



PLANTING INSTRUCTIONS FOR A BAG GROWN TREE

What is the best way to plant a tree grown in a Root Control Bag, Smart Pot Pro™ or Pot Pruner™?

Instructions for Holding and Planting:

- 1** Water as needed in the holding area. We recommend a drip line right in the ball. In most cases, do not mulch in the ball area. Roots might grow into the mulch and make Bag removal more difficult.
- 2** Cut off any excess rooting that is outside the Bags. If you hold Bag grown material for a few days, any outside rooting should naturally dry out and be easy to remove.
- 3** If the Bags were properly planted with straight sides and a flat bottom, the ball will be easy to clean and easy to handle.
- 4** When planting on a landscape site, dig a planting hole twice as large as the Bag. Give the roots an area in which they can expand and grow. Do not plant the tree deeper than the natural ground level.

- 5** Remove the Fabric Bag. Cut the fabric with a box knife or razor. Peel the fabric away. If the fabric has been properly cleaned of any excess rooting, the fabric should peel off relatively easily. Usually one or two complete cuts of the fabric are sufficient to peel the fabric.

- 6** If the plant is overgrown in the Bag, you may want to cut around any area with excessive roots in the fabric. Leaving a few areas of fabric on the ball is fine.



- 7** Set the ball in the hole and fill.
- 8** Stake the plant as needed. Water the plant as needed.

- 9** Many of our customers use our fabric Bag products to grow plants that are next moved to larger containers and/or larger boxes. This is a great use of our system. Because of the root pruning, plants grown in our fabric Bags will root quickly into their new homes, and be ready for re-sale when needed.

- 10** Call us with any planting questions! We look forward to working with you.



High Caliper Growing System® 7000 North Robinson Avenue, Oklahoma City, OK 73116

A GROWING REVOLUTION™

PRODUCT CATALOG

Root Control Bag
In-ground Fabric Containers

Smart Pot Pro
Above-ground Fabric Containers

Tree Collar
Tree Holding System

Pot Pruner
Reusable Fabric Sleeve



Root Control Bag

In-ground Fabric Containers

The **Root Control Bag** is a porous, fabric container that prunes a plant's root structure and makes harvesting quick and easy. **Root Control Bags** have been used by some of the best plant growers in the world for over 30 years.



**"We'd be lost without them. Everything improves.
Growing, harvesting, digging, hauling and shipping."**

Roger Canfield,
Puget Sound Plants (Owner), Olympia, WA



Advantages of growing with Root Control Bags:

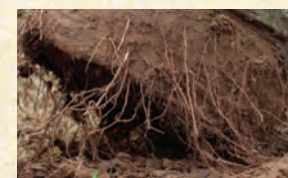
- Easy to ship – more plants on a truck
- Anyone can dig
- No expensive harvesting equipment needed
- Grow more plants per acre
- Harvesting is quick and inexpensive
- Expanded harvesting season
- Root prunes for a better root structure
- No root circling
- Higher transplant survival
- Smaller ball size



How does the Root Control Bag work?

The **Root Control Bag**™ combines the advantages of field growing with the convenience of container harvesting. As the roots of the plant grow, they entangle with the inside surface of the fabric. Many small roots penetrate. The tough fabric, however, girdles the roots at all points of penetration. The roots quickly lose their apical dominance and lateral root branching, or pruning, occurs inside the bag.

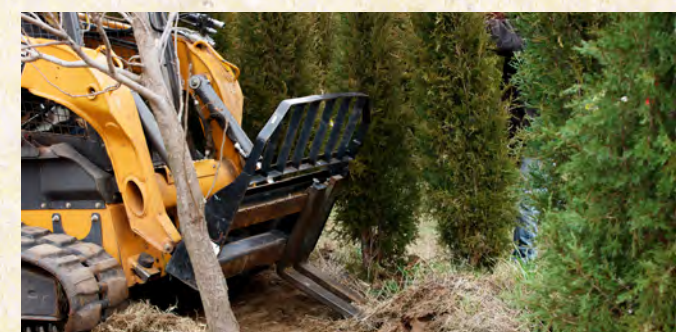
A better, fuller root structure quickly develops. With the **Root Control Bag**™, approximately 80% of the root structure is harvested with the plant. By contrast, a study



at Michigan State University showed that more than 90% of a tree's root structure can be cut away using traditional field digging procedures.

