



Nursery News

February 2007 - Research & Development

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NATIVE PLANTS

Have Many Uses In A Designed Landscape

Provenance of plants for urban sites is a growing concern. Choosing plants that originate from the relative climate in which they will be planted is like buying insurance for a successful landscape.



Provenance: The longitudinal difference is more important than the latitudinal difference. It is also easier for a plant from the north to survive further south than the other way around.

Native plants are adapted to specific site locations according to their native soil, drainage requirements and sun exposure and climate. The need for cultivars arose when attempting to landscape particularly difficult sites. Some cultivars are a better choice than natives for the most difficult landscape situations. For example, street trees take much more abuse than a park tree planting in a naturalized area. A street tree must be pollution tolerant, heat tolerant, and salt tolerant.

Growing native plants that will thrive in an urban environment requires rigorous training and conditioning, and only the best will survive. Planting depth, root pruning, heavy clay loam soils, proper digging and handling, and northern winters and summers in open fields will give the young trees the proper upbringing to make them competitors when the big transplant day comes.



Maximum Health ≠ Maximum Growth

Our native trees and shrubs are monitored for diseases and pests and treated in the least toxic manner. Plants that are too pampered in their growing site will require pampering in the landscape.

Glacier Oaks Nursery propagates, grows, and evaluates many native woody species and cultivars.

Propagation

Glacier Oaks Nursery propagates the majority of our native trees and shrubs by seed, softwood cuttings, or root cuttings. We have tried many seedling regimes over the years and we follow up-to-date collection, treatment, storage and sowing recommendations. Factors important to successful propagation are correctly identifying plants, and understanding timing, storage and preparation procedures.

Production

Our native liners are grown in small pots for several years as we strive for a well-branched root system. They are then transplanted into #3 up to #20 pots depending on the plant, and maintained in our container and pot-in-pot ranges. By moving our native trees and shrubs through containers, we eliminate transplant shock, because there is no disruption to the majority of the root system.

Pot-in-Pot

Our pot-in-pot trees are grown for up to three years before planting in warm summer soils with drip-irrigation. We have found that hard to transplant tree species respond to being grown in a container before planting. We have found these trees easy to establish in the final landscape as well as in McHenry County Nursery's open fields. Part of the reason the pot-in-pot trees move so well is that 100% of the roots are contained in a smaller area, and this density appears to benefit the plant even after transplanting to the field where they quickly produce new roots and knit into the surrounding soil. The containerized trees are not as susceptible to rough handling and so do not have as much transplant shock or root disturbance.

Native Plants For Urban Landscapes

Urban areas are made up of microclimates created by reflected heat, frost pockets, wind, or large water bodies. When properly selected for these difficult sites, Native plants are naturally hardy to the region, and most are tough and adaptable. Also purchasing local grown plants that have acclimatized to the area to the climate increases the chance of survival.

Shade tolerant native plants found in the understory of the forest can be used for sites that are mostly shaded by buildings.

If water (natural or irrigation) is in short supply, or if the site is wet, select adaptable natives, or certain species that originate in similar site conditions. If post-planting watering is limited, know your nursery supplier's irrigation practices, the more supplemental water they provide the plant, the less likely it is to have adapted to dry conditions and will not have the strength to survive dry urban sites.

The pH in many urban sites is alkaline, because soils near pavement, masonry, or foundations contain limestone. Select alkaline tolerant native plants that originated in calcareous rocky areas. Salt spray and soil salt is an issue in most urban sites; many native species tolerate salt.

If soils are sandy there is less compaction, but also less water retention, if soils are clayey there can be compaction, and too much water. Select adaptable native plants or select specific plants for the soil type. For sandy soils select trees that naturally occur in sandy dunes or upland woods. For compacted soils, select trees that naturally occur in areas of low soil oxygen such as swamps and floodplains.

For sites where the soil layer is disturbed by recent construction, select plants that tolerate harsh environments and grow naturally in disturbed woods, roadsides, or fencerows. For erosion control, use spreading type native plants that grow naturally along slopes.

A "Native" plant in our catalog is a species that was growing naturally in an area south of Madison, WI, north of I80, west of Lake Michigan and east of the Mississippi River prior to European settlement. These species define the glacial moraines and prairie landscapes of northern Illinois and southern Wisconsin. Native species are also grown on their "own roots."



