



# The Vital Earth News

## Horticultural Edition

Volume IV, Number 1

Vital Earth Resources • Gladewater, Texas

Spring 1997

### AM&D, a "Hands-On Approach"

by Daniel Shipman

**A**M & D Tree Farm is owned and managed by Deon Dekkers. Mr. Dekkers has a background in civil engineering and general construction. Originally from Cape Town, South Africa, Mr. Dekkers, his wife Lorraine, their two sons, André and Deon, and daughter Michelle, moved to Texas in 1985. For several years he continued contracting in Dallas, Houston, San Antonio, and many other cities, primarily renovating existing apartments and working with foundations and stabilization.

In 1991 Mr. Dekkers, as a hobby, began a 57-acre container tree farm he named AM & D. He built inventory until October 1994 when the first tree was sold. Today the farm is 450 acres, with 200 acres under production. By the end of the



*AM&D Tree Farm has developed a picture-book growing facility that produces superior specimens of many Texas tree varieties. Note the precision spacing of the trees.*

year it will have expanded to 300 acres. The farm is irrigated from three ponds, and recently the Dekkers built a 45 acre lake. There are approximately 100,000

trees in inventory. AM & D employs 22 farm hands during peak times.

Mr. Dekkers believes in a "hands-on" See *Superior*, page 4

### Promising OrganagrO Tests in Atlanta!

by Dan Jackson

**Market Director with Bedminster Bioconversion Corp., a co-composting "sister company" to Vital Earth**

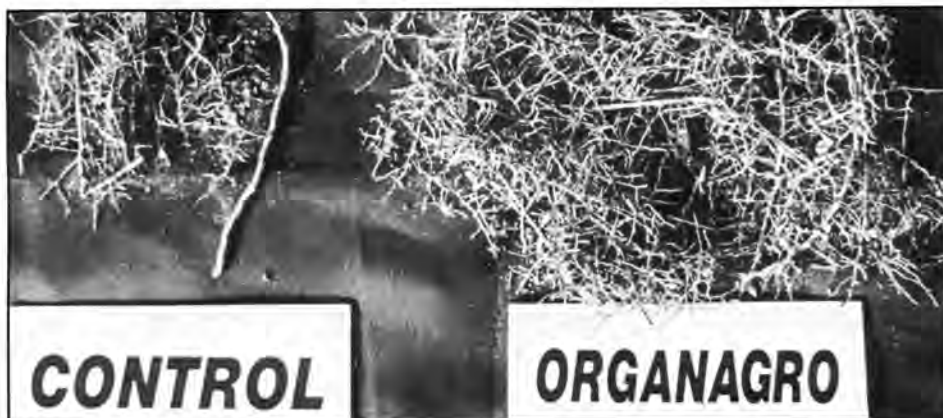
**A**tlanta, Georgia—Atlanta's trees, flowers and turfgrass are getting their first taste of Bedminster's signature OrganagrO compost product, and they seem to like it. With its strong analysis of nitrogen, iron, and other

micronutrients, plus the enormous benefit of its 100 percent recycled organic content, the compost is providing plants with an enhanced growing environment that is rich in microbial activity and essential plant nutrients and minerals.

Tests have been initiated with some of the metro area's leading horticulturalists. Companies participating in the test include well-known landscape leaders

such as Gibbs, ColorBurst, Environmental Design Group, Laing Properties, Pattillo, Weeks, and Emory University.

See *OrganagrO*, page 2



*OrganagrO will substantially improve root growth of all types of plants, in this case of orange trees. Each sample was taken from an area 16 by 16 inches over the root zone of control and OrganagrO treated trees.*

### From the Desk of the President

by Scott Hammer

**A**h, spring! The wait is over, and it's finally upon us. My level of optimism for the year shoots up at the first sign of spring. I hope the spring weather is treating you kindly in your locale. The whole country has been dealing with wacky weather, yet we all have no choice except to cope with it. This time last year we were looking at a drought all over Texas; now it's flooding, with lakes and rivers



See *Vital Earth*, page 7

# OrganagrO Promises To Help Atlanta Blossom!

Continued from page 1

Early positive results from agricultural tests in Georgia, Tennessee, North Carolina, and Florida opened the door to tests in the fast-growing and discerning metro Atlanta landscape industry. These tests revealed that soil amended with OrganagrO increased farmers' yields by up to 40 percent.

