



ROOTMAKER[®]
PRODUCTS COMPANY

newsletter

WINTER 2003

RootMaker[®] News

This has been another successful year at RootMaker[®] Products Company. We want to thank you, our customers, for your patronage and assure you that we will continue to strive to keep your loyalty.

We have three new products, the FCR-5 5” RootTrapper[™] cinder block bag, the RMII-18 Cell Propagation tray and RMII-1S 1-gallon square container. The pricing for each is as follows:

	Price	Price w/ 5% Discount	Price w/ 10% Discount
FCR-5	\$0.75	\$0.72	\$0.68
RMII-18	\$2.50	\$2.37	\$2.25
RMII-1S	\$0.55	\$0.523	\$0.495

(Central and South Florida growers should call Steve Brown at A & S Horticulture [321-436-7313] for pricing and availability.)

In addition, to promote our propagation trays, we are offering additional discounts for spring 2003 (through May 2003) on large purchase of the RMII-18 Cell and RMII-32 Cell trays. The discount will be 15% for order of 6,000 to 12,000 trays and 20% for order over 12,000 trays. (FOB Ship Point) The discount applies to the total number whether buying one or both trays.

We are having more customers order products in larger quantities. It has become necessary to request that large orders of 1, 3, 5 gallon containers or propagation trays (half truckload or more) and orders over 10,000 Knit Fabric containers be submitted at least eight week (longer would be better) prior to shipping to insure that we can meet your delivery date. You will have the ability to make changes up to two weeks prior to the ship date without impacting that date.

A problem for some growers that needs to be addressed is “Not being able to find RootMaker[®] liners”, especially propagation size. Call us and in most cases we can put you in touch with a propagator. If that is not possible, then we would like to offer this solution. If there is a good propagator in your area, but they do not currently grow in RootMaker[®] trays, purchase the quantity of cells you need. Take the trays to the propagator and tell them that you want the plants that you buy grown in RootMaker[®] trays. After all, it’s your money that is paying for the plants.

Several people recently have asked about the Certified Grower Program and the benefit of participation. After a brief explanation, they ask to be added to the program, whether they are a propagator or using RootMaker[®] liners in producing large plants. Many of your customers know that quality is paramount and they understand the benefits of purchasing plants grown in RootMaker[®] containers. This is not universally known by many end users. The goal of our *Grower Enhancement Program* is to assure the end user that the products they are buying are of the highest quality and would perform as advertised. In the very near future we will begin advertising to the landscape contractor, landscape architect, and property owners to “Look for the RootMaker[®] Label” to insure that the plants they are getting are of the highest quality available. The objective is to generate demand for trees, shrubs, perennials, etc. that are grown in RootMaker[®] containers and to provide the names of Certified RootMaker[®] Growers to these interested parties in a given area. The emphasis will be that RootMaker[®] plants have “**THRIVABILITY**” not just survivability. This certification will become a very useful marketing tool for all growers.

The effects of the latest drought are still in play. There will be new regulation and requirements established. Bureaucrats from different states talk to each other. A restrictive new regulation that your neighbor is dealing with may soon become one for you. It is incumbent that we stay informed about what is happening in all markets. In addition to keeping up with reading various industry publication, most nursery associations now have web sites. Also there are several industry newsletters available in print or online.

I just returned from attending the 2nd Great Southern Tree Conference in Gainesville, Florida. The Florida Nursery Growers Association (FNGA) and the University of Florida sponsor this event. It is my overall impression that the conference was a success, especially since the ongoing research showed that root manipulation methods are the better way to grow trees. Also, the attendance was up from last year by 15% or more. Perhaps the most encouraging aspect was that growers, RootMaker[®] users and others, expressed an increased interest and awareness in the realization that a root system requires far more attention than was given to it in the past. Another key issue was water and the importance of using methods and systems that utilized

water most efficiently. A full report should be posted soon on the Florida Nursery Growers Association web site, www.FNGA.org.

It is winter show season again and we want to invite all our customers to visit. We will have all the new products on display. Our booth will be in the following trade shows in January and February of 2003. Direct links to the shows can be found on our web site, www.rootmaker.com.

