



BAILEY®

GROWING WHAT'S NEXT



GROWER GUIDE

TREES | JUMPSTARTS® | CONSUMER BRANDS

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ABOUT BAILEY

Bailey Nurseries is a fifth-generation wholesale nursery known for producing top-quality plant material, innovative marketing programs, and cutting edge genetics. The wealth of experience we've acquired over the last 100+ years has contributed to deliver reliable, quality product, as well as the development of our proprietary brands Endless Summer® Hydrangeas, First Editions® Shrubs & Trees, and Easy Elegance® Roses.

Our commitment to growing what's next is more than just a tagline referring to genetics and innovation. It also means cultivating the next generation of growers, because while high quality product is paramount, so are the people behind them. Your success is important to us, and we're dedicated to providing you with the tools and resources to make that possible.



GROWING LOCATIONS

Headquartered in St. Paul, Minnesota, Bailey has growing and shipping locations across the US. That large footprint benefits you as a grower in several ways, including access to staged crops for fresh products throughout the season. By strategically growing crops in the right climates, you can be assured the plants you purchase are healthy and acclimated to the right conditions.

MINNESOTA

A full spectrum of product lines is grown, stored, and distributed here: rooted cuttings, bareroot trees and shrubs, Bud & Bloom seasonal crops, and finished containers.

This shipping point is also where you'll find the most cold-hardy plants, many hardy to zone 2.



ILLINOIS

Container shrubs are the name of the game at this farm an hour south of Chicago. Ideally located in the middle of the country for fast shipment to high-demand regions.

OREGON

In addition to the full line of products being produced and distributed here, our tissue culture lab is located in Dayton, OR. A large selection of plants that are heat tolerant from zones 5-8 are available from Yamhill and Dayton.



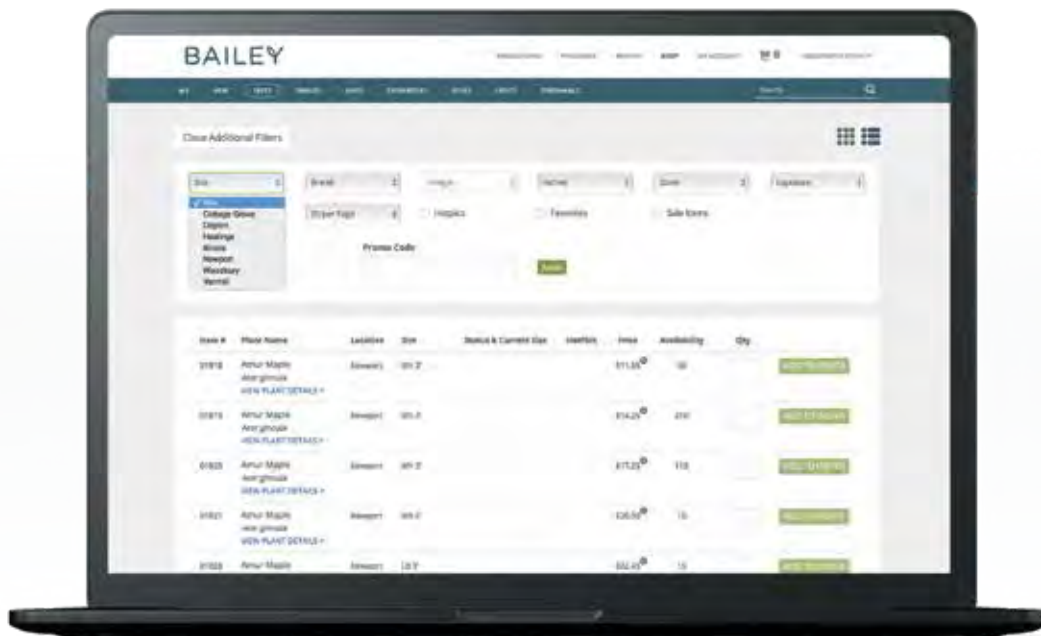
GEORGIA

Bailey Innovations™ serves as the hub for breeding and trialing new genetics for Endless Summer® Hydrangeas, First Editions® Shrubs & Trees, and others.

GROWER RESOURCES

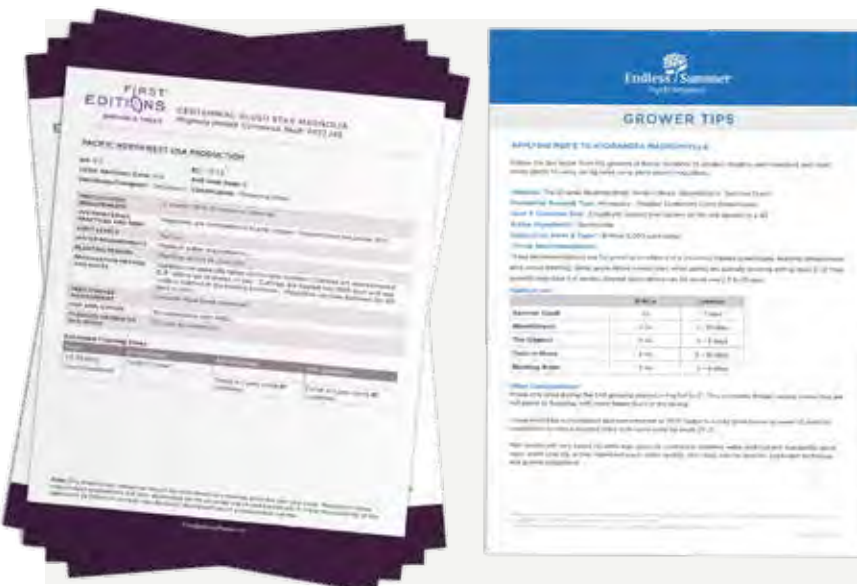
Whether you are new to growing trees or have a lot of experience and are simply looking for some new tips, the Bailey website hosts a range of resources dedicated to supporting you. In addition to your knowledgeable Sales Representative, access these tools anytime when you log into your account at:

WWW.BAILEYNURSERIES.COM



SHOP

Plan and track your orders with the click of a button. View current product status photos to time your orders and get product at the stage that you need it.



LEARN

Find product information including plant descriptions, photos, grower guides, videos, culture sheets, and more.

PROPAGATION

As a fellow grower, we recognize how critical it is to source liners that are strong and healthy, and that begins with the right propagation techniques. Below are just a few of the many techniques used at Bailey to get you off to the right start.



HARD & SOFTWOOD CUTTINGS

One of the most common techniques utilized in growing shrubs and some trees, our hard and softwood cuttings are always locally sourced. Young plants get their start in the greenhouse, rooting in sand beds. While this medium has many cultural advantages, you can see the difference in the strong fibrous root systems that it produces.



TISSUE CULTURE

Producing true-to-name, timely, consistent, and high-quality plant material that will perform is a core component of our propagation program. Having a tissue culture lab in Dayton, Oregon gives us an alternative technique for varieties that have low germination rates or are slow to root from cuttings. This ensures that we can respond to market volatility and have product in the pipeline for genera such as *Betula*, *Cotinus*, *Ginkgo*, *Loropetalum*, *Pyrus*, and French hybrid *Syringa*.



PROPAGATION

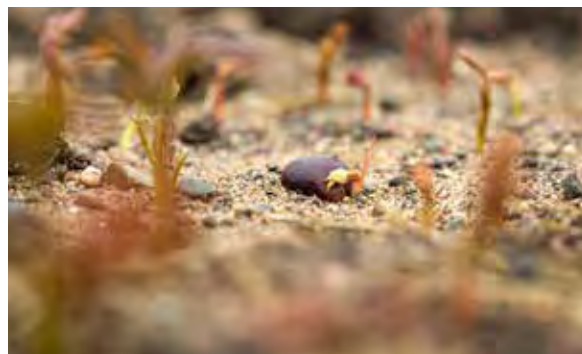
SCION & BUDWOOD

As critical as true-seed is, so is healthy and true-to-type scion and budwood to creating a healthy liner. Orchards on the West Coast and the Midwest are maintained with the strictest standards including Certified Virus Indexing for many fruit trees so you can trust the product to be successful in your production and for your customers.



SEED

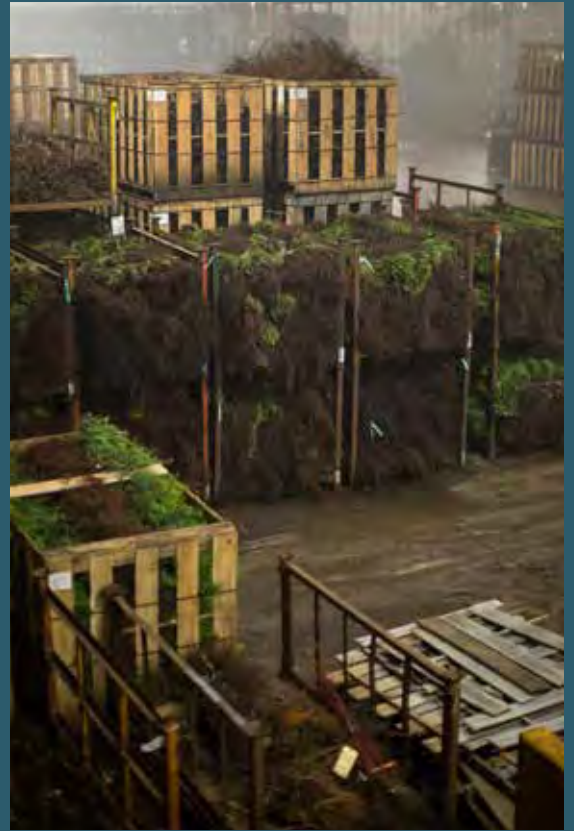
Some varieties within genera such as *Cercis* or *Populus* have regional differences that affect their hardiness or adaptability to certain altitudes. To ensure your success, we source our seed from the region where it will be grown and note those differences in our catalog so you can choose the right tree for your needs.



COLD STORAGE

With over 12 acres of refrigerated storage facilities in Minnesota and Oregon, bareroot liners get the spa treatment as they are graded, sorted, and stored so they can achieve proper vernalization and chill hours.

Sophisticated systems maintain temperatures and humidity levels targeted to each species, ensuring that every plant achieves the best results based on its own particular cooling needs.



JUMPSTARTS®

JumpStarts® shrub liners are the poster child for what kind of ingenuity happens when growers get together to solve a challenge. They are the first liner of its kind to feature grooves in its sidewalls to inhibit root circling. Growers know that a great plant starts with a solid liner, and JumpStarts® liners from Bailey mean that growers can focus on day-to-day production without having to worry about rootbound young plants that cause crops to lag behind.

**IT'S NO GIMMICK,
NO FANCY MARKETING,
NO CATCHY PHRASES.**

**JUST GOOD HONEST LINERS THAT WERE
DEVELOPED FOR GROWERS, BY GROWERS.**

Quart-sized liners that come 15-tray



Feature grooved cells to inhibit root circling for reduced transplant shock



- Well-suited for mechanical and automated planting systems
- Offered throughout the growing season so you can plant spring, summer, and fall
- Wide availability of branded and non-branded plant varieties



The growers at Bailey are constantly evaluating and evolving production techniques to get the best possible outcome. Speed in production can only mean quality when the investment is made in a liner designed to match the production system. If you are a grower who needs inventory turns quickly, likes high yields with your crops, and consistent quality you can be proud of, we think JumpStarts® liners check all of the boxes.

JUMPSTARTS® | TREES

PLANT WHEN YOU WANT

No longer limited to just spring planting, you can manage your labor and align your production timing to quickly and easily meet customer demand with JumpStarts® potted tree liners.

ASSORTMENT

Choose from over 35 popular tree varieties. These liners are ideal for container or field planting.

SUPPORT

Take advantage of cultural and production tips in this grower guide and online. Full color retail tags and POP are available for order to carry high level marketing through to consumers.

AVAILABILITY

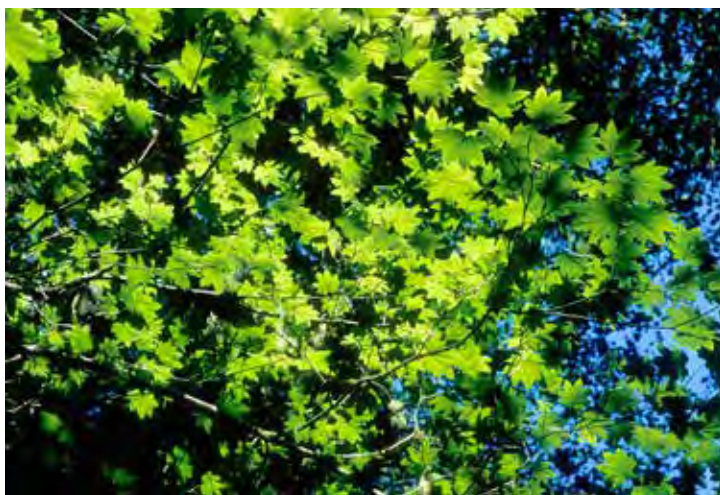
Convenient shipping from Cottage Grove, Minnesota, Yamhill and Dayton, Oregon make it easy to get the right amount of product when you need it.





ACER TO ZELKOVA

KEY GENERA AND VARIETY SPECIFIC
PRODUCTION TIPS CURATED FOR YOU BY
OUR TEAM OF GROWERS.



Oregon Vine Maple *Acer circinatum*

Zone: 5-8 Height: 20-25' Width: 24-30'
 Propagation Method: Info. Pending Rootstock: Own Root

Acer ginnala - Amur Maple

This tree has a graceful, irregular shape formed by slender spreading branches. Extremely hardy, it is an excellent xeriscape plant and offers outstanding fall color.

Species Tips:

- Susceptible to verticillium wilt and leaf hoppers; monitor and treat as needed.
- Prefers low free-moisture levels during bareroot storage. Dig crops in the spring to reduce storage time, and keep in areas with lower moisture levels.
- Choosing a one year top provides the fastest turn for most production programs.

More to know ...

- Hardy to USDA zone 3 and adaptable to a range of soil types.
- Consistent fall color in a range of intense yellows, oranges, and reds.



Amur Maple - Tree Form

Acer ginnala
 Zone: 3-7 Height: 15-20' Width: 15'
 Propagation Method: Seed
 Rootstock: Own Root



Ruby Slippers Maple

Acer ginnala 'Ruby Slippers'
 Zone: 3-8 Height: 15-20' Width: 15-20'
 Propagation Method: Budded
 Rootstock: *Acer tataricum*



Flame Amur Maple - Tree Form

Acer ginnala 'Flame'
 Zone: 3-8 Height: 15-20' Width: 15-20'
 Propagation Method: Seed
 Rootstock: Own Root



Paperbark Maple *Acer griseum*
 Zone: 5-7 Height: 20-30' Width: 10-15'
 Propagation Method: Seed Rootstock: Own Root



State Street® Maple *Acer miyabei* 'Morton'
 Zone: 4-9 Height: 40' Width: 30'
 Propagation Method: Budded Rootstock: *Acer campestre*



Sensation Maple *Acer negundo* 'Sensation'
 Zone: 3-6 Height: 30' Width: 25'
 Propagation Method: Budded Rootstock: *Acer negundo*

Species Tip: Susceptible to powdery mildew. Allow ample spacing and limit overhead watering. Monitor and treat as needed.

Acer platanoides - Norway Maple

Fast growing. Transplants easily. Adapts well to extremes in soils and can withstand clay or sandy conditions.

Species Tips:

- Prune and stake to maintain a strong central leader and reduce lateral branch competition.
- Prefers well-drained soils; avoid long term exposure to high soil moisture levels.
- Red leaf varieties may be more susceptible to powdery mildew. Provide ample spacing and limit overhead watering. Monitor and treat as needed.