Because of the root pruned root structure, the **Root Control Bag**™ grower has even more advantages. With a better root structure, plants can be harvested more year round. Root pruning creates a smaller, easier to handle ball size, allowing more trees on the truck.

Many growers hold and ship plants in the **Root Control Bag**™. The fabric is tougher than burlap and will not rot, even when held over a year.



Some growers use the **Root Control Bag**™ as a production tool. After field growing, the Bag is removed and the plant is transplanted into a large box or container. The root structure will rapidly flush and fill the box or container, making the plant ready for sale very quickly.

Call us with any questions. We have been helping nurseries both large and small for over 30 years grow the best plants in the business. And remember, one of the best ways to be familiar with the **Root Control Bag**™ is to buy some bag grown plants. We look forward to working with you!



*To ensure a flat bottom and straight sides, install the **Root Control Bag**™ using our fiberglass sleeve, (see page 5), that expands to give the fabric rigidity at planting.*



Root Control Bag

In-ground Fabric Containers



The size tree you want to harvest will dictate what size **Root Control Bag™** you need to use. These suggestions are consistent with the standards in American Standard For Nursery Stock, most recently updated in 2014, published by AmericanHort, the national trade association of horticultural professionals.

ROOT CONTROL BAG™ – IN-GROUND				
ITEM#	DESCRIPTION	DIMENSIONS	CALIPER suggested size at harvest	CASE quuanity
RCB™ 9	9" Bottom	9 x 7"	-	600
RCB™ 10	10" Bottom	10 x 10"	1"	300
RCB™ 12	12" Bottom	12 x 10"	1.25"	250
RCB™ 14	14" Bottom	14 x 12"	1.5"	200
RCB™ 16	16" Bottom	16 x 12"	2"	150
RCB™ 18	18" Bottom	18 x 14"	2.5"	125
RCB™ 21	21" Bottom	21 x 14"	3"	100
RCB™ 24	24" Bottom	24 x 16"	4"	75
RCB™ 30	30" Bottom	30 x 18"	5"	60



Fiberglass Sleeves

Plant the **Root Control Bag™** with a flat bottom and straight sides. Most customers dig the planting hole with an auger. Use the same size auger, or a slightly larger auger, than the Bag you are planting. Plant the Bag high, leaving an inch or two of fabric above ground. This will account for any settling in the soil. Many customers backfill with the same filed soil that they augured out to fill the Bag.

To help plant the **Root Control Bag™** with a flat bottom and straight sides, we recommend using our fiberglass sleeve. The sleeve is inserted into the Bag, and expands to give rigidity at planting. The sleeve is then removed and used on the next hole. The number of sleeves needed depends on the size of the planting crew. Have enough sleeves to keep your crew moving!



FIBERGLASS SLEEVES			
ITEM#	DESCRIPTION	FITS	HEIGHT
FS13	13" Sleeve	12" and 14"	13"
FS17	17" Sleeve	16" and 18"	13"
FS23	23" Sleeve	21" and 24"	13"
FS30	30" Sleeve	30"	18"



Smart Pot Pro

Above-ground Fabric Containers

The **Smart Pot Pro™** is a soft-sided, breathable aeration container made from our special fabric. The **Smart Pot Pro™** offers the nurseryman a great number of advantages over traditional hard-sided plastic containers including aeration, root pruning, stopping roots from circling and releasing heat. The **Smart Pot Pro™** is also priced right when compared to large plastic containers and boxes.



“Even when compared to a pot grown tree of the same age, the above-ground Smart Pot Pro grown tree had the best root system by far... Our production time has decreased by 33%, meaning we can sell our trees a full 2 years earlier.”

Mark Palmer,
Webb Landscape (CEO), Ketchum, ID



Advantages of growing with the Smart Pot Pro:

- The original root pruning fabric container
- No root circling
- Releases Heat
- Ground contact stabilizes container temperature
- Expanded growing season
- Root prunes for a better root structure
- Even moisture saturation of container



that on an 80 degree day, temperatures inside a plastic container were as high as 125 degrees. Inside the fabric **Smart Pot Pro™** the temperature was about 80 degrees.

Growing in the **Smart Pot Pro™** also gives the nurseryman a longer shelf life for the plants. If the roots are not circling, the plant can sit in place a little longer.

