

Quality Grown In



Wholesale Grower of
Bareroot Shade & Flowering Trees

ABOUT US

The Femrite Nursery Company is a family owned bareroot nursery located on 320 acres in Oregon's Willamette Valley. Established in 1920, we grow approximately 200 varieties of bareroot shade and flowering trees and sell to customers through the United States and abroad.

This publication represents one in a series we produce to help our customers and the general public learn about our company and our practices, care for their trees, and keep up to date with trends in the nursery industry.

If at any time you have questions about our trees, would like to place an order, or would like to be placed on the list to receive one or all of our publications—our catalog, quarterly newsletters, postcard mailings, customer letters, or Tree Care Guide—please let us know. All of our publications are free in small quantities to qualified recipients. Bulk orders of this brochure and our Tree Care Guide (also available in Spanish) are available at cost.



FEMRITE NURSERY COMPANY

13193 Arndt Road NE

Aurora, Oregon 97002

Telephone: (800) 547-2161 or (503) 678-1261

After Hours Telephone: (503) 502-8211 • Fax: (503) 678-5083

Email: trees@femrite.com • Website: www.femrite.com

QUALITY GROWN IN

At our nursery we like to say that “*Quality is Grown In.*” But what does that mean?

This publication is written to help answer that question—to describe the many varied and detailed steps we take to ensure that quality is indeed grown into our trees. In the nursery industry, as in others, it is no exaggeration to say that the devil is in the details. It is the little things that count. The close attention we pay in our processes, procedures, attitudes, and overall approach represents the essential ingredient in our product—the core competency that distinguishes our company and our trees in the marketplace.

We grow our trees from seed, rooted cuttings, and tissue culture, and nurture them for the first two or three years of their lives. At that time we sell and ship them to retail garden centers, landscapers, cities, counties, and other wholesale growers across the country and abroad.

Pages 8 and 9 at the center of this publication show a chart listing each of the steps we take in this growing process. This chart—and this publication—is organized by the year in the life of the tree.

Page 2 The Trees’ First Year

Page 6 The Trees’ Second Year

Page 12 The Trees’ Third Year

Page 16 Customer Service

One step that falls between these years is soil care for our fallowed fields. When any of our fields are not planted in nursery stock we apply composted manure and plant a cover crop on it to improve the organic matter of the soil. We do this twice annually: in the fall we use barley or wheat and in the summer we plant hybrid Sudan grass. The improved drainage and aeration help the trees produce fibrous roots.



Mowing Sudan Grass cover crop in fall.

THE TREES' FIRST YEAR

FEBRUARY & MARCH

Grade, Trim, Inspect, & Store Seedlings

We grow our own seedlings, and buy in seedlings from local growers, to ensure we get the best quality and hardiness for our production. During these early months of the year we grade, trim, and inspect all of our seedlings. They are then heeled upright in sawdust bins and placed in cold storage for planting in April or May. We also grow some seedlings—varieties including redbud, hawthorn, hackberry, oaks—in containers. These are planted in the fall.

Potted Cuttings, Liners, Some Seedlings

A few varieties of the trees we grow are best propagated from cuttings rather than budding. We have developed methods of efficiently rooting our own cuttings of these trees. We also buy in tissue culture liners from local area labs. We purchase unrooted cuttings, micro cuttings, rooted micro cuttings, and already established liners in a soil mix. The rooted cuttings and tissue culture liners are all grown in small containers.



Preparing ground for planting with field cultivator and roller harrow.

THE TREES' FIRST YEAR

MARCH & APRIL

Test Soil

Each field is sampled and tested for nutrient content. We review the results with private consultants to develop the best fertilization program.

Prepare Soil

Most of our trees will be in the ground for three years and we have found that the best growth is achieved when we carefully prepare the soil before the seedlings are planted. We use the following steps:

1. Chisel plow (to speed drying)
2. Disk
3. Sub soil both directions (24 to 26 inches deep)
4. Landplane
5. Plow (12 inches)
6. Roller harrow
7. Landplane (field leveling gives more uniform growth)
8. Incorporate fertilizer and soil insecticide
9. Roller harrow
10. Rototill

The improved growth and livability of our seedlings has made this program well worth the extra effort.