Columnar Norway Maple

Acer platanoides 'Columnare'

Zone: 4-7

Height: 40-50'

Width: 15-20'

Propagation Method: Budded

Rootstock: *Acer platanoides*



Crimson King Maple

Acer platanoides 'Crimson King'

Zone: 4-7 Height: 35' Width: 35'

Propagation Method: Budded

Rootstock: *Acer platanoides*



Crimson Sentry Maple

Acer platanoides 'Crimson Sentry'

Zone: 4-7 Height: 30-35'

Width: 20-25'

Propagation Method: Budded

Rootstock: *Acer platanoides*



Deborah Maple

Acer platanoides 'Deborah'

Zone: 4-7 Height: 40-60'

Width: 40-60'

Propagation Method: Budded

Rootstock: *Acer platanoides*



Emerald Lustre® Maple

Acer platanoides 'Pond'

Zone: 4-7

Height: 50-60'

Width: 50-60'

Propagation Method: Budded

Rootstock: *Acer platanoides*

Variety Tip: Dormant pruning is recommended prior to transplanting in containers.

More to know ... A good replacement for other *A. platanoides* varieties because it is a fast grower that makes up quickly in field and container production.



Princeton Gold® Maple

Acer platanoides 'Princeton Gold'

Zone: 4-7

Height: 45'

Width: 40'

Propagation Method: Budded

Rootstock: *Acer platanoides*



Royal Red Maple

Acer platanoides 'Royal Red'

Zone: 4-7

Height: 35-40'

Width: 25'

Propagation Method: Budded

Rootstock: *Acer platanoides*

Variety Tip: Avoid pruning in container production during the first year.



Variegated Norway Maple

Acer platanoides 'Variegatum'

Zone: 4-7

Height: 50-60'

Width: 40-50'

Propagation Method: Budded

Rootstock: *Acer platanoides*



Korean Maple *Acer pseudosieboldianum*

Zone: 4-7

Height: 15-25'

Width: 15-25'

Propagation Method: Seed

Rootstock: Own Root

Acer pseudosieboldianum - Korean Maple

A showy accent tree with palmate foliage. Emerging red then turning forest green in the summer, the leaves become brilliant shades of red, yellow, and orange in the autumn. Prefers cool conditions and won't mind partial shade. Excellent substitute for those in northern climates where the Japanese maples are not hardy.

Species Tips: A slow grower that may require longer production time.

Acer rubrum - Red Maple

Red Maples prefer substrate with a lower pH. While they will grow in somewhat alkaline soils, they will not develop the characteristic beautiful autumn color.

Species Tips:

- Susceptible to leaf hoppers and spider mites. Monitor and treat as needed.
- Remove tree wraps early in the spring to prevent frost cracking when producing containers in the Midwest.

IMAGE COMING SOON!

Red Maple

Acer rubrum

Zone: 4-6

Height: 50'

Width: 35-40'

Propagation Method: Seed

Rootstock: Own Root



Autumn Flame Maple

Acer rubrum 'Autumn Flame'

Zone: 4-7

Height: 40-50'

Width: 40'

Propagation Method: Tissue Culture

Rootstock: Own Root



Autumn Radiance® Maple

Acer rubrum 'Autumn Radiance'

Zone: 4-8

Height: 30-60'

Width: 40'

Propagation Method: Tissue Culture

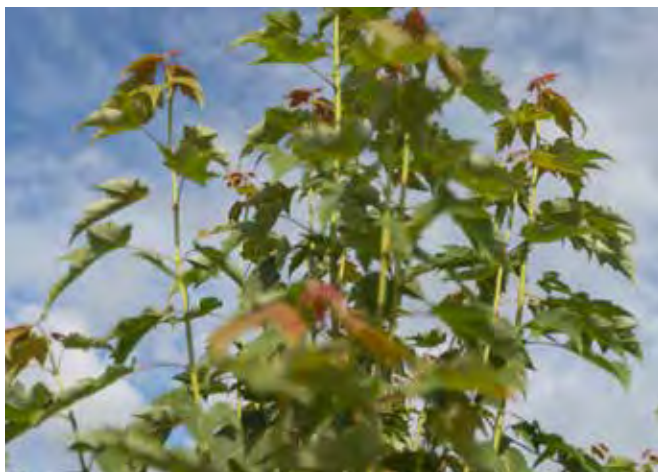
Rootstock: Own Root



**FIRST
EDITIONS**
SHRUBS & TREES

First Editions® Scarlet Jewell™ Maple *Acer rubrum* 'Bailcraig'

Zone: 3-7 Height: 70' Width: 30'
Propagation Method: Tissue Culture Rootstock: Own Root



Bowhall Maple *Acer rubrum* 'Bowhall'

Zone: 4-7 Height: 40-50' Width: 12-20'
Propagation Method: Tissue Culture Rootstock: Own Root



Brandywine Maple *Acer rubrum* 'Brandywine'

Zone: 4-8 Height: 25' Width: 12'
Propagation Method: Tissue Culture Rootstock: Own Root



Redpointe® Maple

Acer rubrum 'Frank Jr.' PP16,769

Zone: 5-7 Height: 40-45' Width: 30'
Propagation Method: Tissue Culture
Rootstock: Own Root

Variety Tip: Use additional support and pruning to maintain a strong central leader.



Red Sunset® Maple *Acer rubrum* 'Franksred'

Zone: 4-7 Height: 40-50' Width: 35-40'
Propagation Method: Tissue Culture Rootstock: Own Root



Karpick® Maple *Acer rubrum* 'Karpick'

Zone: 4-7 Height: 40-50' Width: 15-20'
Propagation Method: Tissue Culture Rootstock: Own Root



Burgundy Belle® Maple
Acer rubrum 'Magnificent Magenta'

Zone: 4-8 Height: 45' Width: 45'
Propagation Method: Tissue Culture
Rootstock: Own Root

Variety Tip: A slow grower that may require longer production time.



Northwood Maple
Acer rubrum 'Northwood'

Zone: 3-8 Height: 50' Width: 35'
Propagation Method: Budded
Rootstock: *Acer rubrum*

More to know ... By budding these liners, trees will branch better in production.



October Glory® Maple
Acer rubrum 'October Glory'

Zone: 5-8 Height: 50-60' Width: 35-40'
Propagation Method: Tissue Culture
Rootstock: Own Root

Variety Tip: A slow grower that may require longer production time.



Sun Valley Maple *Acer rubrum* 'Sun Valley'

Zone: 4-7

Height: 30-40'

Width: 20-25'

Propagation Method: Tissue Culture

Rootstock: Own Root

Variety Tip: A slow grower that may require longer production time.

Acer saccharinum - Silver Maple

The fastest growing species of American maple, this cold-hardy native combines graceful form, vigorous growth, and tolerance for a variety of extreme conditions. Foliage provides medium shade and a nice ornamental effect from the silvery undersides of the leaves.

Species Tip: This maple species is the most tolerant of wet soils.

More to know ... Fast growers that make up quickly in field and container production.



Silver Maple

Acer saccharinum

Zone: 3-7 Height: 60-100' Width: 40-50'

Propagation Method: Seed

Rootstock: Own Root



Silver Queen Maple

Acer saccharinum 'Silver Queen'

Zone: 3-7 Height: 50' Width: 40'

Propagation Method: Budded

Rootstock: *Acer saccharinum*

Acer saccharum - Sugar Maple

This wonderful shade tree is undoubtedly the largest and finest of our native maples. Slow to medium in growth rate. Fall color is simply spectacular, ranging from rich, brilliant yellows to all shades of orange and red.

Species Tips:

- Prefers well-drained soils, so avoid long term exposure to high soil moisture levels.
- Undercutting is recommended in field production to promote fine root growth.
- To increase transplant success, sweat trees in high humidity.



Sugar Maple *Acer saccharum*

Zone: 3-5

Height: 50-75'

Width: 50'

Propagation Method: Seed

Rootstock: Own Root



Fall Fiesta® Sugar Maple *Acer saccharum* 'Bailsta'

Zone: 3-7 Height: 50-75'

Propagation Method: Budded

Width: 50'

Rootstock: *Acer saccharum*

More to know ...

- A fast grower that branches well and makes up quickly in production.
- Colors consistently in the fall.



Apollo® Sugar Maple

Acer saccharum

Zone: 4-7 Height: 25'

Propagation Method: Budded

Width: 10'

Rootstock: *Acer saccharum*

Variety Tip: A slow grower that may require longer production time.



Commemoration® Sugar Maple

Acer saccharum 'Commemoration'

Zone: 4-7 Height: 50'

Propagation Method: Budded

Width: 30'

Rootstock: *Acer saccharum*



Green Mountain® Sugar Maple

Acer saccharum 'Green Mountain'

Zone: 4-7

Height: 50-75'

Width: 35-40'

Propagation Method: Budded

Rootstock: *Acer saccharum*



Inferno™ Sugar Maple

Acer saccharum 'Jeferno'

Zone: 3-8

Height: 30-40'

Width: 20-25'

Propagation Method: Budded

Rootstock: *Acer saccharum*

More to know ... Northern-sourced rootstock makes Inferno™ very cold hardy.



Hot Wings® Maple - Tree Form

Acer tataricum 'GarAnn' PP15,023

Zone: 3-6

Height: 20-25'

Width: 18-20'

Propagation Method: Budded

Rootstock: *Acer tataricum*



Variety Tips:

- Prefers an arid growing environment.
- Prone to anthracnose; monitor and treat as needed.



Main Street® Shantung Maple

Acer truncatum 'WF-At1' PP20,109

Zone: 5-8

Height: 20-30'

Width: 15-25'

Propagation Method: Budded

Rootstock: *Acer platanoides*



Pacific Sunset® Maple

Acer truncatum x platanoides 'Warrenred'

Zone: 4-7

Height: 30-35'

Width: 20-30'

Propagation Method: Budded

Rootstock: *Acer platanoides*



More to know ... A fast grower that branches well and makes up quickly in production.

POT-IN-POT TREE PRODUCTION

The sandy soils at the finished tree farm in Hastings, Minnesota is ideal for leveraging the pot-in-pot growing technique. This system has many cultural benefits that you will see in both our finished product, and when upshifting certain varieties for larger container production.

The trees benefit from greater stability so they don't tip over and become damaged, roots are protected from extreme temperature swings, and irrigation can be applied directly to the rootzone reducing waste and foliar disease pressure.



Acer x freemanii - Freeman Maple

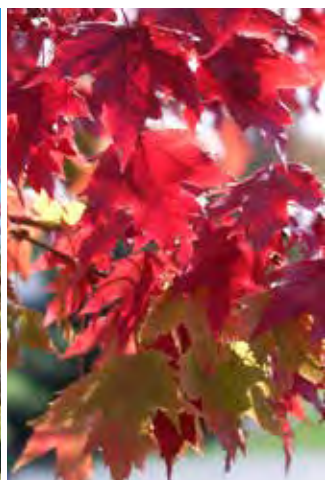
A hybrid between *A. rubrum* and *A. saccharinum*. Inheriting the faster growth rate from its silver parentage, and stronger branch attachments including colorful fall foliage from the red maple. Typically infertile.

Species Tips:

- 1-year top liners are recommended for long term field production, and #10 container production.
- Larger and 2-year top liners are recommended for consistent and faster field and container production.

More to know ...

- Higher tolerance to high soil pH and moisture than other maples.
- Fast growers that make up quickly in production.
- Consistent fall color.
- 2-year top liners are undercut to decrease branching, resulting in stronger growth and a diminished need to prune.



Firefall™ Maple *Acer x freemanii* 'AF #1' PP15,593

Zone: 4-7 Height: 40-60' Width: 30-40'
Propagation Method: Rooted Cutting Rootstock: Own Root



Armstrong Maple *Acer x freemanii* 'Armstrong'

Zone: 4-7 Height: 50-60' Width: 20-25'
Propagation Method: Tissue Culture Rootstock: Own Root

Variety Tip: Use additional support and pruning to maintain a strong central leader.



Celebration® Maple *Acer x freemanii* 'Jeffersred'

Zone: 4-7 Height: 45' Width: 20-25'
Propagation Method: Rooted Cutting Rootstock: Own Root



Autumn Blaze® Maple *Acer x freemanii* 'Jeffersred'

Zone: 4-7 Height: 50-60' Width: 40'
Propagation Method: Tissue Culture Rootstock: Own Root

**FIRST
EDITIONS**
SHRUBS & TREES

First Editions® Matador™ Maple *Acer x freemanii* 'Bailston'

Zone: 4-7

Height: 40-45'

Width: 20-40'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Marmo Maple *Acer x freemanii* 'Marmo'

Zone: 4-7

Height: 60-70'

Width: 35'-40'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Sienna Glen® Maple *Acer x freemanii* 'Sienna'

Zone: 3-7

Height: 60'

Width: 40'

Propagation Method: Tissue Culture

Rootstock: Own Root

Aesculus - Ohio Buckeye

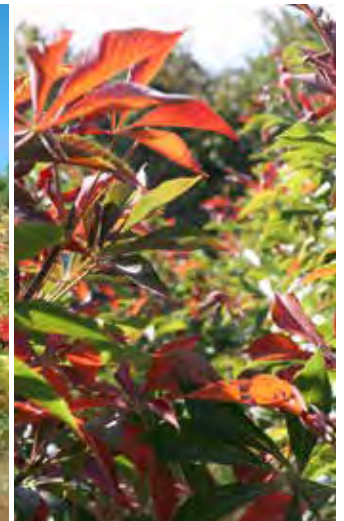
The palmately compound leaves of this tree are unusual and attractive, especially in the autumn when the fall color is a range of yellows, oranges, and reds. Greenish-yellow flowers are produced on large panicles in spring followed by large, light-brown fruit capsules.

Species Tips:

- In warmer regions during wet springs, remove the calyx from the terminal bud to protect the leader.
- Slow-growing trees that may require longer production cycles.

More to know ...

- Adaptable to a range of soil conditions.
- Salt tolerant



Ohio Buckeye *Aesculus glabra*

Zone: 3-7 Height: 20-40' Width: 20-40'
Propagation Method: Seed Rootstock: Own Root

Early Glow™ Ohio Buckeye *Aesculus glabra* 'J.N. Select'

Zone: 4-7 Height: 30-40' Width: 20-30'
Propagation Method: Grafted
Rootstock: *Aesculus hippocastanum* / *A. octandra*

More to know ... The least prone to scorch in production.



Baumanii European Horsechestnut

Aesculus hippocastanum 'Baumanii'
Zone: 4-8 Height: 50-80' Width: 35-60'
Propagation Method: Grafted Rootstock: *Aesculus hippocastanum*

Autumn Splendor Buckeye

Aesculus x arnoldiana 'Autumn Splendor'
Zone: 3-8 Height: 30-35' Width: 25-30'
Propagation Method: Grafted
Rootstock: *Aesculus hippocastanum* / *A. octandra*

Aesculus x carnea - Horsechestnut**Ruby Horsechestnut** *Aesculus x carnea* 'Briotii'

Zone: 5-8 Height: 25-35' Width: 25-35'

Propagation Method: Grafted

Rootstock: *Aesculus hippocastanum* / *A. octandra***Fort McNair Red Horsechestnut***Aesculus x carnea* 'Fort McNair'

Zone: 5-8 Height: 35' Width: 25'

Propagation Method: Grafted

Rootstock: *Aesculus hippocastanum* / *A. octandra**Alnus* - Alder**Prairie Horizon® Alder** *Alnus hirsuta* 'Harbin'

Zone: 4-7 Height: 30-40' Width: 20-30'

Propagation Method: Rooted Cutting Rootstock: Own Root

Variety Tips:

- Does not store well; dig in the spring to limit time in storage.
- Plant early to avoid transplant shock.

More to know ...

- Highly drought tolerant once established.
- A native alternative to *Fraxinus pennsylvanica*.

**Spaeth's Alder** *Alnus x spaethii*

Zone: 4-7 Height: 40-65' Width: 15-20'

Propagation Method: Rooted Cutting Rootstock: Own Root

Amelanchier - Serviceberry

A small to medium sized native understory tree. Spring flowers and fall color create multi-season interest. Adaptable to a range of soil conditions, tolerating wet soils and urban pollution. Showy dark fruit attracts wildlife.