Compare our prices to larger plastic containers and/or wooden boxes. You will find the **Smart Pot Pro™** to be priced right.

Keep the sides straight

When filling the **Smart Pot Pro™**, keep the sides straight. Many customers use a re-usable fiberglass or plastic sleeve that expands to give the fabric **Smart Pot Pro™** rigidity when filling. The sleeve is then removed and used to fill the next **Smart Pot Pro™**. Keeping the sides taut adds to the nice look of your plants.

Smart Pot Pro™ - Higher quality plants

The fabric **Smart Pot Pro™** aerates your container medium. Why does a farmer plow his field? To give aeration. The **Smart Pot Pro™** container breathes from top to bottom. Rigid plastic containers cannot breathe, limiting aeration to only the top.

The **Smart Pot Pro™** is an air root pruning container. Root pruning increases the amount of fibrous roots in the container. When a root grows to the side of the **Smart Pot Pro™**, it entangles in the fabric and hits the air. The root desiccates, or dries. The root then loses its apical dominance, and starts to side branch or prune laterally, filling the **Smart Pot Pro™** with fibrous roots. Recent university studies have found more than twice the root structure in plants grown in the **Smart Pot Pro™** when compared to the same plant grown in the same sized plastic container.

The **Smart Pot Pro™** stops root circling. In a plastic container, when a root hits the plastic side wall, the root turns and grows along the side of the plastic, circling around and around. These circling roots cause great problems for the plant. Root pruning and branching is the solution.



The **Smart Pot Pro™** helps distribute moisture more evenly in the container. With porous fabric sides, water is pulled by capillarity from wet areas to dry areas. In a plastic pot, water moves more by gravity, channeling through the mix toward the bottom drain holes.

The **Smart Pot Pro™** releases heat. Excessive heat builds up in a plastic container and is not good for growing plants. A recent study at the University of New Hampshire showed



Shipping in the Smart Pot Pro™

The best method of shipping a plant grown in the **Smart Pot Pro™** will depend on your customer and how they want to receive the product. Some growers use the **Smart Pot Pro™** in production, and then remove the fabric and transplant to a larger container or box for shipping. Other growers ship right in the tough fabric. Remove the fabric before planting.

Smart Pot Pro

Above-ground Fabric Containers

Ground contact and temperature
The bottom of the **Smart Pot Pro™** is also a tough fabric. Some small roots will penetrate the bottom. When placed directly on the ground, these roots will uptake moisture and nutrients. Because of this intimate ground contact, temperatures inside the **Smart Pot Pro™** will resemble ground temperatures. Ground temperatures are better for growing plants.



Watering in the Smart Pot Pro™
Watering needs in the **Smart Pot Pro™** may be slightly different from plastic containers. Many customers find they water more the first few weeks, then less after the plant has rooted, when compared to plastic containers. Keep in mind the **Smart Pot Pro™** releases heat, helping conserve water. The mix used will effect watering needs.

What mix to use?
Because the **Smart Pot Pro™** is a fabric aeration container, the range of mixes that can be successfully used is great. Water and fertilize as needed. Some growers select a mix that is slightly heavier, or has greater water retention capacity, than might be used in a plastic container.



Mix ideas from selected Smart Pot Pro™ growers
Most **Smart Pot Pro™** users purchase a good growing mix. Great local mixes are often the best. Following are a few suggestions from customers. Please note that these mixes have slightly greater water retention capacity than what might be used in a traditional hard sided container:

- Florida Sun Mix**
55% Peat
35% Pine Bark
10% Sand

Florida Cool Mix
50% Bark Mulch
30% Peat
20% Sand

Webb Idaho Mix
60% Coarse Compost
20% Fine Compost
20% Sand
- Central NC Mix**
50% Sifted Field Soil
50% Pine Bark