Plant Seedlings & Cuttings

As soon as the soil has been prepared in the spring and the weather permits, the seedlings and cuttings are planted. We have custom built our planters to place the plant in the ground and cover it with soil, leaving the roots in the proper growing position. Our seedlings and cuttings are planted in rows 60 inches apart to allow ample room for development.

Install Drip Irrigation

All of our trees are grown with drip irrigation. The drip lines are inserted in the ground next to the rows of trees just after planting, and remain there until the trees are harvested. The water application is easier to control and we can inject fertilizers and chemicals directly into the lines.



Installing drip tape next to newly planted seedlings.

THE TREES' FIRST YEAR

Hill Up

Once the drip lines are inserted next to the rows of trees, they are cultivated with a Lilliston rolling cultivator and soil is hilled up around the trees in each row. This helps to settle the soil and cover the seedlings.

Spray

When the hilling is complete, we apply a pre-emergent herbicide to the trees to prevent weed growth and competition as the plants get established and start to grow for budding later in the season. We are very careful with our herbicides, using safe, tested chemicals that will not harm the trees. We spray a twenty inch band on a sixty inch row, and only treat the soil two out of the three years the trees are in the ground.



Applying band of pre-emergent herbicide.

MAY, JUNE, & JULY

Fertilize & Irrigate

It is now time to water and fertilize our new plants. All our watering is done through the drip irrigation system, and this allows us to inject fertilizer as we water. This is done each time we water through the early part of the growing season. We are adding about 200 parts per million of nitrogen and a smaller amount of sulfur each time we water, until late July or early August when we back off of the fertilizer to allow the plants to slow down on their growth and begin to harden up for the coming winter.

Prune Lower Branches

During the first year of growth we prune the lower branches and direct the growth upward. This produces a straight vigorous whip.

THE TREES' FIRST YEAR

AUGUST

Prepare Budwood

Before we can bud our trees we need to prepare the budwood. Most of our buds come from trees grown in our stockblock. These trees are maintained to give us the best budwood we can get. We are able to cut the right size buds, get them fresh, and have them available when we need them. The buds are cut early in the morning and brought into a cool warehouse and kept wet until they can be processed. This involves cutting off the soft tip and trimming the leaves. The leaf stem is cut just above the bud so the bud is protected. The bud sticks are then wrapped in paper and burlap, tagged, and soaked in water. Once soaked and drained, they are put in cold storage until needed by the budders.

Bud Seedlings

This is one of the most important parts of the growing season for the first year trees. In August, after the seedlings have had the spring and summer to grow to the proper size, we bud the seedlings. We use both T-bud and chip bud methods. With T-budding we make a “T” shaped cut in the cambium layer of the seedling, inserting the bud just under the bark. With chip budding we remove a small portion of wood and bark to create a slight ledge. We then insert the bud on the ledge and wrap the area with tape (which we remove about one month later) to hermetically seal the bud. This technique gives us improved stands on hard-to-bud varieties and allows us to bud some varieties we couldn't in the past.

SEPTEMBER & OCTOBER

Plant Cuttings, Liners, & Seedlings

Our rooted cuttings, tissue culture liners, and some seedlings are grown in small pots and planted in the fall. This gives them an extra six months to get established and ready to grow in the spring, resulting in larger liners by the following summer's budding season. Tissue culture and rooted cutting liners also grow larger even though we don't bud them.

THE TREES' SECOND YEAR

MARCH & APRIL

Cut Off & Prune

The trees that were planted the first year were budded or grown as own-root liners. The following spring we remove the top of the seedling well above the bud with our mechanical forage harvester. The remainder of the understock is then carefully hand pruned to just above the bud using pneumatic clippers.



Hand pruning newly cut off seedlings. Notice cover crop between rows.

Shield & Stake

As soon as the cutting off is complete a small metal shield is placed next to the bud to direct its growth and protect from wind damage. Once the tender new bud has achieved some growth, the shield is removed and a steel or fiberglass stake is used in its place. This assures a straight stem and protects the new tree from damage as it grows. The tree is secured to the stake with plastic tape as often as necessary to keep it straight—sometimes once a week.