Species Tips:

- Susceptible to powdery mildew and rust. Provide ample spacing and limit overhead watering. Monitor and treat as needed.
- Roots are coarse, it benefits from undercutting to promote fibrous rooting.
- Rotate any crops in the *Rosaceae* family annually to limit the spread of disease (*Amelanchier*, *Crataegus*, *Malus*, *Prunus*, and *Rosa*, etc.).

More to know ...

- Single stem liners are budded, and multi-stem liners are grown from tissue culture for better rooting.

**Autumn Brilliance Serviceberry** *Amelanchier x grandiflora* 'Autumn Brilliance'

Zone: 3-8

Height: 20-25'

Width: 15'

Propagation Method: Tissue Culture / Budded

Rootstock: *Amelanchier laevis* / *A. lamarcki* / Own Root



Rainbow Pillar® Serviceberry - Tree Form

Amelanchier canadensis 'Glennform'

Zone: 4-8 Height: 15-20' Width: 8-10'

Propagation Method: Budded

Rootstock: *Amelanchier laevis* / *A. lamarcki*



Cumulus Serviceberry

Amelanchier laevis 'Cumulus'

Zone: 4-8 Height: 20-30' Width: 15-20'

Propagation Method: Budded

Rootstock: *Amelanchier laevis* / *A. lamarcki*



Lustre® Allegheny Serviceberry

Amelanchier laevis 'Rogers'

Zone: 4-8 Height: 20-30' Width: 15-20'

Propagation Method: Budded

Rootstock: *Amelanchier laevis* / *A. lamarcki*



Robin Hill Serviceberry

Amelanchier x grandiflora 'Robin Hill'

Zone: 4-8 Height: 20-25' Width: 12-15'

Propagation Method: Budded

Rootstock: *Amelanchier laevis* / *A. lamarcki*

Betula nigra - River Birch

This river bottom native also does well on upland soils. Resistant to bronze birch borer, it has nice yellow fall color and attractive cinnamon-brown exfoliating bark for an interesting winter effect. Clumps have three or more stems.

Species Tips:

- Susceptible to aphids and leaf hoppers. Monitor and treat as needed.
- Root hydration is critical for transplant success, so soak in water for 24-48 hours and/or sweat in high humidity. Wait for buds to swell before planting.
- In warmer regions, prune during dormancy for best results.
- Best planted in spring and early summer. Avoid late season and fall planting.



River Birch *Betula nigra*

Zone: 4-8 Height: 40-50' Width: 30-40'
Propagation Method: Rooted Cutting Rootstock: Own Root

Dura Heat® River Birch *Betula nigra* 'BNMTF'

Zone: 4-9 Height: 30-40' Width: 25-35'
Propagation Method: Rooted Cutting Rootstock: Own Root



Heritage® River Birch *Betula nigra* 'Cully'

Zone: 4-8 Height: 45-50' Width: 30-35'
Propagation Method: Rooted Cutting Rootstock: Own Root

Fox Valley® River Birch *Betula nigra* 'Little King'

Zone: 4-9 Height: 8-10' Width: 8-12'
Propagation Method: Rooted Cutting Rootstock: Own Root

B

Betula

Betula papyrifera - Paper Birch

This very hardy birch is the most permanent and desirable of all the white-barked birches. Stems are a beautiful red-brown when immature and a perfect chalk-white when older. Fall color is an outstanding landscape feature. Clumps have three or more stems.



Renaissance Oasis® Paper Birch

Betula papyrifera 'Oenci' PP12,766

Zone: 3-6 Height: 50-60' Width: 30-40'

Propagation Method: Tissue Culture

Rootstock: Own Root



Paper Birch *Betula papyrifera*

Zone: 2-7 Height: 40' Width: 30'
Propagation Method: Seed Rootstock: Own Root



Renaissance Reflection® Paper Birch

Betula papyrifera 'Renci' PP12,768

Zone: 2-7 Height: 50-70' Width: 20-25'
Propagation Method: Tissue Culture Rootstock: Own Root



Weeping Cut Leaf Birch *Betula pendula* 'Dalecarlica'

Zone: 2-6

Height: 30-40'

Width: 25'

Propagation Method: Budded

Rootstock: *Betula pendula*



Dakota Pinnacle® Birch *Betula platyphylla* 'Fargo'

Zone: 3-7

Height: 30'

Width: 7-8'

Propagation Method: Tissue Culture

Rootstock: Own Root

Variety Tip: Can be difficult to transplant; consider upshifting from a smaller container to a larger size for higher success rates



Whitespire Birch - Seed Source

Betula populifolia 'Whitespire'

Zone: 4-7

Height: 30-40'

Width: 20-35'

Propagation Method: Seed

Rootstock: Own Root



White Barked Himalayan Birch

Betula utilis var. *jacquemontii*

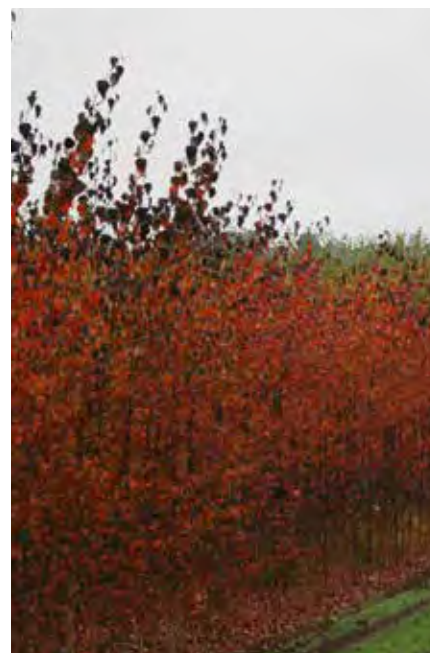
Zone: 5-7

Height: 30-40'

Width: 18-25'

Propagation Method: Tissue Culture

Rootstock: Own Root



Royal Frost® Birch

Betula x 'Penci-2'

Zone: 4-7

Height: 30-40'

Width: 15-20'

Propagation Method: Tissue Culture

Rootstock: Own Root

FIRST
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SHRUBS & TREES

First Editions® Parkland Pillar® Birch *Betula platyphylla* 'Jefpark' PP25,468

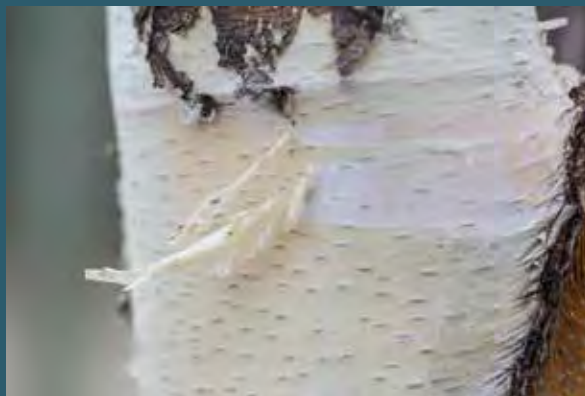
Zone: 3-7

Height: 40'

Width: 6-7'

Propagation Method: Tissue Culture

Rootstock: Own Root



Caragana - Caragana

Species Tips:

- Naturally short statured and slow growers that may need additional production time.
- Hydration is critical in storage and transplanting, and sweating is recommended.
- Susceptible to thrips and spider mites. Monitor and treat as needed.

More to know ... Grown on Sutherland understock to reduce suckering.



Weeping Caragana *Caragana arborescens* 'Pendula'
 Zone: 2-7 Height: 4-5' Width: 5'
 Propagation Method: Grafted Rootstock: *Caragana arborescens* 'Sutherland'



Walker Weeping Caragana *Caragana arborescens* 'Walker'
 Zone: 2-7 Height: 4-5' Width: 3-5'
 Propagation Method: Grafted Rootstock: *Caragana arborescens* 'Sutherland'

Carpinus betulus - European Hornbeam

This fine landscape tree is an excellent choice for use as a screen, hedge, or an individual specimen. Best in full sun, it also tolerates light shade. The slender olive-brown stems have prominent lenticels. The mature bark is quite handsome, smooth, sinewy, and steel gray.

Species Tips:

- Use additional support and pruning to maintain a strong central leader.
- Improper planting depth can lead to sunscald on the graft.
- Do not prune late in the season to avoid sunscalding wounds.

More to know ...

- Adaptable to a range of soil conditions.
- *C. carolinana* varieties are tolerant of full sun and deep shade



European Hornbeam *Carpinus betulus*

Zone: 5-7

Height: 40-60'

Width: 30-40'

Propagation Method: Seed

Rootstock: Own Root



Pyramidal European Hornbeam

Carpinus betulus 'Fastigiata'

Zone: 5-7

Height: 30-40'

Width: 15-20'

Propagation Method: Grafted

Rootstock: *Carpinus betulus*



Frans Fontaine European Hornbeam

Carpinus betulus 'Frans Fontaine'

Zone: 5-7 Height: 30-35'
Propagation Method: Grafted

Width: 15-18'
Rootstock: *Carpinus betulus*



Blue Beech *Carpinus caroliniana*

Zone: 3-9 Height: 20-30' Width: 30'
Propagation Method: Seed Rootstock: Own Root

More to know ... Also known as American Hornbeam or Musclewood



Firespire® Musclewood *Carpinus caroliniana* 'J.N. Upright'

Zone: 3-9 Height: 15-20'
Propagation Method: Grafted

Width: 10'
Rootstock: *Carpinus caroliniana*

Variety Tip: A naturally short statured and slow-growing variety that may need additional production time.

More to know ... More consistent fall color than other varieties in the species.



Fire King™ Musclewood

Carpinus caroliniana 'JN Select A'

Zone: 3-9 Height: 25-30'
Propagation Method: Grafted

Width: 20'
Rootstock: *Carpinus caroliniana*

Catalpa - Catalpa**Species Tips:**

- Use stakes in container production. Frequently monitor and re-tie leaders as needed.
- Top leaders at 8' immediately after planting (during dormancy and prior to budswell) to promote branching in container production in the Midwest.

More to know ...

- Highly salt tolerant.
- For a European look, these trees can be pleached.



Umbrella Catalpa
Catalpa bungei

Zone: 5-8 Height: 20-30' Width: 25-35'
Propagation Method: Grafted
Rootstock: *Catalpa speciosa*



Northern Catalpa
Catalpa speciosa

Zone: 4-7 Height: 50-60' Width: 35-40'
Propagation Method: Seed
Rootstock: Own Root



Purple Catalpa

Catalpa x erubescens 'Purpurea'
Zone: 5-8 Height: 30-40' Width: 30-40'
Propagation Method: Budded
Rootstock: *Catalpa speciosa*

Celtis occidentalis - Common Hackberry

This moderate to rapid grower is very adaptable to the extremes of urban conditions, including drought and windy conditions. The bark is corky and rough in texture.

Species Tips:

- Slow to break dormancy, therefore hydration is critical in storage. Use paper or other materials to maintain high moisture levels during storage and soak for 7-10 days prior to planting.
- Susceptible to ambrosia beetles, and nipple gall so monitor and treat as needed.
- Prune while dormant in the spring on the West Coast and warmer regions.
- Rotate crops in field production; does well when following ginkgos. Also does well with cherries if extra lime is applied to the soil.

More to know ...

- Tolerant of a range of soil conditions and does well in high pH.
- An excellent native alternative to Green Ash



Common Hackberry *Celtis occidentalis*

Zone: 2-7 Height: 50-75' Width: 50'
Propagation Method: Seed Rootstock: Own Root

Cercidiphyllum - Katsura

This interesting tree has dense, redbud-like foliage. Pyramidal as a young tree, it becomes broader with age. Although variable, fall color is attractive with shades of yellow to apricot, but primarily yellow, in the Midwest. It requires ample moisture during the establishment period.

Species Tips:

- Sensitive to herbicide; limit applications or use other weed suppression methods.
- Susceptible to canker, so monitor and treat as needed.
- Slow growers that may require more production time.
- Grow in a protected area with ample moisture.



Katsura

Cercidiphyllum japonicum

Zone: 4-8 Height: 40-60'
Propagation Method: Seed

Width: 20-30'
Rootstock: Own Root



Hanna's Heart® Katsura

Cercidiphyllum japonicum 'Biringer' PP21,711

Zone: 4-8 Height: 20-25'
Propagation Method: Grafted

Width: 10'
Rootstock: *Cercidiphyllum japonicum*

Cercis - Redbud

Small to medium sized understory trees native to the United States. Grows at a medium rate in production with access to ample but not excessive moisture. Attractive as a street or lawn tree either as a specimen, in small groups, or in naturalized setting.

Species Tips:

- Prefers alkaline soils. Use supplemental lime in West Coast production to raise the pH to near 6.0
- Use fiberglass stakes to limit damage from rubbing.
- In colder regions, grow in a protected area to limit tip dieback caused by extreme temperature changes.
- Keep hydrated in storage to increase transplant success.

More to know ...

- Available in both Eastern and Minnesota strains for additional hardiness options.
- Minnesota Strain is sourced from seed collected at the Minnesota Landscape Arboretum.



Eastern Redbud *Cercis canadensis*

Zone: 5-9 Height: 20-30' Width: 20-25'
Propagation Method: Seed Rootstock: Own Root



MN Strain Redbud *Cercis canadensis*

Zone: 4-9 Height: 20-30' Width: 20-25'
Propagation Method: Seed Rootstock: Own Root



The Rising Sun™ Redbud

Cercis canadensis 'JN2' PP21,451

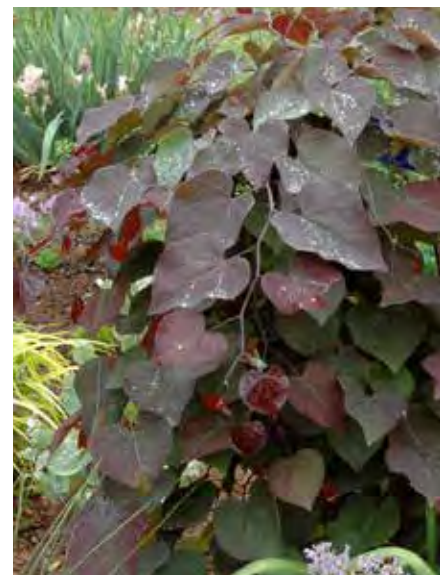
Zone: 5-9 Height: 10-12' Width: 10-15'
Propagation Method: Budded
Rootstock: *Cercis canadensis*



Merlot Redbud

Cercis canadensis 'Merlot' PP22,297

Zone: 6-9 Height: 12' Width: 15'
Propagation Method: Budded
Rootstock: *Cercis canadensis*



Ruby Falls Redbud

Cercis canadensis 'Ruby Falls' PP22,097

Zone: 5-9 Height: 6' Width: 4'
Propagation Method: Budded
Rootstock: *Cercis canadensis*

Chionanthus virginicus - Fringetree

This slow-growing native is especially beautiful in spring when profuse white blooms appear before foliage. Dark blue fruit follows later in the summer. Tolerant of city conditions, including pollution. It prefers deep, moist, fertile, acid soils and full to part sun.



White Fringetree

Chionanthus virginicus

Zone: 4-9 Height: 12-20'

Width: 12-20'

Propagation Method: Seed

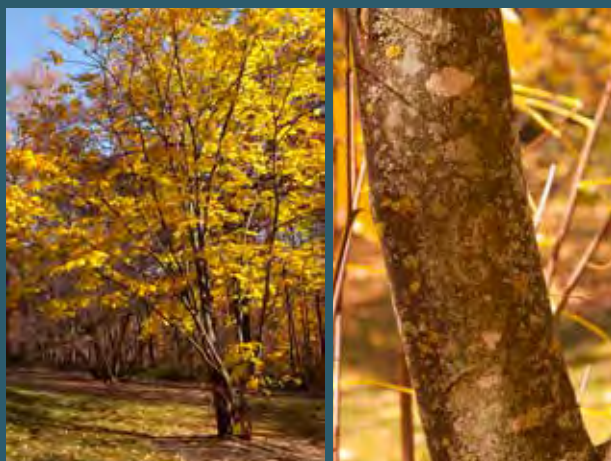
Rootstock: Own Root

Cladrastis kentukea - Yellowwood

This large native is spectacular in spring with creamy white flower panicles that are 8-14" long and loaded with fragrant, pea-like flowers. Following the flowers, 4" light brown seed pods form in autumn. As the tree matures, the bark turns gray, similar to a beech. Yellowwood is named after the yellow color of the heartwood.