Kentucky Mix
75% Old Pine Bark Fines
25% Sand

UNH Mix
60% Pine Bark
30% Peat
10% Compost

SMART POT PRO™ – ABOVE - GROUND				
ITEM#	DESCRIPTION	DIMENSIONS	VOLUME gallon	CASE quantity
PRO 1B	#1 Block	5 x 9"	1	1,000
PRO 1H	#1 Hogwire	6 x 8"	1	1,000
PRO 1R	#1 Round	7 x 6"	1	900
PRO 2	#2 Smart Pot Pro™	8 x 7"	1.5	600
PRO 3	#3 Smart Pot Pro™	10 x 7.5"	2.5	400
PRO 5	#5 Smart Pot Pro™	12 x 9.5"	4.7	250
PRO 7	#7 Smart Pot Pro™	14 x 9.5"	6.3	200
PRO 10	#10 Smart Pot Pro™	16 x11.5"	10	150
PRO 15	#15 Smart Pot Pro™	18 x 13.5"	14.9	75
PRO 20	#20 Smart Pot Pro™	20 x 15.5"	21.1	75
PRO 25	#25 Smart Pot Pro™	21 x 15.5"	23.2	60
PRO 30	#30 Smart Pot Pro™	24 x 15.5"	30.4	60
PRO 45	#45 Smart Pot Pro™	27 x 18"	44.6	50
PRO 65	#65 Smart Pot Pro™	32 x 18"	62.7	50
PRO 100	#100 Smart Pot Pro™	38 x 20"	98.2	35

SMART POT PRO™ – ABOVE - GROUND W/HANDLES				
ITEM#	DESCRIPTION	DIMENSIONS	VOLUME gallon	CASE quantity
PRO 3H	#3 Smart Pot Pro™	10 x 7.5"	2.5	400
PRO 5H	#5 Smart Pot Pro™	12 x 9.5"	4.7	250
PRO 7H	#7 Smart Pot Pro™	14 x 9.5"	6.3	200
PRO 10H	#10 Smart Pot Pro™	16 x11.5"	10	150
PRO 15H	#15 Smart Pot Pro™	18 x 13.5"	14.9	75
PRO 20H	#20 Smart Pot Pro™	20 x 15.5"	21.1	75
PRO 25H	#25 Smart Pot Pro™	21 x 15.5"	23.2	60
PRO 30H	#30 Smart Pot Pro™	24 x 15.5"	30.4	60
PRO 45H	#45 Smart Pot Pro™	27 x 18"	44.6	50



Note: The **Smart Pot Pro™** can be custom made to fit your program. Call us for larger sizes, or shorter or taller heights. Please be aware that custom orders will take more time, and minimum quantities will apply. Call us for a price quote.

HANDLE STYLES

 **Cut Handles**
Our fabric cut handles hold up to intense use in professional settings, i.e. farm and ranch.

- Thick cut fabric
- Tough material
- Easy to grip

 **Strap Handles**
Our strap handles are made with 5/8" heavy weight nylon webbing.

- Heavy duty
- Professional durability
- Sure to grip texture

Note: 3 gallon to 10 gallon are cut handles. 15 gallon to 45 gallon are strap handles.

Tree Collars

Keeps containerized trees upright.

The patented **High Caliper Tree Collar™** is the premium device for securing trees and preventing wind blow-over. The system was developed by a large Florida tree farm, where wind and hurricane damage are a constant possibility.



“The High Caliper Tree Collar has proven to be a good investment and provide benefits such as ease of access, reusable, prevent trunk wounds and save cost in tree stand up from windy conditions.”

Patrick Miller,
Director of Horticulture, Cherry Lake Tree Farm,
Groveland, Florida

Advantages of growing with the Tree Collar™:

- Holds trees in place on the cable line
- Easy on & easy off
- No scarring or damage from rubbing– Extra padding in every collar
- Reusable - lasts for years
- More saleable plants– No broken branches, plants do not blow over
- Reduces labor– Easy to lay down and stand back up
- Saves fertilizer– No need to re-fertilize, plants do not blow over



TREE COLLARS™				
ITEM#	DESCRIPTION	COLLAR DIMENSIONS	FITS CALIPER	CASE quantity
TFSMALL	Black	1.5 x 7.75"	< 1" DBH	100
TF1	Green	2 x 7.5"	1 to 2" DBH	100
TF2	Blue	2 x 12"	2 to 3" DBH	100
TF3	Yellow	2 x 15"	3 to 4" DBH	100
TF4	Orange	3 x 20"	4 to 6" DBH	100



Wind blow-over. No longer a problem.
The **Tree Collar™** attaches to a cable to create a permanent holding station, with easy on and off access to your plants. The **Tree Collar™** comes in five different sizes, holding plants from small sizes up to 6" caliper trees.

Usage
The **Tree Collar™** is used by commercial tree farmers who are growing a number of plants in a row or by retail garden centers who desire a permanent holding area where larger container trees can be securely held and displayed.