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NATIVE PLANTS Grown at McHenry County Nursery & Glacier Oaks Nursery

Native Trees & Shrubs Straight Species	Soil/Exposure							
	Alkaline Soil	Acid Soil	Clay Soil	Shade	Wet Soil	Dry Soil	Urban	Exposure
Aesculus glabra				✓	✓			
Aesculus parvifolia		✓		✓				
Aesculus pavia					✓			
Amelanchier canadensis	✓			✓	✓	✓	✓	✓
Aronia prunifolia			✓	✓	✓	✓		✓
Betula allegheniensis		✓						✓
Carpinus caroliniana	✓			✓				
Carya cordiformis	✓							
Carya laciniosa					✓			
Carya ovata						✓	✓	
Ceanothus americanus						✓	✓	
Celtis occidentalis	✓				✓	✓	✓	✓
Cephalanthus occidentalis		✓			✓			
Cladastris lutea	✓	✓	✓	✓				
Cornus alternifolia	✓			✓	✓			
Cornus pumilla			✓	✓				
Cornus racemosa	✓		✓	✓	✓	✓	✓	
Corylus americana	✓			✓				
Crataegus mollis	✓		✓			✓	✓	✓
Diervilla lonicera trifida				✓				
Euonymus atropurpureus			✓	✓			✓	✓
Fagus grandifolia								
Gymnocladus dioicus	✓				✓	✓	✓	
Hamamelis virginiana	✓	✓	✓	✓	✓	✓	✓	✓
Juglans cinera	✓						✓	



Salix



Cornus



Rosa



Hamamelis



Cephalanthus

Native Trees & Shrubs Straight Species	Soil/Exposure							
	Alkaline Soil	Acid Soil	Clay Soil	Shade	Wet Soil	Dry Soil	Urban	Exposure
Juglans nigra								
Larix laricina		✓			✓			
Lindera benzoin	✓	✓						
Liriodendron tulipifera							✓	
Nyssa sylvatica		✓						
Ostrya virginiana	✓		✓	✓		✓	✓	
Prunus americana	✓					✓	✓	
Quercus alba								✓
Quercus bicolor					✓	✓		✓
Quercus coccinea								✓
Quercus ellipsoidalis							✓	✓
Quercus imbricaria							✓	✓
Quercus macrocarpa	✓					✓	✓	✓
Quercus muehlenbergii	✓					✓	✓	✓
Quercus palustris					✓			✓
Quercus rubra	✓					✓		✓
Quercus velutina		✓				✓		✓
Ribes missouriensis								
Rosa setigera	✓						✓	
Salix discolor	✓	✓	✓	✓	✓			✓
Spiraea alba	✓	✓		✓	✓			
Symphoricarpos albus	✓		✓	✓		✓		
Viburnum lentago	✓		✓	✓	✓	✓	✓	✓
Viburnum prunifolium	✓		✓	✓		✓	✓	✓



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Native Trees & Shrubs cultivar selections available	Alkaline Soil	Acid Soil	Clay Soil	Shade	Wet Soil	Dry Soil	Urban	Exposure
*Straight Species also available								
Acer rubrum Autumn Spire, Red Sunset®		√	√		√			√
Acer saccharum Appollo™, Crescendo™, Fall Fiesta™, Green Mountain®	√			√				√
Amelanchier laevis* Snowcloud	√	√		√		√		
Aronia melanocarpa elata, Iroquois Beauty™			√	√	√	√		√
Betula nigra* Fox Valley™		√	√	√	√			√
Clethra alnifolia* Hummingbird, Ruby Spice		√		√	√			
Cornus sericea Allema's Compact, Bailey, Cardinal, Isanti		√	√	√	√		√	√
Crataegus crusgalli* inermis(thornless)	√		√			√	√	√
Fraxinus americana Autumn Purple®, Chicago Regal, Rosehill, Windy City™	√			√			√	
Fraxinus nigra Fallgold	√			√	√			
Fraxinus penn. lanceolata Cimmaron®, Marshall Seedless, Patmore, Summit			√		√	√	√	
Gleditsia tri. inermis Shademaster, Skyline	√	√	√		√	√	√	√
Ilex verticillata Berry Heavy, Jim Dandy, Red Sprite, Southern Gentleman, Winter Red®		√		√	√			
Itea virginica Henry's Garnet, Little Henry, Scarlet Beauty					√	√		
Juniperus horizontalis Andorra Compact, Wiltonii			√	√		√		√
Physocarpus opulifolius* Diablo	√		√			√	√	
Pinus strobus* Compacta				√			√	
Prunus virginiana Canada Red	√		√	√		√		
Rhus aromatica Gro-Low			√	√			√	
Rhus copallina Prairie Flame™			√			√	√	
Rhus glabra* Laciniata	√		√	√		√	√	
Rhus typhina* Dissecta, Laciniata, Tiger Eyes	√		√	√		√	√	
Sambucus canadensis* York								
Tilia americana Redmond	√							√
Viburnum lantana Mohican	√		√	√		√	√	√
Viburnum trilobum* Compactum, Compact Alfredo, Compact Bailey, Hahs, Redwing®	√			√	√		√	√



Aronia



Tilia



Clethra



Ilex



Viburnum