Species Tips:

- Summer pruning is recommended. Leave 1" between bud and cut to avoid cankers.
- Use fiberglass stakes to limit damage from rubbing.
- Tolerant of a range of soil pH levels, they do best with higher higher alkalinity.



Yellowwood *Cladrastis kentukea*

Zone: 4-8 Height: 30-40'

Width: 30-40'

Propagation Method: Seed

Rootstock: Own Root



Perkins Pink Yellowwood *Cladrastis kentukea* 'Perkins Pink'

Zone: 5-8 Height: 30-50'

Width: 20-40'

Propagation Method: Budded

Rootstock: *Cladrastis kentukea*

Cornus - Dogwood

**Pagoda Dogwood - Tree Form** *Cornus alternifolia*

Zone: 3-7

Height: 15-20'

Width: 20-25'

Propagation Method: Seed

Rootstock: Own Root

Variety Tips:

- Keep hydrated in storage to increase transplant success.
- Intolerant of wet or cold soils in Midwest production; so benefits from later transplanting. Early planting is recommended on the West Coast and in warmer regions.
- Thin the terminal bud area to maintain a strong leader.
- Susceptible to golden canker; monitor and treat as needed.

**Milky Way Dogwood - Tree Form***Cornus kousa* 'Milky Way'

Zone: 5-8

Height: 20-30'

Width: 20-30'

Propagation Method: Seed

Rootstock: Own Root

**Chinese Kousa Dogwood** *Cornus kousa ssp. chinensis*

Zone: 5-8

Height: 15-30'

Width: 15-30'

Propagation Method: Info. Pending

Rootstock: Own Root

Variety Tips:

- Keep hydrated in storage and soak prior to transplanting.
- Avoid root pruning, and instead use a larger container when possible.
- Prune branches during dormancy prior to planting.



Golden Glory Corneliancherry Dogwood Tree Form

Cornus mas 'Golden Glory'

Zone: 4-8 Height: 15-20' Width: 15-20'
Propagation Method: Seed Rootstock: Own Root



Venus® Dogwood - Tree Form

Cornus x 'KN30-8' PP16,309

Zone: 5-8 Height: 15-18' Width: 18-22'
Propagation Method: Grafted Rootstock: *Cornus kousa*

More to know ... A strong grower that makes up quickly in production

Crataegus - Hawthorn



Russian Hawthorn *Crataegus ambigua*

Zone: 4-6 Height: 15-18' Width: 18-20'
Propagation Method: Budded Rootstock: *Crataegus monogyna*



Thornless Cockspur Hawthorn

Crataegus crus-galli var. *inermis*

Zone: 4-7 Height: 15-20' Width: 15-20'
Propagation Method: Budded Rootstock: *Crataegus monogyna*

Variety Tips:

- Susceptible to cedar apple rust, powdery mildew, and fireblight. Monitor and treat as needed.
- Avoid root pruning and wet soils.
- Rotate any crops in the *Rosaceae* family annually to limit the spread of disease (*Crataegus*, *Malus*, *Prunus*, and *Rosa*, etc.).



Crimson Cloud Hawthorn *Crataegus laevigata* 'Superba'

Zone: 4-7

Height: 15'

Width: 10-15'

Propagation Method: Budded

Rootstock: *Crataegus monogyna*



Washington Lustre® Hawthorn

Crataegus phaenopyrum 'Westwood I'

Zone: 4-8

Height: 20-25'

Width: 20-25'

Propagation Method: Budded

Rootstock: *Crataegus phaenopyrum*



Winter King Hawthorn

Crataegus viridis 'Winter King'

Zone: 3-7

Height: 12-15'

Width: 12'

Propagation Method: Budded

Rootstock: *Crataegus monogyna*

More to know ... A popular variety in high demand.



Snowbird Hawthorn *Crataegus x mordenensis* 'Snowbird'

Zone: 3-7

Height: 12-15'

Width: 20'

Propagation Method: Budded

Rootstock: *Crataegus monogyna*



Toba Hawthorn *Crataegus x mordenensis* 'Toba'

Zone: 3-7

Height: 12-15'

Width: 12'

Propagation Method: Budded

Rootstock: *Crataegus monogyna*

Elaeagnus - Russian Olive

Excellent as a large shrub or small tree, this desirable landscape plant has small, highly fragrant flowers in spring followed by decorative silver-yellow berries. An excellent xeriscape plant, it is great for use as a windbreak, and is salt and drought tolerant.

More to know ... A fast and easy grower that makes up quickly in production.



Russian Olive *Elaeagnus angustifolia*

Zone: 2-6 Height: 20' Width: 20'
Propagation Method: Seed Rootstock: Own Root

Fraxinus - Ash



Autumn Purple® Ash

Fraxinus americana 'Junginger'

Zone: 4-8 Height: 50-60' Width: 30-40'
Propagation Method: Budded
Rootstock: *Fraxinus pennsylvanica*



Raywood Ash

Fraxinus oxycarpa 'Raywood'

Zone: 5-8 Height: 40-50' Width: 20-25'
Propagation Method: Budded
Rootstock: *Fraxinus pennsylvanica*



Patmore Ash

Fraxinus pennsylvanica 'Patmore'

Zone: 2-7 Height: 50-60' Width: 35'
Propagation Method: Budded
Rootstock: *Fraxinus pennsylvanica*

Ginkgo biloba - Maidenhair

A true ancient gymnosperm with a distinct habit and foliage. Grows at a slow to medium rate. Adaptable to a range of soil conditions. Heat, salt, and air pollution tolerance lends well to use in urban areas.

Species Tips:

- A heavy feeder that benefits from lime and calcium nitrate and additional moisture when transplanted.
- Prune in spring.



Autumn Gold Ginkgo *Ginkgo biloba* 'Autumn Gold'

Zone: 4-8

Height: 50'

Width: 30'

Propagation Method: Grafted

Rootstock: *Ginkgo biloba*



Goldspire™ Ginkgo *Ginkgo biloba* 'Blagon'
 Zone: 4-8 Height: 14-16' Width: 5-6'
 Propagation Method: Grafted Rootstock: *Ginkgo biloba*



Windover Gold® Ginkgo *Ginkgo biloba* 'Edwards First'
 Zone: 4-8 Height: 40-60' Width: 30-40'
 Propagation Method: Grafted Rootstock: *Ginkgo biloba*



Magyar Ginkgo *Ginkgo biloba* 'Magyar'
 Zone: 4-8 Height: 40-60' Width: 20-30'
 Propagation Method: Grafted Rootstock: *Ginkgo biloba*



Princeton Sentry® Ginkgo *Ginkgo biloba* 'PNI 2720'
 Zone: 4-8 Height: 40-60' Width: 20-30'
 Propagation Method: Grafted Rootstock: *Ginkgo biloba*

Gleditsia triacanthos* var. *inermis* - Thornless Honeylocust*Species Tips:**

- Feed heavily with lime and calcium nitrate, and follow up with top dressing upon replanting.
- Remove lateral branches when young to promote a strong central leader, but handle with care to reduce wounding and cankers.
- Does not store well, so it is best planted in early spring for increased transplant success.
- Augment spacing and grow in full sun to increase caliper, especially in container production.
- Susceptible to a number of pests; monitor and treat as needed.

IMAGE COMING SOON!

**Thornless Honeylocust***Gleditsia triacanthos* var. *inermis*

Zone: 4-7 Height: 30-70' Width: 30-70'
 Propagation Method: Seed Rootstock: Own Root

Street Keeper® Honeylocust*Gleditsia triacanthos* var. *inermis* 'Draves' PP21,698

Zone: 4-7 Height: 45' Width: 20'
 Propagation Method: Budded
 Rootstock: *G. triacanthos* var. *inermis*

**Northern Acclaim® Honeylocust***Gleditsia triacanthos* var. *inermis* 'Harve'

Zone: 3-6 Height: 35-45' Width: 30-35'
 Propagation Method: Budded Rootstock: *G. triacanthos* var. *inermis*

**Imperial® Honeylocust***Gleditsia triacanthos* var. *inermis* 'Impcole'

Zone: 4-7 Height: 30-35' Width: 30-35'
 Propagation Method: Budded Rootstock: *G. triacanthos* var. *inermis*

UNDERCUTTING

Many genera such as *Gleditsia* and *Quercus* benefit from the cultural practice of undercutting the root systems. This technique creates a more compact, well-balanced head, and a more fibrous root system. This results in stronger growth and reduced pruning and labor hours.





Shademaster® Honeylocust

Gleditsia triacanthos var. *inermis* 'Shademaster'

Zone: 4-7

Height: 50-60'

Width: 30-35'

Propagation Method: Budded

Rootstock: *G. triacanthos* var. *inermis*



Skyline® Honeylocust

Gleditsia triacanthos var. *inermis* 'Skycole'

Zone: 4-7

Height: 50'

Width: 30-35'

Propagation Method: Budded

Rootstock: *G. triacanthos* var. *inermis*



Sunburst® Honeylocust

Gleditsia triacanthos var. *inermis* 'Suncole'

Zone: 4-7

Height: 35'

Width: 30-35'

Propagation Method: Budded

Rootstock: *G. triacanthos* var. *inermis*

Gymnocladus dioicus - Kentucky Coffeetree

This picturesque tree has deeply furrowed bark and stout branches that are particularly handsome in winter. It prefers deep, moist soil and full sun, but is adaptable to many conditions such as alkaline soil, salt, and drought. The mahogany seed pods are long and leathery.

Species Tips:

- Heavy feeders, so supplement with additional fertilizer applications as needed.
- Topping is recommended within a week of planting to promote faster branching in container production in the Midwest.

More to know ...

- A large selection of whip liners allow growers to select the size and shape that best fits their production needs.
- A good native substitute for Green Ash.



Kentucky Coffeetree *Gymnocladus dioicus*

Zone: 4-8 Height: 50-60'
Propagation Method: Seed

Width: 40-50'
Rootstock: Own Root



True North™ Kentucky Coffeetree

Gymnocladus dioicus 'UMNSynergy'

Zone: 4-9 Height: 50-70'
Propagation Method: Budded

Width: 25-35'
Rootstock: *Gymnocladus dioicus*



More to know ...A fast grower that branches well and makes up quickly in production



Espresso™ Kentucky Coffeetree

Gymnocladus dioicus 'Espresso-JFS'

Zone: 4-8 Height: 50-60'
Propagation Method: Budded

Width: 35-40'
Rootstock: *Gymnocladus dioicus*

Variety Tip: A slow grower that may require longer production time.

More to know ... Less prone to frost cracking than other varieties.



Hibiscus - Rose Of Sharon**First Editions® French Cabaret™ Blush Hibiscus - Tree Form***Hibiscus syriacus* 'Mindoub1' PP27,840

Zone: 5-8

Height: 5-8'

Width: 4-7'

Propagation Method: Rooted Cutting

Rootstock: Own Root

**First Editions® Bali™ Hibiscus - Tree Form***Hibiscus syriacus* 'Minfren'

Zone: 5-8

Height: 5-8'

Width: 4-7'

Propagation Method: Rooted Cutting

Rootstock: Own Root

**First Editions® Hawaii™ Hibiscus - Tree Form***Hibiscus syriacus* 'Minsygrbl1'

Zone: 5-8

Height: 5-8'

Width: 4-7'

Propagation Method: Rooted Cutting

Rootstock: Own Root

**First Editions® Fiji™ Hibiscus - Tree Form***Hibiscus syriacus* 'Minspot'

Zone: 5-8

Height: 5-8'

Width: 4-7'

Propagation Method: Rooted Cutting

Rootstock: Own Root

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First Editions® Tahiti™ Hibiscus - Tree Form *Hibiscus syriacus* 'Mineru'

Zone: 5-8

Height: 5-8'

Width: 4-7'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Hydrangea paniculata - Panicle Hydrangea

Species Tips:

- Promote caliper by using thinner stakes, allowing more movement in the wind.
- Prune tops on most varieties at least 2-3" prior to planting to promote strong branching.
- Apply triple superphosphate around July 4th to promote caliper.
- Cycle prune to create multiple crops with good flowers.

**Quick Fire® Hydrangea - Tree Form***Hydrangea paniculata* 'Bulk' PP16,812

Zone: 4-8

Height: 6-8'

Width: 6-8'

Propagation Method: Rooted Cutting

Rootstock: Own Root

Variety Tip:

Do not prune Quick Fire® tops prior to planting.

**Limelight Hydrangea - Tree Form***Hydrangea paniculata* 'Limelight' PP12,874

Zone: 3-8

Height: 6-8'

Width: 7-9'

Propagation Method: Rooted Cutting

Rootstock: Own Root

Phantom Hydrangea - Tree Form*Hydrangea paniculata* 'Phantom'

Zone: 4-8

Height: 8-10'

Width: 8-10'

Propagation Method: Rooted Cutting

Rootstock: Own Root

Variety Tip: Remove some flower panicles to reduce flopping.



**FIRST
EDITIONS**
SHRUBS & TREES

First Editions® Berry White® Hydrangea - Tree Form

Hydrangea paniculata 'Renba' PP28,509

Zone: 4-8

Height: 6-7'

Width: 4-5'

Propagation Method: Rooted Cutting Rootstock: Own Root

More to know ...

- Strong stems support the large flower panicles and are less prone to flopping.
- Coloring begins from the bottom of each panicle when night temperatures are at least 10 degrees cooler than the daytime.



First Editions® Vanilla Strawberry™ - Tree Form

Hydrangea paniculata 'Renhy' PP20,670

Zone: 4-8

Height: 6-7'

Width: 5-6'

Propagation Method: Rooted Cutting Rootstock: Own Root





Carpathian Walnut *Juglans regia* 'Carpathian'

Zone: 5-8

Height: 40-60'

Width: 40-60'

Propagation Method: Seed

Rootstock: Own Root



Goldenchain Tree *Laburnum x watereri* 'Vossii'

Zone: 6-8

Height: 12-15'

Width: 9-12'

Propagation Method: Seed

Rootstock: Own Root

Species Tips:

- Use additional staking support and pruning to maintain a strong central leader.
- Susceptible to canker and verticillium wilt. Monitor and treat as needed.



Goldenrain Tree *Koelreuteria paniculata*

Zone: 5-9

Height: 30-40'

Width: 30-40'

Propagation Method: Info. Pending

Rootstock: Own Root

Species Tips:

- Susceptible to a range of diseases and pests. Monitor and treat as needed.
- Prefers drier soils; avoid longterm exposure to high soil moisture.
- Sensitive to herbicide especially near the rootzone. Limit applications or use other weed suppression methods.



American Larch *Larix laricina*

Zone: 2-5

Height: 40-80'

Width: 15-30'

Propagation Method: Seed

Rootstock: Own Root

Liquidambar styraciflua* - Sweetgum*Species Tips:**

- Prefers drier storage conditions. Keep heeled in sawdust outside or on the ends of racks to allow for more airflow.
- Grows well in warm regions; transplant when soil temps are higher.
- Responds well to heavy pruning.
- Heavy feeders; apply supplemental lime as needed.