THE TREES' SECOND YEAR

Remove Suckers

The understock on the new buds often sends out shoots, which we refer to as suckers. Once we pull the metal shield and before we put in the stake, we remove these suckers by rubbing them off or pruning them. As the plant grows it may send out more suckers, which are then pruned off. For most varieties, suckering them one or two times will keep them clean.

Limb Up

Many varieties of trees have lots of buds along their main stem which want to grow into branches. These need to be removed as the tree grows so that we can have a straight-trunked whip. We use the same methods as we do on suckers.

MAY, JUNE, & JULY

Monitor Pests

An entomologist checks our fields each week during the growing season. This person monitors our fields for insect problems and gives a report of what he finds along with recommendations on what to do about problems or potential problems. This allows us to spray when we need to and not waste spray when we do not need to spray. Our field crews and especially our crew leaders also regularly watch for insect and disease problems in the field and report any findings to the managers. We try to stay ahead of our pest problems and prevent them through Integrated Pest Management (IPM) rather than react after we have a problem.

Work Tops

Many trees need to have the top buds thinned and cleaned up as they grow. This helps to keep the top branches spaced properly and the limbs growing evenly around the central stem. Some trees also need to have side limbs pinched as they are growing to slow them down and force better branching.



Checking for pests in two year trees.

THE TREES' SECOND YEAR

AUGUST & SEPTEMBER

Treat With Phosphorus Acid

The maturing trees in our fields are treated with phosphorus acid through the drip irrigation system. This helps them activate their immune system to help fight off fungal diseases. We inject this three times, about a month apart, to be sure the plant has plenty of material to build up immunity.

OCTOBER

Foliar Application of Urea

In October, once the trees have set their terminal bud, we spray them with a foliar application of urea. The urea is quickly converted to an amino acid and transferred to the stems and roots as a protein. This will help the tree with its beginning growth in the spring. Most trees do not take nitrogen through the roots for the first 30 days after bud break, so having the additional stored nitrogen in the stems and roots helps the trees transplant better and grow faster.

Defoliate

In late October after bud-set we begin using our defoliation treatment. This is done to help us prepare the plants for harvest. Some varieties will defoliate more quickly when treated with a defoliant. Our procedure is designed to mobilize the nutrients from the leaves into the stems and roots where it is stored as an amino acid and protein. We do this in conjunction with urea application. This allows us to harvest sooner when conditions are better, and improves the health of the harvested trees by getting them out of the ground when there are better harvest conditions.

Apply Herbicide

In October we put on a fall herbicide to carry the trees through the winter and into the beginning of the new growing season. With our new TH1 track sprayer we are able to apply fall sprays even if we get some rain.

THE TREES' SECOND YEAR

NOVEMBER & DECEMBER

Harvest Select Whips

After two years of growth (one year as seedling and one year as a budded tree) many varieties are ready for sale as a whip or 1-year branched tree. These include ash, honeylocust, linden, maple, pear, elm, oak, and planetree. These trees have not been topped and have not yet grown many branches. They are used mainly by growers who will plant them out and grow them on to caliper sized trees.



Applying urea with air blast sprayer.

THE TREES' THIRD YEAR

MARCH & APRIL

Top-Graft Select Varieties

In the spring prior to bud break, we top-graft crabapple, cherry, and caragana. This is done on liners which have grown for a year. The crabapples are grafted on 36 inch standards, the cherry on 42 inch and 66 inch standards, and the caragana on 36 inch standard. We also chip bud Catalpa bungei on 42 and 60 inch standards.

Top

It is necessary to top many varieties in order to achieve evenly spaced branching. This is done either in late fall or early spring depending on the variety. On some varieties the top bud is then taped to direct the growth upward and give the tree a straight central leader. Side branches growing in the normal branching area are cut back at this time and the tree is ready to form a branched head.



Pruning the tops of trees shapes an evenly branched head.