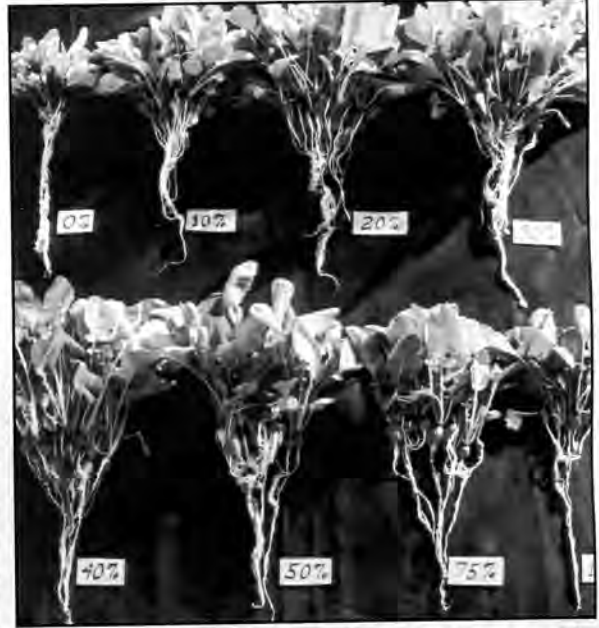
"I'm really happy with the rich, black appearance of the compost, the strong analysis of nutrients and the nearly-neutral pH of 6.9," said Jack Kaiser, head horticulturalist for major industrial developer Pattillo. "We're trying the compost out in some newly installed lawn areas, and we amended some prominent flower beds with it. We also did some vertical mulching on a stressed dogwood in front of our corporate headquarters, in which we created some fairly deep holes around the drip line and filled these holes with compost. This practice will increase the pore space of the soil and add some much-needed organic material to the tree's root zone," Kaiser continued. "I'm looking forward to seeing the results of these tests in the springtime."

Horticulturalist Rich Cordery, of Laing

Properties, applied one inch of compost to a large area in front of a new building and tilled it in prior to sodding with fescue. The increased organic material will provide nutrients and good drainage to get the turf off to an excellent start, and, he hopes, will decrease his need for fertilization over time.

One of the most prominent turf areas to receive application includes Emory's "quad" area, certainly the most highly-maintained turf area on the campus. Jimmy Powell, the University's head of grounds, reports that recent tests show low cation exchange capacity, in which nutrients are not tightly held in the soil. The application of organic material will increase this important measure of soil health, and will help establish some newly-seeded turf that had been damaged over the winter.

Environmental Design Group's floriculturist Laura Christenberry has amend-



In this study, a 30 to 50% OrganagrO mixture in the potting medium produced an excellent radish response. Other plants would give similar responses.

ed a flower bed at BellSouth's Service Center. Early results show extremely  
See OrganagrO, page 7

## Ice Flowers?

by Paul W. Syltje

Is it a new variety of daisy? No, this is an electron micrograph of water frozen on a particle of pollution. The flower forms were accidentally detected during a research study.

How did they form? How can one explain nearly perfect flower configurations, complete with petals, sepals, and seeds? The creation's handiwork is indeed mind-boggling. The closer one looks, the more incredible it becomes. ■