**Happidaze™ Sweetgum***Liquidambar styraciflua* 'Happdell'

Zone: 5-9

Height: 60-80'

Width: 40-60'

Propagation Method: Budded

Rootstock: *Liquidambar styraciflua***Moraine Sweetgum** *Liquidambar styraciflua* 'Moraine'

Zone: 5-9

Height: 45'

Width: 30'

Propagation Method: Budded

Rootstock: *Liquidambar styraciflua***Slender Silhouette Sweetgum***Liquidambar styraciflua* 'Slender Silhouette'

Zone: 5-9

Height: 40-60'

Width: 6-8'

Propagation Method: Budded

Rootstock: *Liquidambar styraciflua***Worplesdon Sweetgum***Liquidambar styraciflua* 'Worplesdon'

Zone: 5-9

Height: 40'

Width: 25'

Propagation Method: Budded

Rootstock: *Liquidambar styraciflua*

***Liriodendron tulipifera* - Tuliptree**

A stately tree for large spaces. Flowers from May through early June with attractive green-yellow blossoms that have a tangerine tint at the base of the petals. Attractive yellow fall color. Prefers moist, well-drained and slightly acidic soil. Never or rarely fed on by Japanese beetles.

Species Tips:

- Does not store well; consider spring digging to limit storage time.
- Use tree wrap to protect trunks from sunscald.
- Avoid prolonged exposure to high moisture levels in soil.

**Little Volunteer Tuliptree**

Liriodendron tulipifera

'Little Volunteer' PP19,581

Zone: 5-9

Height: 12-15'

Width: 5-6'

Propagation Method: Budded

Rootstock: *Liriodendron tulipifera*

**Tuliptree** *Liriodendron tulipifera*

Zone: 5-9

Height: 70-90'

Width: 35-50'

Propagation Method: Seed

Rootstock: Own Root

**Arnold Columnar Tulip Poplar**

Liriodendron tulipifera 'Arnold'

Zone: 5-9

Height: 50-60'

Width: 15-20'

Propagation Method: Budded

Rootstock: *Liriodendron tulipifera*

Maackia amurensis - Amur Maackia

A small tree with white flowers blooming in mid-summer along with rich green foliage. The distinctive shiny amber- to copper-colored bark exfoliates with age into loose flakes and curls. A slow to moderate grower with a rounded habit. Adaptable to a range of soils, but prefers loose, well-drained ground and sunny locations. A good choice for the landscape.

Species Tips:

- Prune in the summer, leaving 1" between bud and cut to avoid cankers. Avoid root pruning.
- Susceptible to a range of pests and diseases. Monitor and treat as needed.
- Prefers well-drained soils. Avoid prolonged exposure to high moisture levels.
- Sensitive to herbicide especially near the rootzone. Limit applications or use other weed suppression methods.
- Use a larger liner between 5-6' for faster production.



Amur Maackia *Maackia amurensis*

Zone: 4-8

Height: 20-30'

Width: 25-35'

Propagation Method: Budded

Rootstock: *Maackia amurensis*

Magnolia

Species Tips:

- Sensitive to herbicide, especially near the rootzone. Limit applications or use other weed suppression methods.
- Avoid late season fertilization to prevent frost cracking.

More to know ... Fast growers that make up quickly in production.



Butterflies Magnolia *Magnolia* 'Butterflies'

Zone: 5-9

Height: 15-18'

Width: 8-10'

Propagation Method: Budded

Rootstock: *Magnolia kobus*



Leonard Messel Magnolia

Magnolia kobus var. *loebneri* 'Leonard Messel'

Zone: 4-8

Height: 15-20'

Width: 20-25'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Merrill Magnolia *Magnolia kobus* var. *loebneri* 'Merrill'

Zone: 4-7 Height: 40' Width: 30'
 Propagation Method: Rooted Cutting Rootstock: Own Root



Royal Star Magnolia

Magnolia kobus var. *stellata* 'Royal Star'

Zone: 4-8 Height: 8-10' Width: 8-10'
 Propagation Method: Rooted Cutting Rootstock: Own Root



Ann Magnolia *Magnolia* x 'Ann'

Zone: 4-7 Height: 8-10' Width: 10'
 Propagation Method: Rooted Cutting Rootstock: Own Root



Galaxy Magnolia *Magnolia* x 'Galaxy'

Zone: 5-9 Height: 20-30' Width: 10-15'
 Propagation Method: Budded Rootstock: *Magnolia kobus*

FIRST
EDITIONS
SHRUBS & TREES

First Editions® Centennial Blush Star Magnolia

Magnolia stellata Centennial Blush® PP22,248

Zone: 4-9

Height: 12-18'

Width: 10-15'

Propagation Method: Rooted Cutting Rootstock: Own Root



Malus - Crabapple

Species Tips:

- Do not prune during the growing season in the Midwest due to high disease and pest pressure.
- Summer shearing and double leader removal can be done on the West Coast, in warmer regions, and areas with low disease and pest pressure.
- Apply fertilizer only in the spring.
- Reduce irrigation towards the end of the season to prevent frost cracking.
- Susceptible to fireblight and apple scab. Monitor and treat as needed.

More to know ...

- For slow growing varieties such as Candymint, Camelot®, Cinderella®, Coral Burst®, Firebird®, Lancelot®, Royal Gem™, Sargent, and Tina, consider using a larger liner to speed production.
- Popular varieties: Donald Wyman, First Editions® Gladiator™, Purple Prince, Royal Raindrops®, and Spring Snow.

CRABAPPLE FLOWER CHART

◦ White Bloom

- Adirondack***
- April Showers™ Weeping
- Camelot®***
- Cinderella®
- Dolgo***
- Donald Wyman***
- Firebird®***
- Golden Raindrops®
- Harvest Gold®
- Japanese Flowering
- Lancelot®***
- Lollipop®***
- *Malus domestica*
- Marilee®***
- Red Jade
- Red Jewel®***
- Sargent***
- Snowdrift
- Spring Snow
- Starlite***
- Sugar Tyme®***
- Tina***

● Pink Bloom

- Adams***
- Candymint
- Coralburst®
- Emerald Spire®***
- First Editions® Gladiator™***
- First Editions® Ruby Tears™***
- Louisa***
- Pink Sparkles®***
- Pink Spires
- Purple Spire®
- Radiant
- Red Barron
- Red Splendor
- Rejoice™***
- Royal Beauty***
- Royal Raindrops®***
- Thunderchild
- Velvet Pillar

● Red Bloom

- Cardinal***
- Prairifire***
- Profusion
- Purple Prince***
- Royal Gem™
- Royalty
- Show Time™

*** Good or better disease resistance to the four major Crabapple diseases: Scab, Fireblight, Cedar Apple Rust and Frogeye Leaf Spot.



Adams Crabapple *Malus 'Adams'*

Zone: 4-8 Height: 25' Width: 20'
 Propagation Method: Budded
 Rootstock: *Malus 'Columbia'* / *Malus 'SproutFree'*



Adirondack Crabapple *Malus 'Adirondack'*

Zone: 4-8 Height: 15-18' Width: 12-16'
 Propagation Method: Budded
 Rootstock: *Malus 'Columbia'* / *Malus 'Dolgo'* / *Malus 'SproutFree'*



FIRST
 EDITIONS
 SHRUBS & TREES

First Editions® Ruby Tears™ Crabapple

Malus 'Bailears' PP22,001

Zone: 4-7 Height: 8-10' Width: 12-15'
 Propagation Method: Budded
 Rootstock: *Malus 'Columbia'* / *Malus 'Dolgo'* / *Malus 'SproutFree'*



Camelot® Crabapple *Malus* 'Camzam'

Zone: 4-7

Height: 10'

Width: 8'

Propagation Method: Grafted

Rootstock: *Malus* 'Columbia'



Cinderella® Crabapple *Malus* 'Cinzam'

Zone: 4-8

Height: 8'

Width: 5'

Propagation Method: Grafted

Rootstock: *Malus* 'SproutFree®'



Coralburst® Crabapple *Malus* 'Coralcole'

Zone: 3-7

Height: 8-10'

Width: 12-15'

Propagation Method: Grafted

Rootstock: *Malus* 'Columbia' / *Malus* 'Fireside interstem' / *Malus* 'SproutFree®'



Dolgo Crabapple *Malus* 'Dolgo'

Zone: 2-7

Height: 35-40'

Width: 25-30'

Propagation Method: Seed

Rootstock: Own Root



Donald Wyman Crabapple *Malus* 'Donald Wyman'

Zone: 4-7 Height: 20' Width: 25'
 Propagation Method: Budded
 Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree'



Royal Gem™ Crabapple *Malus* 'Fridlund'

Zone: 3-8 Height: 5-8' Width: 5-8'
 Propagation Method: Grafted
 Rootstock: *Malus* 'SproutFree'



Harvest Gold® Crabapple *Malus* 'Hargozam'

Zone: 4-8 Height: 15-20' Width: 15-20'
 Propagation Method: Budded
 Rootstock: *Malus* 'SproutFree'



Marilee® Crabapple *Malus* 'Jarmin' PP14337

Zone: 4-8 Height: 20-25' Width: 10'
 Propagation Method: Budded
 Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree'



Purple Spire® Crabapple *Malus* 'Jefspire'

Zone: 3-8 Height: 20' Width: 8-10'

Propagation Method: Budded

Rootstock: *Malus* 'Columbia' / *Malus* 'SproutFree®'



Red Jewel® Crabapple *Malus* 'Jewelcole'

Zone: 4-7 Height: 15' Width: 12'

Propagation Method: Budded

Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree®'



Louisa Crabapple *Malus* 'Louisa'

Zone: 4-8 Height: 12-15'

Width: 12-15'

Propagation Method: Budded

Rootstock: *Malus* 'Dolgo' / *Malus* 'SproutFree®'



Pink Sparkles® Crabapple *Malus* 'Malusquest' PP12,482

Zone: 4-7 Height: 15' Width: 12'

Propagation Method: Budded

Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree®'



Pink Spires Crabapple *Malus* 'Pink Spires'

Zone: 2-7 Height: 15-20' Width: 12'
 Propagation Method: Budded
 Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree®'



Prairifire Crabapple *Malus* 'Prairifire'

Zone: 4-7 Height: 15-20' Width: 20'
 Propagation Method: Budded / Own Root
 Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree®' / Own Root



Profusion Crabapple *Malus* 'Profusion'

Zone: 4-7 Height: 15-20' Width: 30'
 Propagation Method: Budded
 Rootstock: *Malus* 'Columbia' / *Malus* 'SproutFree®'



Purple Prince Crabapple *Malus* 'Purple Prince'

Zone: 4-7 Height: 20' Width: 20'
 Propagation Method: Budded
 Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree®'



Radiant Crabapple *Malus 'Radiant'*

Zone: 3-7 Height: 15-20' Width: 20'
 Propagation Method: Budded
 Rootstock: *Malus 'Columbia'* / *Malus 'Dolgo'* / *Malus 'SproutFree'*



Red Barron Crabapple *Malus 'Red Barron'*

Zone: 4-7 Height: 12-15' Width: 5-6'
 Propagation Method: Budded
 Rootstock: *Malus 'Columbia'* / *Malus 'Dolgo'* / *Malus 'SproutFree'*



Red Splendor Crabapple

Malus 'Red Splendor'
 Zone: 3-7 Height: 20-25' Width: 20'
 Propagation Method: Budded
 Rootstock: *Malus 'Columbia'* / *Malus 'Dolgo'*



Rejoice™ Crabapple

Malus 'Rejzam'
 Zone: 4-7 Height: 15-20' Width: 15-20'
 Propagation Method: Budded
 Rootstock: *Malus 'Columbia'* / *Malus 'Dolgo'*



Royalty Crabapple

Malus 'Royalty'
 Zone: 3-7 Height: 18-20' Width: 20'
 Propagation Method: Budded
 Rootstock: *Malus 'Columbia'* / *Malus 'Hardy'* / *Malus 'SproutFree'*



Sargent Crabapple

Malus sargentii

Zone: 4-7 Height: 6-8' Width: 12'

Propagation Method: Budded

Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree'



Candy mint Crabapple

Malus sargentii 'Candy mint'

Zone: 4-7 Height: 8-10' Width: 15-18'

Propagation Method: Budded

Rootstock: *Malus* 'SproutFree'



Firebird® Crabapple

Malus sargentii 'Select A' PP12,621

Zone: 4-7 Height: 10' Width: 8'

Propagation Method: Grafted

Rootstock: *Malus* 'Fireside Interstem' / *Malus* 'SproutFree'



Show Time™ Crabapple *Malus* 'Shotizam'

Zone: 3-6 Height: 25' Width: 15-20'

Propagation Method: Budded

Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree'



Snowdrift Crabapple *Malus* 'Snowdrift'

Zone: 3-7 Height: 15-20' Width: 20-25'

Propagation Method: Budded

Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree'



Spring Snow Crabapple *Malus* 'Spring Snow'

Zone: 4-7 Height: 25-30' Width: 15'

Propagation Method: Budded

Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree'



Sugar Tyme® Crabapple *Malus* 'Sutyzam'

Zone: 4-7 Height: 18' Width: 15'

Propagation Method: Budded

Rootstock: *Malus* 'Columbia' / *Malus* 'Dolgo' / *Malus* 'SproutFree'

WATER MANAGEMENT

Being good stewards of our resources isn't just good for the planet, it's good business. With water conservation an important issue, especially on the West Coast, we are working proactively to manage our irrigation practices.

A water resource manager was recently hired to oversee production usage and implement water-saving and protective practices. The farm in Hastings, Minnesota is already utilizing drip irrigation, and the farms in Oregon are shifting to that application as well.





Dawn Redwood *Metasequoia glyptostroboides*

Zone: 5-8 Height: 70-100' Width: 25-40'
Propagation Method: Seed Rootstock: Own Root

Ostrya virginiana - Ironwood

This slow-growing, hardy, medium-sized tree has slender, spreading branches. Hop-like fruits add interest in late summer and the persistent brown leaves add winter interest. Good for street or lawn, it is tolerant of dry locations. 2008 GreatPlants® for the Great Plains winner.

Species Tips:

- Use additional staking support and pruning to maintain a strong central leader.
- To increase bud break, sweat trees in high humidity.
- Plant when soil temps and humidity levels are higher.



Ironwood *Ostrya virginiana*

Zone: 3-9 Height: 30-50' Width: 25'
Propagation Method: Seed Rootstock: Own Root

Parrotia persica - Persian Parrotia

This small tree has an oval to round habit with upright, ascending branches. The foliage emerges reddish-purple, changes to lustrous dark green in summer, then turns bright yellow to orange-scarlet in fall. Parrotia's beautifully exfoliating bark adds winter interest. A fine specimen plant, it was a 2000 Pennsylvania Horticultural Society Gold Medal Plant® Award Winner.

Species Tips:

- Prefers drier, well-drained soils. Avoid prolonged exposure to high moisture levels.
- Avoid root pruning.



Persian Parrotia *Parrotia persica*

Zone: 5-8 Height: 20-40' Width: 15-30'
Propagation Method: Rooted Cutting Rootstock: Own Root



Ruby Vase® Persian Parrotia *Parrotia persica* 'Inge'

Zone: 5-8 Height: 30' Width: 12'
Propagation Method: Rooted Cutting Rootstock: Own Root

Physocarpus opulifolius - Ninebark - Tree Form

More to know ... Grown on a one year top.



FIRST
EDITIONS
SHRUBS & TREES

First Editions® Amber Jubilee™ Ninebark- Tree Form

Physocarpus opulifolius 'Jefam' PP23,177

Zone: 2-7

Height: 5-7'

Width: 3-4'

Propagation Method: Rooted Cutting

Rootstock: Own Root

Species Tips:

- A slow grower that may require longer container production time.
- Prune frequently to remove suckers to redirect energy.



Diabolo® Ninebark - Tree Form

Physocarpus opulifolius 'Monlo'

Zone: 3-7 Height: 8-10' Width: 6-8'
Propagation Method: Rooted Cutting Rootstock: Own Root

More to know ... A fast grower that makes up quickly in production.



Summer Wine® Ninebark - Tree Form

Physocarpus opulifolius 'Seward' PP14,821

Zone: 3-7 Height: 5-6' Width: 4-5'
Propagation Method: Rooted Cutting Rootstock: Own Root

More to know ... A fast grower that branches well and makes up quickly in production.