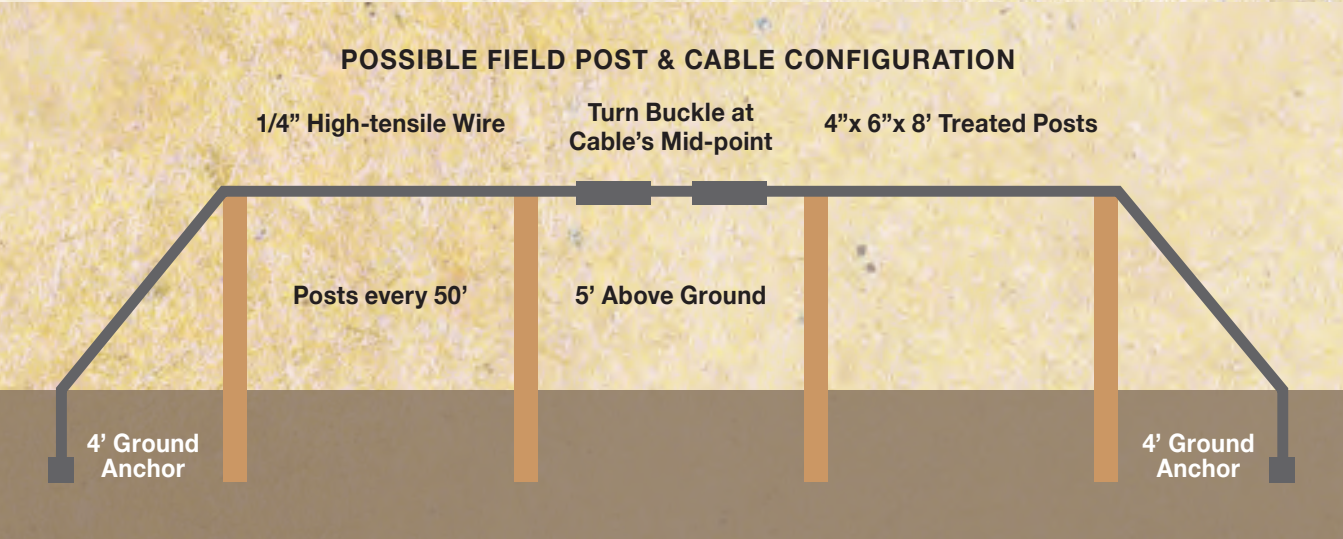
The **Tree Collar™** is made of durable, heavy duty webbing and stainless steel cable clamps. An industrial Velcro and Latch closure ensures a secure hold and easy removal.

The **Tree Collar™** is made to be attached to a high tensile cable line. Most customers use a 3/16 or 1/4 inch cable, mounted on posts. On longer cable runs, a turn buckle may be needed to keep proper tension on the line.

Proper Fitting
Fit the **Tree Collar™** snugly (not tight) around the trunk of the tree. Leave about an 1/4" to 1/2" total space for wiggle room. As the tree grows, loosen as needed. Most growers adjust their **Tree Collars™** every three or four months, depending on tree growth.



When there is no tree being held, close the **Tree Collar™** Velcro and Latch. This will protect the product from wind and sun damage, giving it longer life.



The **Tree Collar™** is a patented product using U.S. Patent numbers 6,073,391 and D520,307.

Pot Pruner

Reusable Fabric Sleeve

The **Pot Pruner™** turns any plastic pot into a root pruning container. The **Pot Pruner™** is a porous fabric sleeve custom made to line the inside of a standard plastic container, turning it into a root pruning pot. The **Pot Pruner™** helps plant growth because it stops root circling, promotes lateral root branching and insulates.



"I just started using the Pot Pruner for my seedlings,... It's an amazing device and we're very happy with the results we got the first time we ever used it. It's reusable, peels easily off the plant, and does an excellent job stimulating root growth."

Gordon McLean,
Owner of Bloom'n Nursery & BloomnNursery.ca,
Collingwood, Ontario, Canada



Custom made to fit

The **Pot Pruner™** is custom made to fit in the plastic container you are already using. Tell us the brand and model number of the container you currently use and we will cut a **Pot Pruner™** specifically for your container. We have patterns for the most common plastic pots used in the nursery industry. If we do not have the pot you use, mail us a sample pot and we will make a pattern for it.