January Shows

MANTS, Baltimore, Jan 8,9,10 Booth # 743
Mid-American, Chicago, Jan 15 - 17, Booth # 932
Green & Growin', Winston-Salem, Jan 17 - 18, Booth #4306
Oklahoma Nursery Trade Show, Tulsa, Jan 17 - 18, Booth # 145
CENTS, Columbus, Jan 20-22, Booth # 4021
Gulf States Horticultural Expo, Mobile, Jan 31 - Feb 1, Booth # 312

February Shows

SCHI 2003, Myrtle Beach, SC, Feb 7-8, Booth # 100
Tampa Spring Expo, Tampa, Feb 21-22, Booth # 346

We reported in the Spring 2001 Newsletter that a device for installing Knit Fabric containers was going to be sold by Possibility Place Nursery in Monee, Illinois. That has changed. They are now available directly from the manufacturer, Klitzing Welding and Machine in Fairbury, Illinois (815-692-2432). The contact is Brian Klitzing. Knit Fabric container user may want to contact him for information and a video. He states that a grower can install two Knit Fabric containers a minute with his attachment. I have talked to a couple growers that have purchased this unit and so far they are please.

A useful tool for all growers considering using the larger RootTrapper™ containers (15-gallon and up) is the Bag-Mate manufactured and sold by Specialty Converting & Supply, Inc. in Nashville, Georgia (800-524-7567 - Ask for Chuck Moore. Mention that you read about the Bag-Mate in this newsletter for a discount). This unit will provide an efficient method of moving these containers. (See enclosed flier) These are good people to work with. They also have other items that growers may find useful.

We are updating our web site. There will be a revised edition of "Best Management Practices", other articles, and photographs. Some cold rainy or snowy day this winter, check out the number of articles, etc. on the Internet when rootmaker is the search word. Try various search engines, as this will produce different results.

Grower News

Chris Martinsen with Hebron Gardens in Cushing, Minnesota sent the following in an email in July. "This spring we established an experimental plot of Colorado blue spruce, northern red oak and river birch planted in cinder blocks using 5" Knit Fabric containers. Half of them were RootMaker® liners and half were bare root liners. I'm sure this is not big news to you but we were VERY pleased and impressed with the performance of the RootMaker® liners in comparison to the bare root liners. (The RootMaker® liners were supplied by

Montana Native Nursery in Plains, Montana.) The biggest surprise for me so far is that the blue spruce liners have grown continuously since being planted two months ago. I had presumed that spruce is pretty much locked in to one spring flush and it's done for the season. On average bare root spruce liners grow about 2-3" their establishment year. So far the RootMaker® liners in the cinder blocks have grown about 8" with no sign of stopping." (I called Chris just before Thanksgiving to ask permission to relay this email and he told me that the RootMaker® spruce grew 12" or more before cold weather set in.)

Lacebark News

RootTrapper™, RootSkirt™ and Chaps™ were new products added this summer. They are three new names to add to your list of problem solving products. Research is a perpetual challenge of trying to better understand what and why and how something might be changed to solve a problem. When I speak to groups about my years of research I candidly tell about very few experiments, as those are the ones that worked. I generally do not tell about the ones that did not work. But, I learn something with every one. Thomas Edison said "I am not discouraged, because every wrong attempt discarded is another step forward". In early 2000, while reviewing past research, it occurred to me that if I could use some of the new plastic technology and laminate a fabric with

a truly UV resistant white polyethylene it just might work. My first work with laminating plastic goes back 25 years or more. Armed with a lot of experiments and experience I had two very different fabrics laminated with white, high UV resistant polyethylene. One of the fabrics washed out after about 4 months, but the other performed admirably. RootTrapper™ containers, RootSkirt™ container insulators, and Chaps™ tree stem protectors are all made of this new invention.