Platanus x acerifolia - London Planetree



Bloodgood London Planetree

Platanus x acerifolia 'Bloodgood'

Zone: 5-8 Height: 90' Width: 60-70'
Propagation Method: Tissue Culture Rootstock: Own Root

Species Tip: Responds well to heavy pruning for espalier and pleached forms.

More to know ... A fast grower that makes up quickly in production.



Exclamation!™ London Planetree

Platanus x acerifolia 'Morton Circle'

Zone: 4-9 Height: 60' Width: 45'
Propagation Method: Tissue Culture Rootstock: Own Root

More to know ... Recommend only for warmer zone 4 locations. Do not plant in exposed areas.

Populus - Poplar

More to know ... Ideal varieties for screening include Theves & Columnar Sweedish Aspen, and Robusta & Tower Poplars.

IMAGE COMING SOON!

Narrowleaf Poplar *Populus angustifolia*

Zone: 3-8 Height: 60' Width: 30-40'
 Propagation Method: Rooted Cutting Rootstock: Own Root

Species Tip: Prefers an arid growing environment.

**Balsam Poplar** *Populus balsamifera*

Zone: 2-7 Height: 75-90' Width: 40-50'
 Propagation Method: Rooted Cutting Rootstock: Own Root

More to know ... A hardy native that grows well in the Midwest.

**Siouxland Poplar** *Populus deltoides* 'Siouxland'

Zone: 3-9 Height: 70-90' Width: 40'
 Propagation Method: Rooted Cutting Rootstock: Own Root

More to know ...

- A fast grower that makes up quickly in production.
- Whips are an ideal liner for container production.
- A male selection that doesn't produce cotton.



Bigtooth Aspen

Populus grandidentata

Zone: 2-7 Height: 60-80' Width: 20-30'
Propagation Method: Rooted Cutting
Rootstock: Own Root

Species Tip: Prefers moist soils, but will tolerate drier conditions.

More to know ... Seed and rootstock is sourced locally in the Midwest.



Highland Poplar

Populus 'Highland'

Zone: 3-9 Height: 45-50' Width: 20-25'
Propagation Method: Rooted Cutting
Rootstock: Own Root

Species Tip: Prefers an arid growing environment.



Theves Poplar

Populus nigra 'Afghanica'

Zone: 2-9 Height: 50-60' Width: 8-10'
Propagation Method: Rooted Cutting
Rootstock: Own Root

More to know ... A fast grower that makes up quickly in production.

IMAGE COMING SOON!

Jeronimus Sargent Poplar

Populus sargentii 'Jeronimus'

Zone: 4-9 Height: 70-80' Width: 40-50'
Propagation Method: Rooted Cutting Rootstock: Own Root

Species Tip: Prefers an arid growing environment.



Columnar Swedish Aspen *Populus tremula* 'Erecta'

Zone: 2-7 Height: 40' Width: 10'
 Propagation Method: Tissue Culture Rootstock: Own Root

Variety Tips:

- Susceptible to bronze leaf disease. Monitor and treat as needed.
- A heavy brancher that requires additional thinning to maintain an open, balanced crown.
- Undercut to decrease branching, to encourage stronger growth, and diminish the need to prune.

More to know ...

- Liners are produced from tissue culture to reduce variability.



Quaking Aspen *Populus tremuloides*

Zone: 2-7 Height: 60-80' Width: 30'
 Propagation Method: Seed Rootstock: Own Root

Variety Tips:

- Susceptible to black spot; use drip irrigation if possible. Monitor and treat as needed.
- Attractive to a range of borer insects; monitor and treat as needed.

More to know ...

- Available in two strains, the general species offered is sourced from Minnesota and is ideal for Midwest production.
- **Western Strain:** This strain is sourced from Idaho and is ideal for West Coast production.



Prairie Gold® Aspen *Populus tremuloides* 'NE Arb'

Zone: 4-7 Height: 30'-40' Width: 15'
Propagation Method: Tissue Culture Rootstock: Own Root



Lanceleaf Poplar *Populus x acuminata*

Zone: 3-9 Height: 45' Width: 20-25'
Propagation Method: Rooted Cutting Rootstock: Own Root



Robusta Poplar *Populus x canadensis* 'Robusta'

Zone: 3-9 Height: 40-60' Width: 30-40'
Propagation Method: Rooted Cutting Rootstock: Own Root



Tower Poplar *Populus x canescens* 'Tower'

Zone: 3-9 Height: 40-50' Width: 6-10'
Propagation Method: Rooted Cutting Rootstock: Own Root

Prunus - Flowering Cherry

Species Tips:

- Susceptible to shot hole and other leaf diseases. Grow in full sun. Monitor and treat as needed.
- Prefer well-drained, alkaline soils. Avoid prolonged exposure to high moisture levels.
- Large-leaf varieties such as Kwanzan and Yoshino should be cut back hard prior to planting.
- Plant early for increased transplant success.



Accolade Flowering Cherry

Prunus 'Accolade'

Zone: 5-8 Height: 20-25' Width: 20-25'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Krauter Vesuvius Plum

Prunus cerasifera 'Krauter Vesuvius'

Zone: 5-8 Height: 20' Width: 15'

Propagation Method: Budded

Rootstock: *Prunus cerasifera*



Newport Plum - MN Strain

Prunus cerasifera 'Newport'

Zone: 4-8 Height: 15-20' Width: 15-20'

Propagation Method: Budded

Rootstock: *Prunus cerasifera*

More to know ... A hardy and popular variety.



Thundercloud Plum

Prunus cerasifera 'Thundercloud'

Zone: 5-8 Height: 15-20' Width: 15-20'

Propagation Method: Budded

Rootstock: *Prunus cerasifera*



Little Twist® Flowering Cherry - Tree Form *Prunus incisa* 'CarltonLT'

Zone: 5-9

Height: 8'

Width: 8'

Propagation Method: Grafted

Rootstock: *Prunus avium* / *Prunus serrula* 'Tibetica' interstem



Amur Chokecherry *Prunus maackii*

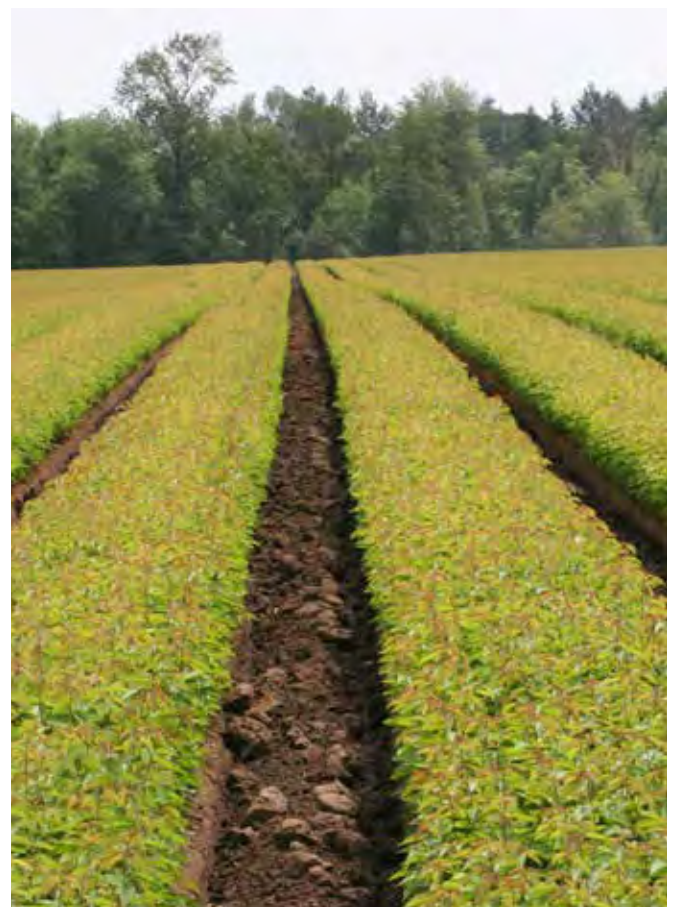
Zone: 2-6

Height: 20-30'

Width: 25-30'

Propagation Method: Seed

Rootstock: Own Root



Mahaleb Cherry *Prunus mahaleb*

Zone: 4-8

Height: 20'

Width: 20'

Propagation Method: Seed

Rootstock: Own Root



Princess Kay Plum *Prunus nigra* 'Princess Kay'

Zone: 2-6

Height: 15'

Width: 8-10'

Propagation Method: Budded

Rootstock: *Prunus americana*



Okame Cherry *Prunus* 'Okame'

Zone: 6-9

Height: 15-30'

Width: 20-30'

Propagation Method: Budded

Rootstock: *Prunus avium*



Sucker Punch® Chokecherry *Prunus* 'P002S' PP25,767

Zone: 3-6

Height: 20-30'

Width: 18-20'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Columnar Sargent Rancho Cherry

Prunus sargentii 'Columnar Sargent Rancho'

Zone: 5-8

Height: 20-25'

Width: 8-10'

Propagation Method: Budded

Rootstock: *Prunus avium*

Spring Wonder™ Sargent Cherry

Prunus sargentii 'Hokkaido Normandale'

Zone: 4-8

Height: 20-25'

Width: 18-24'

Propagation Method: Budded

Rootstock: *Prunus avium*

Species Tip: Does not store well; plant early to increase transplant success.





Kwanzan Cherry *Prunus serrulata* 'Kwanzan'

Zone: 5-9 Height: 20-25' Width: 15-20'

Propagation Method: Tissue Culture

Rootstock: Own Root



Snow Fountains® Cherry *Prunus* 'Snofozam'

Zone: 5-8 Height: 10-15'

Width: 15-20'

Propagation Method: Grafted

Rootstock: *Prunus avium* / *Prunus avium* F-12-1



Snow Goose Cherry *Prunus* 'Snow Goose'

Zone: 5-8 Height: 15-20' Width: 15-20'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Autumnalis Higan Cherry *Prunus subhirtella* 'Autumnalis'

Zone: 5-8 Height: 20-25'

Width: 15-20'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Double Weeping Higan Cherry

Prunus subhirtella 'Pendula Plena Rosea'

Zone: 5-8

Height: 12-15'

Width: 10-15'

Propagation Method: Grafted

Rootstock: *Prunus avium*



Canada Red Select Cherry

Prunus virginiana 'Shubert Select'

Zone: 2-8

Height: 20-25'

Width: 20'

Propagation Method: Rooted cutting

Rootstock: Own Root



Yoshino Cherry *Prunus x yedoensis* 'P002S' PP25,767

Zone: 6-8

Height: 40-50'

Width: 45-55'

Propagation Method: Budded

Rootstock: *Prunus avium*



Akebono Flowering Cherry

Prunus x yedoensis 'Akebono'

Zone: 5-8

Height: 25'

Width: 25'

Propagation Method: Rooted cutting

Rootstock: Own Root

Pyrus - Flowering Pear

**Aristocrat® Pear** *Pyrus calleryana* 'Aristocrat'

Zone: 5-9

Height: 30-35'

Width: 20-25'

Propagation Method: Budded

Rootstock: *Pyrus* OH x F #87**Species Tips:**

- Does not store well. Dig late in the season and plant early to increase transplant success.
- Susceptible to black knot. Monitor and treat as needed.
- Responds well to hard pruning prior to planting.

**Autumn Blaze Pear** *Pyrus calleryana* 'Autumn Blaze'

Zone: 4-8 Height: 35' Width: 20'

Propagation Method: Budded

Rootstock: *Pyrus* OH x F #87**Chanticleer® Pear** *Pyrus calleryana* 'Glen's Form'

Zone: 5-8

Height: 25-30'

Width: 15'

Propagation Method: Budded

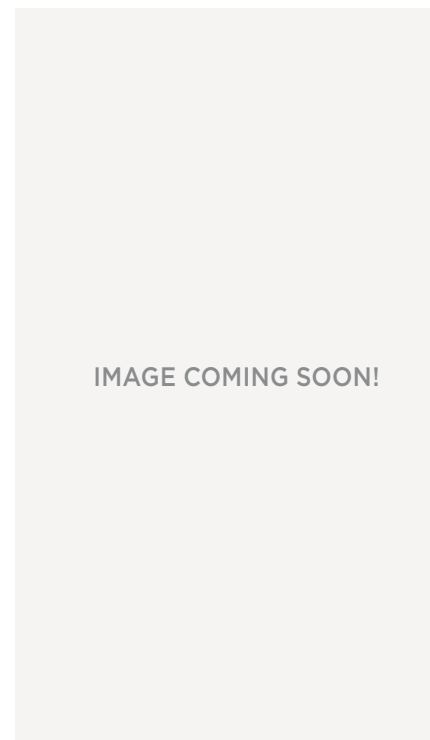
Rootstock: *Pyrus* OH x F #87



Jack® Pear *Pyrus calleryana* 'Jaczam'
 Zone: 5-8 Height: 15-20' Width: 10'
 Propagation Method: Budded
 Rootstock: *Pyrus* OH x F #87



Redspire Pear *Pyrus calleryana* 'Redspire'
 Zone: 5-9 Height: 30-35' Width: 20-30'
 Propagation Method: Budded
 Rootstock: *Pyrus* OH x F #87



Trinity® Pear *Pyrus calleryana* 'Trinity'
 Zone: 5-9 Height: 30' Width: 20'
 Propagation Method: Budded
 Rootstock: *Pyrus* OH x F #87



Korean Sun™ Pear *Pyrus fauriei* 'Westwood'
 Zone: 4-8 Height: 12-15' Width: 15-18'
 Propagation Method: Budded
 Rootstock: *Pyrus* OH x F #87



Mountain Frost® Pear *Pyrus ussuriensis* 'Bailfrost'
 Zone: 3-6 Height: 20-30' Width: 15-20'
 Propagation Method: Budded
 Rootstock: *Pyrus ussuriensis*

Quercus - Oak**Species Tips:**

- Prefers drier storage conditions. Heel in sawdust, woodchips, or similar material and limit time spent in cold storage.
- To break bud and root effectively, provide ample moisture and sweat in high humidity.
- Avoid planting in wet soils with low oxygen.
- Use a larger container instead of root pruning.

More to know ... Upshift 10 gallon containers into 25 gallons for fast turns.

**Sawtooth Oak** *Quercus acutissima*

Zone: 5-9

Height: 35-45'

Width: 30-35'

Propagation Method: Seed

Rootstock: Own Root

**White Oak** *Quercus alba*

Zone: 3-9

Height: 60-80'

Width: 60-80'

Propagation Method: Seed

Rootstock: Own Root

Species Tip:

For West Coast and warmer region production, heel in sawdust until February or March and only move into cold storage when temperatures begin to rise consistently.