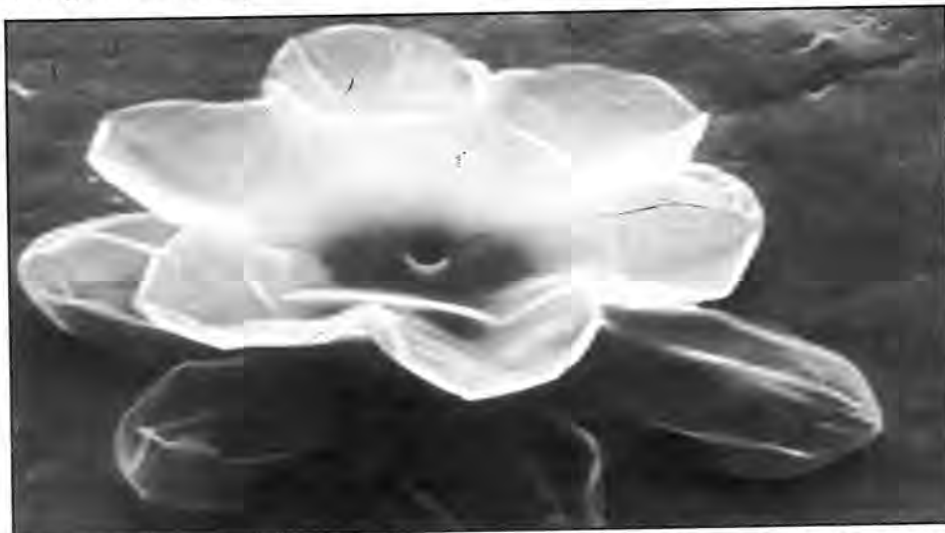
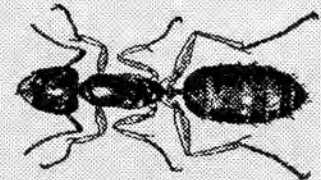


Photo by Roger J. Cheng, Atmospheric Sciences Research Center, State University of New York, Albany, New York.

## This Bug's For You!

Be sure the guests at your picnic leave plenty of crumbs on the ground. Yes, we know that will attract ants. But with some slick marketing, you can turn those six-legged freeloaders into a profitable, high-value crop.



You see, ant juice may well be the ultimate health-food drink. According to *International Wildlife*, it's been a delicacy in China for 30 centuries. It contains as much protein as soybeans, is rich in several trace elements, and is even claimed to cure many illnesses. (Though we suspect an upset stomach isn't one of them.)

The trouble is, ant juice has four times as many calories as beef.

Would you believe "Bugs Lite"?

*The New Farm*, Vol. 10, No. 6, 1988.

# OrganagrO Is Key in Savings for Perennial Grower

by Ludwig Nobel

Nestled in the mountains of Western North Carolina, in the small town of Pineola, is Vaughan Blue Ridge Nursery, "... whose business is growing," according to Andy Vaughan.

Vaughan's is a family business, father working with son and relatives helping to run the successful enterprise that is in the wholesale and retail nursery industry.

The Blue Ridge Mountains are full of wonderful mysteries and hidden surpris-

es. Because the area is somewhat remote and isolated by the mountains, people and businesses must rely on ingenuity and instincts, not only to survive but to thrive. One feels privileged to be admitted into this world of old timers, wisdom, and creativity, and view up-close how these ways apply to the nursery business.

Bedminster of Tennessee has been shipping OrganagrO to Vaughan's for more than three years. The niche that has worked best for Vaughan is using OrganagrO in a mulch mix that is suitable for growing perennials. Andy Vaughan has a simple mix that performs exceptionally well. He has totally eliminated commercial fertilizer use and has significantly cut back on his watering regime for his perennials. Also, no herbicides are used, another savings.

Bedminster of Tennessee manufactures OrganagrO that is composted from garbage and sludge. The recipe for success and savings for Vaughan is a mulch mix he has developed for perennials: four parts pine bark fines, four parts OrganagrO, and two parts coarse river sand (added for better drainage). The pH of the mix is between 6.2 and 6.3.

Worms are found in the bottom of the potted perennials, an excellent benefit. "What we like is the organic aspect of Bedminster and the fact that we are helping to promote recycling. All farmers need to look out for the good of the environment," said Vaughan.

Vaughan Nursery is currently growing 20,000 perennials in three-quart containers, with more than 200 cultivators of perennials growing in his OrganagrO mix.

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***"We like the organic aspect of Bedminster and the fact that we are helping to promote recycling"***

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Most of Vaughan's business is to homeowners and local landscapers. "What we like about the OrganagrO mix is the significant savings in our cost to purchase fertilizer, approximately 15 cents per potted plant," said Vaughan.