Are you ready to; (1) Reduce water use by 30 to 35%; (2) Reduce root zone temperature in summer by 20 to 25 degrees F; (3) Stop root circling; (4) Stimulate root branching; (5) Have fewer plants blow over; (6) Reduce fertilizer loss by leaching; (7) Reduce risk of root injury

during winter; (8) Eliminate stem damage during shipping caused by hard plastic containers; and (9) Save money when purchasing 15, 30, 45, or 60 gallon containers. The RootTrapper™ does all of this without toxic chemicals plus they are attractive and easy to ship and handle and under Oklahoma conditions stimulate plant growth compared to conventional containers. RootTrapper™ containers are cooler because they are white and reflect heat instead of absorb it. They use less water because of the lower temperature plus no evaporation occurs through the sidewall plus drainage is through thousands of small drain holes at the bottom instead of a few large ones. They stop root circling and stimulate root branching by trapping root tips in the sidewall fabric. When a root tip can no longer extend, it loses dominance and secondary roots form. RootTrapper™ containers have vertical sides and a broad flat bottom, which reduces blow over. Fertilizer is lost by water passing through a container. When the water movement is slowed and the temperature is lower, less fertilizer is leached, plus with a more fibrous root system, fertilizer is more rapidly absorbed and used by the plant. Plants in RootTrapper™ containers are more tolerant to cold because of the bottom contact with the warm earth, sidewall insulation, presence of more water in the mix, and greater root branching back in the mix away from the sidewall. The RootTrapper™ container solves a host of problems and does so economically, and they can be reused with the aid of an Arrow P-35 stapler.

RootSkirts™ used in conjunction with the Up-With-Pots system that stops container blow over stimulates plant growth in 3 and 5 gallon containers by lowering root zone temperature up to 25 degrees F. Once this system is in place, it is used over and over and over.

Chaps™ solve the problem of damage from Roundup or other herbicides applied near stems of young trees in the field. Chaps™ insulate the tree stem and prevent chemical contact, yet are soft and do not chaff and are easy to install. They can be used over and over or left on the tree as a stem protector at shipping.

These three products solve problems I have been studying for decades. As the old Fram oil filter commercial said, “Try it, you’ll like it”.

As for the three new containers (FCR-5, RMII-18, and RMII-1S) that RootMaker® Products Company is introducing, here are my observations from tests that were performed at Lacebark Research Farm.

RMII-18 Cell Tray. Late in the 2002 Growing season, several of the market version of RMII-18 cell tray arrived and were planted with shumard oak, crepemyrtle,

buttonbush, and common lilac. All plants grew well and container guidance systems accurately directed root tips to openings for air-root-pruning. Volume in each cavity of the 18-cell tray is slightly more than double the cavity volume in the 32-cell tray (25 cu.in. versus 11). With more space between seedlings and more volume for root growth, plants can be allowed to grow to a larger size before transplanting. I have consistently observed that the larger the seedling, the more predictable it becomes relative to growth in future years. From my early observations, seeds planted into the 18-cell tray, grown to a moderate size, and then transplanted onto the 3 or 5-gallon RootMaker® containers, should make excellent liners to go to the field in October or into 10 or 15 gallon RootTrapper™ containers. The RMII-18 Cell tray will prove to be an excellent complement to our growing line of propagation containers.

RMII-1S Square One Gallon. The new RootMaker® II one gallon design was put to a through test during the 2002 growing season with an assortment of shrubs and tree seedlings. The prototypes I used were made of clear PET plastic so that root guidance could be easily observed. (Production containers will be made from black RPET plastic (recycled drink bottles). By placing the containers tightly together and surrounding with RootMaker® black square one gallons, light was excluded from the container sides which prevented algae growth which otherwise would shield roots from view. Fast growing shrubs such as *Viburnum*, *Pyrachatha*, *Rosa rugosa*, and *Weigela* grew to a considerably larger size in the new one-gallon compared to smooth conventional round one gallons with the same volume of mix. Differences in plant growth between the two container designs were modest to nonexistent with slower growing and more fibrous rooted species such as boxwood, spiraea, and euonymus.

FCR-5, Cinder Block Bag. During 2002 we grew shumard oak and catalpa tree seedlings in an assortment of cinder block bags made from different materials and compared them to seedlings in bags made of the green knit fabric. The tree seedling growth in both containers was about the same as with past experiments. The new RootTrapper™ fabric contained nearly 100% of the roots to the one-gallon volume of the cinder block. Only the occasional root that coincidentally grew out and contacted the bottom or vertical seam escaped but even those roots were constricted by the stitching. I also grew an assortment of shrubs in the cinder blocks. The shrubs grew well, too well, and soon were sufficiently crowded that long before the end of the growing season the plants were lopsided and willowy. I very much like the cinder blocks for tree seedlings, but was not impressed when producing shrubs.