Swamp White Oak *Quercus bicolor*
 Zone: 4-8 Height: 50-60' Width: 40-50'
 Propagation Method: Seed Rootstock: Own Root



Scarlet Oak *Quercus coccinea*
 Zone: 4-9 Height: 50-70' Width: 40-50'
 Propagation Method: Seed Rootstock: Own Root



Crimson Spire™ Oak *Quercus 'Crimschmidt'*
 Zone: 4-8 Height: 45' Width: 15'
 Propagation Method: Grafted Rootstock: *Quercus macrocarpa*



Northern Pin Oak *Quercus ellipsoidalis*
 Zone: 3-6 Height: 60' Width: 45'
 Propagation Method: Seed Rootstock: Own Root

FIRST
EDITIONS

SHRUBS & TREES

First Editions® Majestic Skies™ Northern Pin Oak

Quercus ellipsoidalis 'Bailskies'

Zone: 3-6

Height: 60'

Width: 45'

Propagation Method: Grafted

Rootstock: *Quercus ellipsoidalis*





Shingle Oak *Quercus imbricaria*

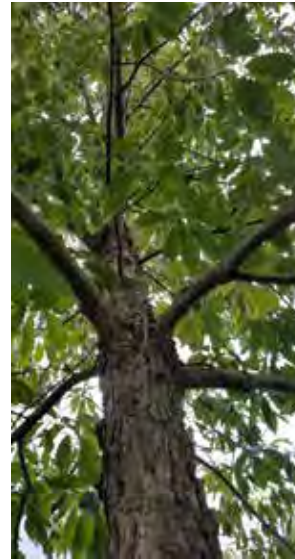
Zone: 5-8

Height: 50-60'

Width: 20-30'

Propagation Method: Seed

Rootstock: Own Root



Chinkapin Oak *Quercus muehlenbergii*

Zone: 4-7

Height: 40-60'

Width: 50'-70'

Propagation Method: Seed

Rootstock: Own Root



Bur Oak *Quercus macrocarpa*

Zone: 3-8

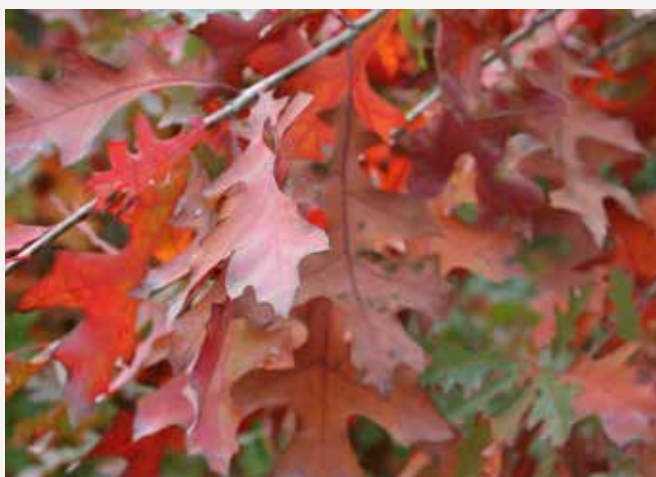
Height: 60-80'

Width: 60-80'

Propagation Method: Seed

Rootstock: Own Root

Species Tips: Susceptible to gall in the Midwest. Monitor and treat as needed.



Pin Oak *Quercus palustris*

Zone: 4-8

Height: 40-60'

Width: 40'

Propagation Method: Seed

Rootstock: Own Root

Species Tips: Best grown in lower pH soils to prevent iron chlorosis.



Green Pillar® Pin Oak *Quercus palustris* 'Pringreen'

Zone: 4-8

Height: 40-45'

Width: 15'

Propagation Method: Grafted

Rootstock: *Quercus palustris*



Pacific Brilliance™ Pin Oak *Quercus palustris*

Zone: 4-8

Height: 50'

Width: 25'

Propagation Method: Grafted

Rootstock: *Quercus palustris*



Northern Red Oak

Quercus rubra

Zone: 3-8 Height: 60-80' Width: 50'
Propagation Method: Seed
Rootstock: Own Root



Prairie Stature® Oak

Quercus x bimundorum 'Midwest'

Zone: 3-8 Height: 30-40' Width: 25-30'
Propagation Method: Grafted
Rootstock: *Quercus macrocarpa*



Heritage® Oak

Quercus x macdanielii 'Clemons'

Zone: 4-8 Height: 60-80' Width: 40-50'
Propagation Method: Grafted
Rootstock: *Quercus bicolor*



Kindred Spirit® Oak

Quercus x 'Nadler' PP17,604
Zone: 4-8 Height: 35' Width: 6'
Propagation Method: Grafted
Rootstock: *Quercus bicolor*



Regal Prince® Oak

Quercus x warei 'Long'
Zone: 4-8 Height: 40-60' Width: 20-25'
Propagation Method: Grafted
Rootstock: *Quercus bicolor*

Robinia pseudoacacia - Locust**Purple Robe Locust***Robinia pseudoacacia* 'Purple Robe'

Zone: 3-8

Height: 50'

Width: 30'

Propagation Method: Budded

Rootstock: *Robinia pseudoacacia**Salix* - Willow**Species Tips:**

- Does not store well; consider spring digging to limit storage time.
- Provide ample moisture in storage and prior to planting.
- Plant early, prior to mid-May if possible to avoid canker.
- Prune early and hard for optimal branching.
- Susceptible to flea beetle in the Midwest. Monitor and treat as needed.

More to know ...

- Fast growers that make up quickly in production.
- Smaller liners are ideal for container production.

**Niobe Weeping Willow** *Salix alba* 'Tristis'

Zone: 4-8

Height: 50'

Width: 50'

Propagation Method: Rooted Cutting

Rootstock: Own Root



Weeping Willow *Salix babylonica*

Zone: 6-8 Height: 30-50' Width: 20-30'
Propagation Method: Rooted Cutting Rootstock: Own Root



Weeping Pussy Willow *Salix caprea* 'Pendula'

Zone: 4-8 Height: 4' Width: 5-8'
Propagation Method: Rooted Cutting Rootstock: Own Root



Golden Curls Willow *Salix* 'Golden Curls'

Zone: 4-8 Height: 30-40' Width: 20-25'
Propagation Method: Rooted Cutting Rootstock: Own Root

Variety Tip: In areas of marginal hardiness, overwinter containers under poly to limit winter damage.



Hakura Nishiki - Tree Form *Salix integra* 'Hakura Nishiki'

Zone: 4-7 Height: 5-6' Width: 5-6'
Propagation Method: Grafted Rootstock:

Variety Tip: Responds well to hard pruning.



Prairie Reflection® Laurel Willow

Salix pentandra 'Silver Lake'

Zone: 2-6 Height: 35-40' Width: 25'

Propagation Method: Rooted Cutting

Rootstock: Own Root

More to know ...

- A clean and fast grower that makes up quickly in production.
- Resistant to pests and diseases.



Prairie Cascade Willow *Salix* 'Prairie Cascade'

Zone: 3-6 Height: 35-45'

Propagation Method: Rooted Cutting

Width: 35-40'

Rootstock: Own Root



Common Sassafras *Sassafras albidum*

Zone: 5-9

Height: 30-60'

Width: 25-40'

Propagation Method: Seed

Rootstock: Own Root

Sorbus - Mountain Ash

This valuable ornamental tree bears showy orange-red fruits in August and September. It prefers acid soils with good drainage.

Species Tip: Susceptible to fireblight and rust. Monitor and treat as needed.



European Mountain Ash *Sorbus aucuparia*

Zone: 3-7 Height: 20-30'
Propagation Method: Budded

Width: 20-25'
Rootstock: *Sorbus aucuparia*



Cardinal Royal® Mountain Ash *Sorbus aucuparia* 'Michred'

Zone: 2-7 Height: 20-30'
Propagation Method: Budded

Width: 15-20'
Rootstock: *Sorbus aucuparia*



Showy Mountain Ash *Sorbus decora* 'Michred'

Zone: 2-6 Height: 20-25'
Propagation Method: Seed

Width: 20'
Rootstock: Own Root

Variety Tip: Slow to root in containers and may require longer production time.

More to know ... Least susceptible to fireblight and rust.



Oak Leaf Mountain Ash *Sorbus hybrida*

Zone: 4-6 Height: 30' Width: 20'
Propagation Method: Seed Rootstock: Own Root



Japanese Snowbell *Styrax japonicus*

Zone: 5-8 Height: 20-30' Width: 20-30'
Propagation Method: Seed Rootstock: Own Root

Variety Tip: A slow grower that may require longer production time.

Syringa - Lilac



Tinkerbelle® Lilac - Tree Form

Syringa 'Bailbelle' PP12,294

Zone: 3-7 Height: 8' Width: 4-5'
Propagation Method: Grafted
Rootstock: *Syringa josikaea* / *Syringa reticulata*



Dwarf Korean Lilac - Tree Form

Syringa meyeri 'Palibin'

Zone: 4-7 Height: 8' Width: 5-6'
Propagation Method: Grafted
Rootstock: *Syringa josikaea* / *Syringa reticulata*



Miss Kim Lilac - Tree Form

Syringa patula 'Miss Kim'

Zone: 4-7 Height: 6-8' Width: 6-8'
Propagation Method: Grafted
Rootstock: *Syringa josikaea* / *Syringa pekinensis*



Summer Charm® Pekin Lilac

Syringa pekinensis 'DTR124'

Zone: 4-7 Height: 30' Width: 15-20'
Propagation Method: Tissue Culture
Rootstock: Own Root



Japanese Tree Lilac

Syringa reticulata

Zone: 3-7 Height: 25' Width: 25'
Propagation Method: Seed
Rootstock: Own Root

More to know ... Popular for its tolerance of urban conditions.



Snowcap™ Japanese Tree Lilac

Syringa reticulata 'Elliot'

Zone: 3-8 Height: 15-20' Width: 10-12'
Propagation Method: Budded
Rootstock: *Syringa reticulata*



Ivory Silk® Japanese Tree Lilac

Syringa reticulata 'Ivory Silk'

Zone: 3-8 Height: 25' Width: 15'
Propagation Method: Budded
Rootstock: *Syringa reticulata*



Ivory Pillar™ Japanese Tree Lilac

Syringa reticulata 'Willamette'

Zone: 3-8 Height: 15-20' Width: 10-12'
Propagation Method: Budded
Rootstock: *Syringa reticulata*

**FIRST
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SHRUBS & TREES

First Editions® Snowdance™ Japanese Tree Lilac *Syringa reticulata* 'Bailnce' PP20,458

Zone: 3-7

Height: 18'

Width: 20'

Propagation Method: Budded

Rootstock: *Syringa reticulata*



Bloomerang® Dark Purple Lilac Tree Form

Syringa x 'SMSJBP7' PP26,549

Zone: 3-7

Height: 8'

Width: 4-6'

Propagation Method: Grafted

Rootstock: *Syringa reticulata*

Variety Tips:

- Plant by mid-May if possible for best transplant success.
- Prefers well-drained soil in the first year, but requires ample moisture during leaf out and flowering in the second season.
- Slow to root in containers and may require longer production time.
- Provide supplemental lime during the growing season.



Taxodium - Cypress

Species Tips:

- Adaptable to a range of soils, but can tolerate heavy wet soils including full immersion in water.
- Best when transplanted prior to reaching a 6" caliper.
- Performs best when grown in full sun, but will tolerate partial shade.

Debonair® Pond Cypress

Taxodium ascendens 'Morris'

Zone: 5-9

Height: 50-60'

Width: 10-15'

Propagation Method: Budded

Rootstock: *Taxodium distichum*

More to know ... A strong grower that makes up quickly in production.

Taxodium distichum - Baldcypress

A large, distinctive tree with fine textured foliage similar to *Metasequoia*. This deciduous conifer has sage green needles that develop a yellow-brown autumn color and then fall from the branches in the winter. Adaptable to wet or dry soils, however it does not tolerate alkalinity.

Species Tip: Prefers acidic soils.



Baldcypress

Taxodium distichum 'Flame'

Zone: 5-9

Height: 50-70'

Width: 30-40'

Propagation Method: Seed

Rootstock: Own Root



Shawnee Brave® Baldcypress

Taxodium distichum 'Mickelson'

Zone: 5-9

Height: 55'

Width: 30'

Propagation Method: Budded

Rootstock: *Taxodium distichum*

More to know ... A strong grower that makes up quickly in production.



Lindsey's Skyward™ Baldcypress

Taxodium distichum 'Skyward' PP22,812

Zone: 5-9

Height: 20'

Width: 8'

Propagation Method: Budded

Rootstock: *Taxodium distichum*

Tilia americana - American Linden

This rapidly growing tree has fragrant yellow flowers and large, dense foliage that provides excellent shade. Although it will grow in dry heavier soils, it prefers deep moist soils.

Species Tips:

- Prune tops early. Limb later in the season to ensure callusing.
- Susceptible to Japanese beetles. Monitor and treat as needed.
- Slow growers that may require longer container production time.
- Sensitive to herbicide, especially near the rootzone. Limit applications or use other weed suppression methods.



American Linden

Tilia americana

Zone: 3-8 Height: 75-90' Width: 40-50'
 Propagation Method: Seed
 Rootstock: Own Root



Frontyard® Linden

Tilia americana 'Bailiyard'

Zone: 3-8 Height: 60-75' Width: 40'
 Propagation Method: Budded
 Rootstock: *Tilia americana*



Boulevard Linden

Tilia americana 'Boulevard'

Zone: 3-8 Height: 60' Width: 30'
 Propagation Method: Budded
 Rootstock: *Tilia americana*



American Sentry® Linden

Tilia americana 'McKSentry'

Zone: 3-8 Height: 40' Width: 25-30'
Propagation Method: Budded Rootstock: *Tilia americana* / *Tilia cordata*



Redmond Linden *Tilia americana* 'Redmond'

Zone: 3-8 Height: 40-60' Width: 25-30'
Propagation Method: Budded Rootstock: *Tilia americana* / *Tilia cordata*

Tilia cordata



Littleleaf Linden

Tilia cordata

Zone: 4-7 Height: 35-45' Width: 30-35'
Propagation Method: Seed
Rootstock: Own Root



Corinthian® Linden

Tilia cordata 'Corzam'

Zone: 4-8 Height: 45' Width: 15'
Propagation Method: Budded
Rootstock: *Tilia cordata*



Greenspire® Linden

Tilia cordata 'Greenspire'

Zone: 4-7 Height: 40-50' Width: 30-35'
Propagation Method: Budded
Rootstock: *Tilia cordata*

More to know ... A fast-growing variety that makes up quickly in container production compared to other linden varieties.



Silver Lining™ Linden

Tilia tomentosa 'Silver Lining'

Zone: 5-7

Height: 40-60'

Width: 30'

Propagation Method: Budded

Rootstock: *Tilia tomentosa*



Sterling Silver Linden *Tilia tomentosa* 'Sterling'

Zone: 5-7

Height: 45-55'

Width: 25-30'

Propagation Method: Budded

Rootstock: *Tilia tomentosa*



Harvest Gold Linden *Tilia x mongolica* 'Harvest Gold'

Zone: 2-7

Height: 30-40'

Width: 25-30'

Propagation Method: Budded

Rootstock: *Tilia cordata*

Ulmus americana - American Elm



Jefferson American elm *Ulmus americana* 'Jefferson'

Zone: 4-7 Height: 60-70' Width: 50'
Propagation Method: Budded Rootstock: Own Root



Princeton American Elm *Ulmus americana* 'Princeton'

Zone: 4-9 Height: 60-80' Width: 40-60'
Propagation Method: Budded Rootstock: *Ulmus americana*



Prairie Expedition® American Elm *Ulmus americana* 'Lewis & Clark'

Zone: 3-9 Height: 55' Width: 60'
Propagation Method: Budded Rootstock: *Ulmus americana*

Variety Tips:

- Responds well to aggressive pruning. Monitor terminal growth and remove double leaders early.
- Plant by mid-May if possible for best transplant success.
- Provide ample moisture in storage and prior to planting.



Valley Forge American Elm

Ulmus americana 'Valley Forge'
Zone: 4-7 Height: 60-70' Width: 60-70'
Propagation Method: Budded
Rootstock: *Ulmus americana*



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SHRUBS & TREES

First Editions[®] St Croix[™] American Elm

Ulmus americana 'St Croix' PP20,097

Zone: 3-6 Height: 60-75' Width: 70-90'
Propagation Method: Budded Rootstock: *Ulmus americana*



Northern Empress[®] Japanese Elm

Ulmus davidiana var *japonica* 'Burgundy Glow'

Zone: 3-6 Height: 30-35' Width: 25-30'
Propagation Method: Tissue Culture Rootstock: Own Root



Cathedral Elm *Ulmus* 'Cathedral'

Zone: 4-7 Height: 40-50' Width: 40-60'
Propagation Method: Budded Rootstock: *Ulmus pumila*

Variety Tip: Responds well to aggressive pruning.

More to know ... Fast grower that makes up quickly in container production



Accolade® Elm *Ulmus* 'Morton'

Zone: 4-7

Height: 70'

Width: 40-50'

Propagation Method: Budded

Rootstock: *Ulmus pumila*

Variety Tip: Susceptible to beetles and leaf hoppers. Monitor and treat as needed.