THE TREES' THIRD YEAR

Limb Up

When the buds begin to swell in the spring it's necessary to remove the lower buds on the stem where branches are not wanted. This is done either by rubbing off the new buds or trimming off the lower branches as they start to grow. This will give a clean stem up to where the branched head is starting to grow.

Prune and Pinch

Some trees form a natural even head without much help. Other trees need to have uneven heads pruned to balance the branching and improve the spacing of the branches in the head of the tree. This is done before the trees start to grow and is followed up throughout the season as needed to keep a balanced branching structure. Often we can improve the structure of the tree by pinching the tip out of the side branches as they grow. This will slow the growth and give a better branched-head on the tree.



Undercutting trees.

Undercut and Side Cut Roots

Many tree varieties benefit from undercutting their roots. Each year we look at the size and growth of each variety and determine which will benefit from undercutting. Trees that grow with coarse roots, or which grow rapidly, are candidates. Undercutting severs the roots on the bottom and both sides of the tree. We undercut about 18 inches deep and 24 inches wide prior to bud break in the spring. This usually results in a plant that is one grade smaller than a non-undercut tree. The branches are shorter and the tree is more compact. There is also a more compact fibrous root system. Most of the third year trees that we do not undercut are side cut with two large rolling coulters which go about 18 inches deep and about 24 inches wide. This does not reduce growth, but gives a better root system.

THE TREES' THIRD YEAR

MAY, JUNE, & JULY

Monitor Pests & Work Tops

As with second year trees, we have an entomologist check our fields each week during growing season, and—for those trees that will benefit—we thin top buds, clean, and pinch side limbs. Regular visits by entomologists help us ensure we spray only when necessary and not on some arbitrary schedule. Working tops helps keep top branches spaced properly and the limbs growing evenly around the central stem. Pinching helps slow growth and force better branching.

AUGUST, SEPTEMBER, & OCTOBER

Treat & Fertilize

As with second year trees, these third year trees are treated with phosphorus acid to activate their immune systems to fight off disease; sprayed with a foliar application of urea to spur their growth in the spring; defoliated to prepare for harvest; and applied with herbicide to carry them through the winter and into spring.



Harvesting trees with D-3 Tree Digger.

THE TREES' THIRD YEAR

NOVEMBER, DECEMBER, JANUARY, & FEBRUARY

Harvest

At the end of the third growing season the trees are harvested. We have specially designed and built our digging tractor to carefully move over the trees in the row, digging, lifting, and shaking off the soil. The trees are then picked up and loaded in large pallets to be transported to the warehouse where they are graded and bundled.

Grade

All of our trees are labeled with variety and size tags according to the American Nursery & Landscape Association's grades and standards, and tied in bundles of 5 or 10 with a clean, neat web tie. These labels have a bar code that we use for our inventory control.



Crew placing trees in beds and covering the roots with sawdust.

Store

Our cool moist climate provides us with excellent storage facilities through the winter. After the trees are graded and bundled, they are placed upright in beds with sawdust completely covering their roots. Orders which cannot be shipped out until late spring are placed in cold storage.

Ship

Orders are carefully loaded on temperature controlled trucks and monitored en route. This ensures that they are delivered in the best condition. We read the bar coded labels on the bundles as we load the truck to make sure all orders are complete and correct. They are then separated with plastic and affixed with "stop" signs to designate one from another.

CUSTOMER SERVICE

At Femrite Nursery Company we pride ourselves on our customer service. If at any time you have questions about our trees, would like to place an order, or would like to receive our catalog, quarterly newsletter, or other publications, please let us know.



Left to right:
Tom, Kathie, Doug, and Rob Femrite
Owners

Lance Lyon, *General Manager*
Dave Sheline, *Sales Manager*
Jim O'Brien, *Inventory Manager*

YOU MAY REACH US A NUMBER OF WAYS:

- Call us at (800) 547-2161 or (503) 678-1261
- Email us at trees@femrite.com
- Go to our webpage: www.femrite.com
- Fax us at (503) 678-5083
- Contact one of our sales representatives
- Visit us at one of the trade shows we attend each year:

JANUARY MANTS..... Baltimore, MD
 CENTS..... Columbus, OH

JULY PANTS.....Atlantic City, NJ

SALES REPRESENTATIVES



Tim Newell

Newell & Associates

21 Old Road, Stockton, NJ

Telephone: (908) 996-0018

Cell: (609) 658-0167

Fax: (908) 996-0019



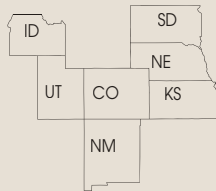
Ridge Goodwin

Ridge Goodwin & Associates, Inc.