Grower Tips – Product review From Carl Whitcomb

If you attach various pieces of equipment to your tractor by 3-point hitch, you have probably said ‘there has to be a better way’, and there is! In March 2002, I ordered two

'Freedom Hitch' units, one for a tractor and one for an implement. The tractor unit was placed on a 25 hp Ford 1720 that gets lots of varied use. The implement section was placed on a 5-foot brush mower, our standard clean up unit. I put the tractor with mower attached through all of the rough and stressful situations it would likely encounter here at Lacebark Research Farm in north central Oklahoma. I unhooked and rehooked to the mower a number of times. The Freedom Hitch, manufactured by Midwest Industries in Ida Grove, IA (800-859-3028), performed admirably. After a few weeks, I ordered two more tractor units (one for each of three tractors), and 14 implement units. We have now had a full growing season to give all tractors and implements a full workout. These units have worked

well and have saved lots of time, mashed and scratched hands, and dramatically reduced the use of bad words. The units cost \$195.00 each. Ours are already paid for in hours saved. The other thing we noticed was the fact that in the past, something should have been done, but the task of attaching the necessary implement was such a chore that it was put off. Now, changing from one implement to another is so fast and easy that everything gets done in a more timely manner. If the implement does not have a PTO shaft, you do not get off the tractor. For implements with a PTO shaft, back up, lift, click, and the unit is attached. Then it is simply a matter of connecting the drive shaft. When comparing the cost versus the time saved, and benefits, this was a great buy.

Questions and Answers

1. Will there be any benefit to using RootMaker® II Propagation trays to grow vegetables and floral plants?

Answer: RootMaker® containers, including RMII-32 Propagation trays work on annuals, perennials, vegetables, etc. just as they do on woody plants. The more the root system is forced to branch the more the nutrient absorptive surface is increased, which in turn increases growth and overall plant health. Interestingly this has also increased both flower production and fruit production for the same reason – more roots. Typically, plants grown in smooth round containers are taller and more slender and have fewer branches and flowers compared to those grown in RootMaker® containers.

2. Is there any way that I can germinate seeds then transplant them to RootMaker® containers as soon as they pop and still maintain RootMaker® grower certification?

Answer: There is nothing wrong with germinating seeds in flats then transferring seedlings to RootMaker® trays – as long as it is done when the seedlings are quite small. This is what I practice at Lacebark for many of the species I work with – and primarily because seed germination can be so unpredictable and in order to get 32 plants of the same size in one tray, compared to a few big ones that over shadow the smaller ones.

3. What product so you recommend for keeping weeds from trees for the first few years?

Answer: Treflan granules are one of the most effective ways to reduce lots of weed species. Spot spraying with Roundup® where Chaps™ protects stems or using a shielded nozzle works well for perennial weeds and those that are not controlled by Treflan. (See Spring 2001 Newsletter)

4. Do you have any information on the use/success on the outplanting of container seedlings grown in RootMaker® II containers directly in the field for conservation/reforestation type projects?

Answer: Tree Seedlings in RootMaker® II propagation container are routinely taken to the field when they are 12 to 16 inches tall and 3 to 4 months old. This has been done by hundreds of nurseries across the country. Most do fall planting – September or October and some have drip irrigation and others do not. (Drip irrigation assures nearly 100% survival. But even without drip irrigation, the success rate is quite high, except for the occasional severe drought immediately following planting.) The situation is that in the small growth stage, telling seedlings that will make winner trees from culls is tough and the cull rate may be as high as 25 to 30% or more for the oaks. In one gallons, the cull rate drops to 7 to 10% and with 3 gallons to 2 to 3%.

RootMaker® RootBuilder®, The Whitcomb System®, RootTrapper™ are trademarks of Lacebark, Inc., Stillwater, OK.

RootMaker® Products Company, LLC

Huntsville, Alabama 35815

1-800-824-3941