Triumph™ Elm *Ulmus* 'Morton Glossy'

Zone: 4-7

Height: 60'

Width: 35-40'

Propagation Method: Budded

Rootstock: *Ulmus pumila*



New Horizon Elm *Ulmus* 'New Horizon'

Zone: 4-7

Height: 40-50'

Width: 20-30'

Propagation Method: Budded

Rootstock: *Ulmus pumila*



Patriot Elm *Ulmus* 'Patriot'

Zone: 4-9

Height: 50'

Width: 35'

Propagation Method: Budded

Rootstock: *Ulmus pumila*



Frontier Elm *Ulmus x* 'Frontier'

Zone: 5-8

Height: 25'

Width: 15'

Propagation Method: Budded

Rootstock: *Ulmus pumila*

Viburnum



**Nannyberry Viburnum
Tree Form**

Viburnum lentago

Zone: 2-8

Height: 20'

Width: 8-10'

Propagation Method: Seed

Rootstock: Own Root

Variety Tip: Grow in a protected area shielded from high winds.



**Common Snowball Viburnum
Tree Form**

Viburnum opulus 'Roseum'

Zone: 3-8

Height: 10-12"

Width: 8-10"

Propagation Method: Rooted Cutting

Rootstock: Own Root

Zelkova

IMAGE COMING SOON!

Japanese Zelkova *Zelkova serrata*

Zone: 5-8

Height: 50-70'

Width: 50-70'

Propagation Method: Seed

Rootstock: Own Root

Species Tips:

- Use additional staking support and pruning to maintain a strong central leader.
- Use clean fiberglass stakes to avoid creating cankers.
- Plant early, by mid-May if possible for best transplant success.
- Provide ample moisture in storage and prior to planting.

**Burgundy Vase Zelkova** *Zelkova serrata* 'Burgundy Vase'

Zone: 5-9

Height: 60-70'

Width: 40-50'

Propagation Method: Budded

Rootstock: *Zelkova serrata***Green Vase® Zelkova** *Zelkova serrata* 'Green Vase'

Zone: 6-8

Height: 60-70'

Width: 35-40'

Propagation Method: Budded

Rootstock: *Zelkova serrata*

**Musashino Zelkova**

Zelkova serrata 'Musashino'

Zone: 5-9

Height: 45'

Width: 15-20'

Propagation Method: Budded

Rootstock: *Zelkova serrata*



Village Green™ Zelkova

Zelkova serrata 'Village Green'

Zone: 5-8

Height: 50-60'

Width: 25-30'

Propagation Method: Budded

Rootstock: *Zelkova serrata*

A person wearing a light-colored shirt and dark pants is bent over, working in a field. The background is filled with tall, thin trees, possibly a forest or a plantation. The entire image has a dark blue overlay.

CARE, HANDLING, PAINT CODES --- & MORE

PANICLE HYDRANGEA TREE PRODUCTION

Follow the steps below to produce a high quality, well-branched hydrangea tree in just three years.



1

Plant rooted cuttings or other small liners in the field and grow as a shrub.



2

Stake and train into whips by pruning off all branches except a dominant leader.

Shape and develop a well-branched and symmetrical head with a goal of reaching a 4' grade.

3

First Editions® Vanilla Strawberry™ Hydrangea - Tree form



CONTAINER TREE PRODUCTION

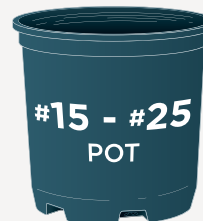
Choose the right bareroot liner to fit your container production needs with this helpful chart.



7' - 10'
TREES



8' - 11"
TREES



1 1/4" - 1 1/2"
TREES



1 1/2"
AND LARGER TREES

CARE AND HANDLING

Here are a few easy-to-follow tips and tricks to handle your bareroot shipment once it arrives, and how to store it until you are ready to plant:



- Check for any major breakage and prune any damaged branches.
- Keep roots moist by watering them and covering with straw, hay, or a tarp. For longer-term storage, heel trees in sand, sawdust, or wood chips, preferably in a cool and humid building.
- Protect from the elements in a cool, refrigerated storage space.
- Slowly defrost frozen stock at temperatures just above freezing until fully thawed before handling.

SWEATING & FORCING BUD BREAK

Breaking dormancy is easy for some genera and more challenging for others. For varieties that need longer to break bud, sweat trees in a moist location between 45°F and 70°F. Follow these steps for a consistent, healthy crop:

Traditional Sweating Technique:

- Lay the plant material on its side and cover with wet packing material like straw or shingle tow.
- Cover with a plastic sheet.
- Periodically check to make sure roots are moist.
- Once buds swell, typically after a few days, the product is ready for planting or potting.

ALTERNATIVE TECHNIQUES:

1. **Hydration:** Place the roots into a tank or pond of water for 24-48 hours.
2. **Greenhouse:** Pot or heel in trees in a warm greenhouse at nearly 100% humidity.

DID YOU KNOW?

Betula, *Celtis*, *Crataegus*, *Ostrya*, and *Quercus* respond best when sweated in high humidity.

PLANTING TIPS

These are a few simple tips for the best results when planting bareroot trees.

Always prune for an even root-to-top ratio to keep the plant balanced

It's important that your root ball and top are of similar size. Even if your tree has a smaller root mass, prune the top aggressively to keep the plant balanced.

Plant with the root flare at soil level to avoid stem girdling roots.

Never cram roots into a container; root prune to fit into the designated pot or use a larger container



BAREROOT GRADE DEFINITIONS

Bareroot from Bailey gives you the flexibility to choose the most economical and efficient liner for your production needs. You can rest assured knowing that you're getting the same high-quality liners that we demand for our own production.

- **WHIP (W)**

Typically has no branching with a 1 year-top.

- **LIGHT-BRANCHED TREES (LB)**

Great for lining out, not symmetrically branched.

- **SHORT-BRANCHED TREES (SB)**

A select grade from the light-branched category where the branching is well-balanced, but does not have the branch length to qualify as a fully-branched tree. Applies to a select group of varieties that include: *Acer platanoides* 'Crimson Sentry' (page 18) and *Quercus* 'Regal Prince®' (page 93).

- **ONE-YEAR TOP (1Y)**

Another designation within light-branched (as well as branched) trees, one-year top liners have a younger top with viable dormant buds that train as a leader or produce well-spaced branches with a root system that is at least 2 years old.

- **BRANCHED TREES**

With tops that have been growing for at least two years, these have a strong central leader and symmetrical lateral branching.

- **TRANSPLANT TREES (TT)**

These trees offer a compact, fibrous root system, large caliper, a heavier head, and better branching.

TIPS:

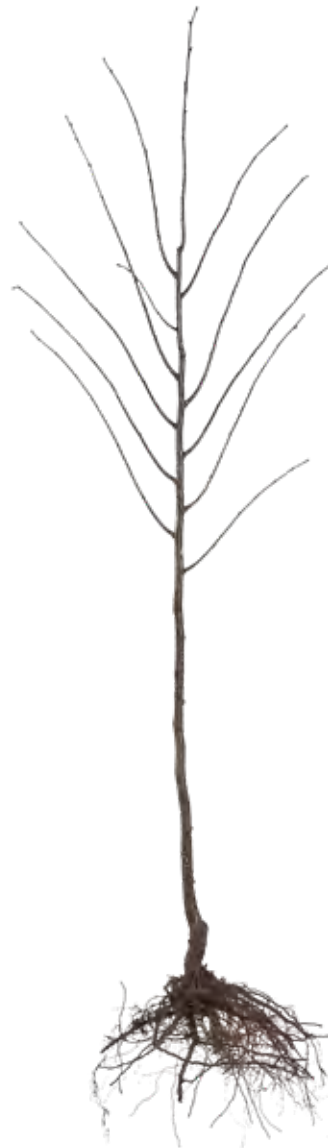
- #1 Heavy (H) and #1 grades are typically fuller trees with even heads.
 - All #1 Heavy trees will have 6 or more branches and #1 grades will have 4-5 branches.
- Select (S) and Heavy Select (HS) grades are those that have a larger trunk caliper and a combination of branching heft for the grade of the crop.
- #1 Light (L) and #2 grades are less full trees that are well-suited to lining out. They may have uneven heads or shorter and fewer branches that can be pruned and grown to a larger size ready for retail.

**WHIP**

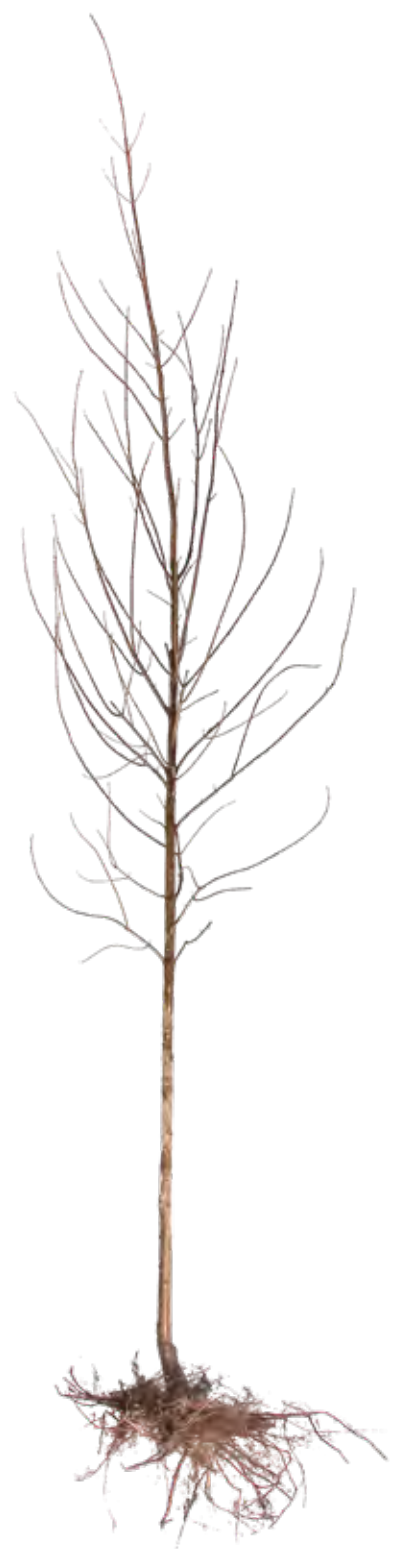
Boulevard Linden
(page 102)

**LIGHT-BRANCHED**

Autumn Blaze® Maple
(page 27)

**BRANCHED**

Boulevard Linden
(page 102)

**TRANSPLANT**

Autumn Blaze® Maple
(page 27)

BAREROOT GRADE DEFINITIONS

SPECIALTY TREES



CLUMP

Heritage® River Birch
(page 33)



MULTI-STEM

Autumn Brilliance Serviceberry
(page 31)



WEeping

Weeping Pussy Willow
(page 96)

• CLUMP TREES (CL)

Having 3 or more separate stems that were grown together. Graded as branched trees, averaging the branching of all stems.

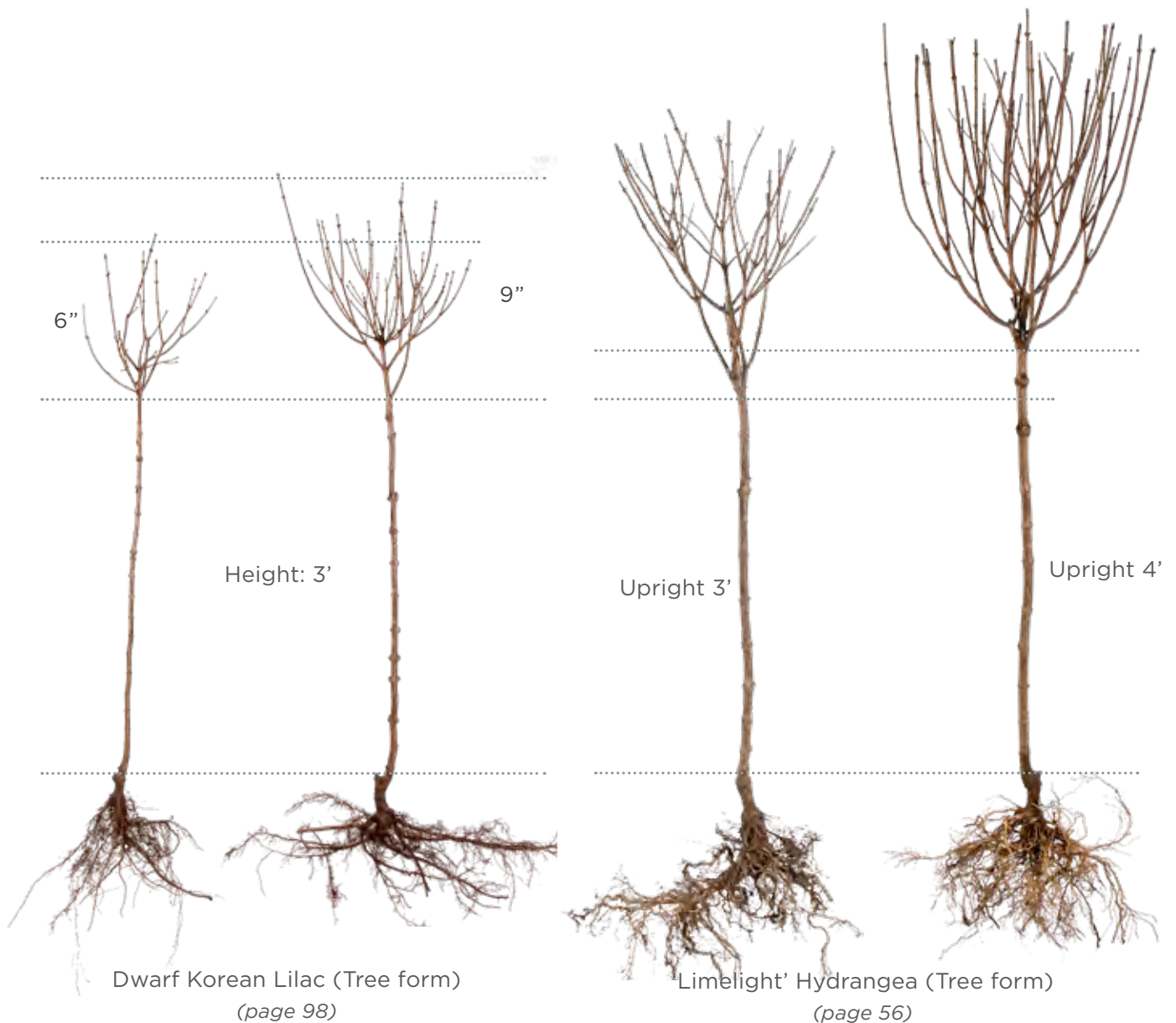
• MULTI-STEM TREES (MS)

Having 3 or more canes growing from one stem. Graded as branched trees, averaging the branching of all stems.

• GRAFTED WEEPING TREES

The first grade is the height of the standard such as 3'. The second grade is for the weeping branches. Examples include *Caragana* (page 37), *Prunus* subspecies (page 80), and *Salix pendula* (page 94).

- **#1 HEAVY (H) & #1 GRADES:** Caliper at or above 7/8" with even branching
- **#1 LIGHT (LT) & #2 GRADES:** Caliper less than 7/8" and uneven branching



• TOP GRAFTED & UPRIGHT TREES

Graded by the standard height between 3' to 4' and by the size of the head (crown graded like a shrub). Typically, *Syringa* (page 98) varieties are top grafted onto standard understock leaders, whereas *Hydrangea paniculata* (page 56) varieties are pruned into whips.

- #1 HEAVY (H) AND #1: Have a head of at least 8"

DID YOU KNOW?

There is a series of grading videos for you on the Bailey website. Practical tips from our growers help you choose the right bareroot liner for your production needs in a series of short and simple videos.

