Pin Oak roots needed to heal the cuts and thrust out new branch roots. The ideal time to dig and transplant trees of this type is just as they are breaking dormancy in the spring.

## From other lists

Acer buergeranum  
 Cotinus sp.  
 Cupressocyparis leylandii  
 Daphne sp.  
 Hedera helix  
 Hibiscus sp.  
 Ilex opaca sp.  
 Juniperus virginiana  
 Kerria sp.  
 Koelrueteria paniculata sp.  
 Lagerstroemia sp.  
 Magnolia sp.  
 Oxydendron arboretum  
 Populus sp.  
 Prunus - all stone fruits  
 Pseudolarix  
 Sassafras albidum  
 Sophora japonica  
 Tamarix sp.  
 Ulmus parviflora

	Common Fall Hazard Traits			
	Minimize Moisture Loss	Thin Barked Trees	Harvest Time	Trees with Coarse Roots
<i>Acer rubrum</i>	X	X		
<i>Betula</i> sp.	X	X	X	
<i>Carpinus</i> sp.	X	X	X	X
<i>Celtis</i> sp.	X	X		
<i>Cercis</i> sp.	X	X		X
<i>Cercidiphyllum japonicum</i>	X	X		
<i>Cornus</i> sp.	X	X		
<i>Crataegus</i> sp.	X		X	
<i>Fagus</i> sp.	X	X		
<i>Halesia</i> sp.	X		X	
<i>Liquidambar styraciflua</i>	X		X	
<i>Liriodendron tulipifera</i>	X	X		
<i>Malus</i> sp.	X	X	X	
<i>Nyssa sylvatica</i>	X			X
<i>Ostrya virginiana</i>	X	X	X	X
<i>Platanus</i> sp.	X	X		
<i>Pyrus</i> sp.	X		X	
<i>Quercus</i> sp.	X	X	X	X
<i>Taxodium distichum</i>	X		X	
<i>Tilia tomentosa</i>	X	X		
<i>Zelkova serrata</i>	X	X		

Chart by Matthew Stephens,  
 Director of Street Tree Planting  
 for the City of New York  
 Department of Parks &  
 Recreation

### Some family exceptions:

Quercus palustris  
 Quercus bicolor

# Fall Dig Hazard Plants

# Steps to Improve Survivability

- ▶ When possible, substitute for a plant which is not considered a planting hazard at time of planting.
- ▶ Have the plant root-pruned during the spring or summer allowing new root generation prior to the actual transplanting.
- ▶ Over-size the root ball. This brings more of the root system with the plant.
- ▶ Add biostimulants to root system – e.g. Bioplex
- ▶ Use anti-desiccants to slow the loss of moisture from severe winds – e.g. Wilt-Proof and Vapor-Guard..
- ▶ Wrap trunks with tree wrap paper
- ▶ Mulch roots well, but not the trunk!
- ▶ Increase watering prior to harvest and after planting through the winter months if possible.