P.O. Box 310 Holicong, PA 18928

Telephone: (215) 794-3216

Fax: (215) 794-7107



Terry Diesburg

1340 S. Lincoln

Longmont, CO 80501

Telephone: (303) 772-9136

Fax: (303) 678-5624



Jim Magnusen

P.O. Box 588

Plover, WI 54467

Telephone: (715) 345-1186

Fax: (715) 345-1193



Joel and Julie Parlier

J. Parlier & Associates

646 Bailey Farm Rd.

Statesville, NC 28625

Telephone: (866) 876-8787

Fax: (704) 876-3096



Chestnut Hill Marketing

160 Dover Rd., Suite 12

Chichester, NH 03258

Telephone: (603) 798-4200

Fax: (603) 798-4205

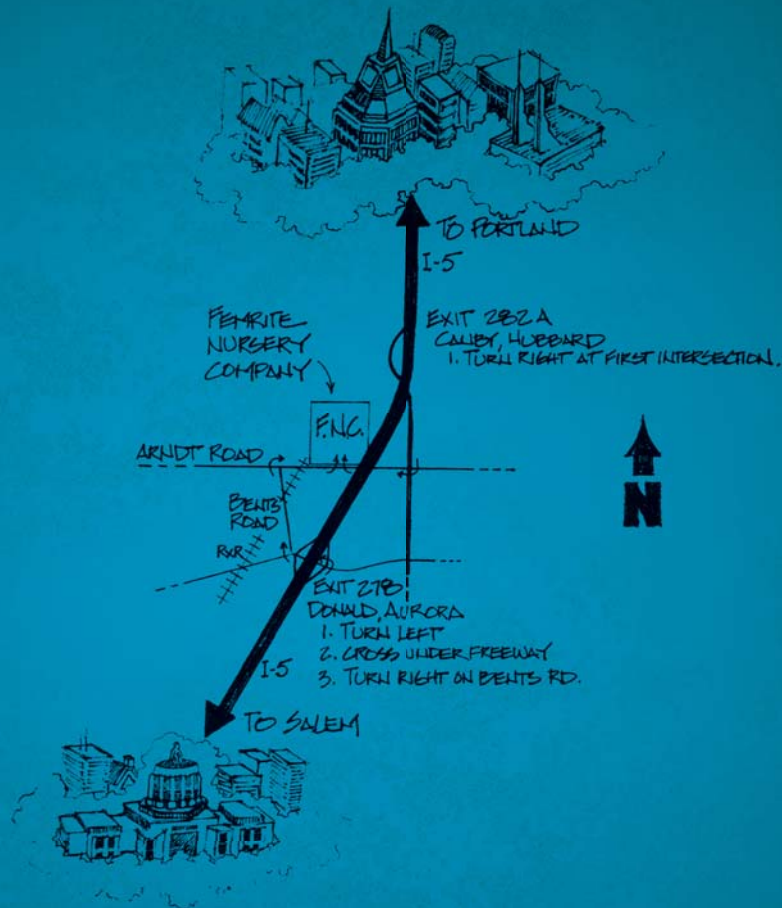
Stan Brehm

Greg Roth (585) 374-6411

Jim Reck (860) 974-1585

In trusting us to supply your trees you've chosen to buy the best, because at Femrite Nursery Company quality is grown in. We hope you will find these tips on handling and growing your trees helpful. As always, when you need to talk with us we are just a phone call away.

Femrite Nursery Company...Quality Grown In



Telephone: (800) 547-2161 or (503) 678-1261

After Hours Telephone: (503) 502-8211

Fax: (503) 678-5083

Email: trees@femrite.com

Website: www.femrite.com