How the Pot Pruner™ works

When the roots of a plant touch the fabric sleeve, they entangle and do not circle. The root tip loses its apical dominance and the root structure begins to side branch. A healthy, fibrous root mass soon develops.

Because roots do not circle, you gain extra time flexibility. When a plant stays longer than anticipated, the **Pot Pruner™** continues to root prune, creating a healthy root ball that explodes with new growth when the plant is shifted.

Insulation - A key bonus

The **Pot Pruner™** offers one big advantage no other container root pruning product can –Insulation. Your plants stay warmer in the winter and cooler in the summer. There is no "hot side of the pot". Roots grow evenly throughout the entire container.

Ideal with Pot-In-Pot

The **Pot Pruner™** is the ideal product to greatly slow root traveling from the liner pot in a pot-in-pot to the socket pot and then exiting through the drain hole and rooting into the ground.

Scores the roots

The **Pot Pruner™** is used most effectively on plants that will be stepped up to larger containers or field planted. The process of removing the fabric slightly scores the plant's root tips, sending a chemical message for the plant to begin reproducing roots. The plant will root into the new area with amazing quickness.

Reuse or sell in the Pot Pruner™

Many growers reuse the **Pot Pruner™** after removing it from the plant. Knock off any excess soil or rooting in the fabric and store in a dry place. Other growers sell plants directly in the **Pot Pruner™**, saving their more expensive plastic containers. Remember the fabric **Pot Pruner™** is a container and must be removed when planting.

NOTE: Box counts and weight of Pot Pruners are based on the model number. Please call us for more information.

The **Pot Pruner™** is a patented product. The U.S. Patent numbers are 5,768,825 and 6,202,348.

POT PRUNER™

ITEM#	DESCRIPTION
POT L1	1 Gal. Pot Pruner™
POT L3	3 Gal. Pot Pruner™
POT L5	5 Gal. Pot Pruner™
POT L7	7 Gal. Pot Pruner™
POT L10	10 Gal. Pot Pruner™
POT L15	15 Gal. Pot Pruner™
POT L20	20 Gal. Pot Pruner™
POT L25	25 Gal. Pot Pruner™
POT L30	30 Gal. Pot Pruner™

A GROWING REVOLUTION™



THE STORY OF ROOT CONTROL BAGS & FABRIC CONTAINERS



High Caliper Growing was founded as **Root Control, Inc.** in 1984. But the story actually began six years earlier when Ralph Reiger took an early retirement from the investment firm Merrill Lynch & Co. and started **The Tree Farm** in Guthrie Oklahoma. Guthrie was not the center of the nursery business, and Ralph immediately began to have problems finding skilled employees to dig trees in the traditional method of ball & burlap.

So, Ralph got creative. In 1980, he fashioned the first fabric containers used in horticulture and planted trees in them at his nursery. Hopefully, the River Birch, Elm and Conifers in bags would grow well and be easy to harvest.



Two years later, when digging, Ralph realized the fabric **Root Control Bags™** had root pruned the plant's root structure, giving him a vastly improved plant. The idea of using fabrics to enhance the roots of a plant had begun.

The Root Control Bag™ immediately drew the attention of a number of progressive nurserymen, and in 1984, Ralph formed **Root Control, Inc.** Since that time, we have helped thousands of customers grow millions of trees in all fifty states and a number of countries worldwide.



From our beginnings with the In-ground **Root Control Bag™**, we began to discover other methods of using fabric containers to improve a plant's root structure. Soon our above ground line of containers, the **Smart Pot Pros™** were introduced, along with the **Pot Pruner™**, a fabric sleeve used to line standard plastic containers, turning any pot into a root pruning container. The **High Caliper Tree Collars™** were added with the aid of one of our best clients. At every step along the way, innovation was spurred by attending to the needs of our great customers.

In 2004, to better reflect our mission in the nursery industry, the company changed it's name to **High Caliper Growing**.

Ralph's son, Kurt Reiger, is now President of **High Caliper Growing**, and our office and manufacturing plant is located in Oklahoma City, OK. Our products are proudly made in the USA, and we proudly support this industry with long term memberships in state and national nursery organizations. We are grateful to report that we still work with some of the same nurseries we first met back in 1984. Our greatest satisfaction is working with the best plant growers in the world. Please contact us with any questions. We look forward to working with you!