OrganagrO provides alternatives to the inefficient use of straight commercial fertilizers, with these savings put straight into growers' pockets. ■



***Above: Workers at Vaughn's Blue Ridge Nursery fill pots with an OrganagrO mix for growing perennials. Compost, pine bark, and sand create a superior mixture. Below: Not many potting mixes stimulate soil life to the extent that Vaughan's OrganagrO mix does. The presence of earthworms proves the superb nutrient value and physical conditions of the potting mix for plants of all sorts.***



# Carl Pool Benefits Bluebonnet

by Mike and Gaylor Anderson, and  
Chester and Tirol Barden,  
owners, Bluebonnet Plant Farm, Inc.

**W**e are a small wholesale growing operation with eight greenhouses, and are starting our fifth year of business. We recently started using Carl Pool fertilizers and have seen a significant difference in the growth and quality of our geranium crop. These geraniums are consistently greener, fuller, and have stronger stems than we have previously experienced.

We have been using Carl Pool Color

Plus 18-9-18 and BR-61. The Color Plus has also helped us maintain plug health when we have had to hold them for a short time. Our Carl Pool representative, Cecil Johns, has been extremely helpful. He has helped us gain greater knowledge and understanding of how these fertilizer components work and how they benefit our crop. It puts our minds at ease to know we have someone we can call and that will visit us at our nursery to help us with any questions or problems we might have.

Vital Earth/Carl Pool have demonstrat-

ed to us that they are totally committed to serve us in whatever capacity we might have need of, whether it be water, fertilizer, or soil. They are dedicated to helping us provide a superior product for the horticultural market. With the help of God and Carl Pool Products, we are looking forward to many more years of growing success! ■

**Promise only what you can deliver. Then deliver more than you promise.**

## Superior Quality Trees... a Major Goal

*Continued from page 1*

approach" and works side-by-side with his employees keeping them focused and productive. His love for trees gives him an enthusiasm about his work. His family takes pride in the farm's organization and appearance. André, the office and sales manager, said the family takes a special interest in how the farm looks, "We all live here," (on the farm) and "we keep the farm neat."

Mr. Dekkers saw the need for large caliper trees that were of superior quality and container-grown in Texas. For years people have purchased trees from growers in the southeast and then freighted them into our state. The vast majority of AM & D's customers are landscapers and rewholesalers.

***While the farm continues to grow, the goals remain the same: produce the highest quality trees at a reasonable price***

While the farm continues to grow, the goals remain the same: produce the highest quality trees at a reasonable price. Because everyone has taken an active role in rectifying small problems, there have been few major ones.

AM & D began using Vital Earth soils and Carl Pool fertilizers in 1993. The relationship has proven to be very positive for both firms. Vital Earth provides high quality and consistent materials, but service is what most impresses AM & D.

Why buy from Vital Earth/Carl Pool? "The quality, the service, there is no comparison. In certain areas you guys are higher, but that's irrelevant when it comes to service and quality" says André Dekkers.

AM & D blends aged bark, sharp sand, and OrganagrO compost -- produced in Vital Earth's Eweson digester -- to make the perfect tree mix. They also incorporate a fertilizer package made by Carl Pool. Consistent quality has given them a competitive advantage.

The tree farm's future looks bright. Eventually AM & D will have 350 acres

in production. "Dallas is so treeless; people should be more aware of trees. We need more trees. Imagine Texas Stadium with trees planted all around it!" says Mr. Dekkers. This passion keeps him focused and determined to produce and sell the highest quality trees in Texas.

For more information about AM & D Tree Farm contact Pam Whitfield-Sales Representative, André Dekkers-Sales/Office Manager, or Deon Dekkers-Owner. (800) 965-5622, Hwy. 19 South, P.O. Box 605, Canton, TX 75103. ■



***In AM&D's program, attention to details is important. These potted oak trees are individually irrigated according to a predetermined program, and fertilized with Vital Earth/Carl Pool products to produce the best possible tree quality.***

# 15-Minute Soils Course

## Lesson 4: Cation Exchange Capacity, Part II

**["Cation" = a positively charged ion]**

We learned in the last lesson that cation exchange capacity is an essential property of soil, and this negative charge arises from clays and organic matter. Let us now take a closer look at the components of cation exchange, and how we can adjust their balance for optimum plant growth.

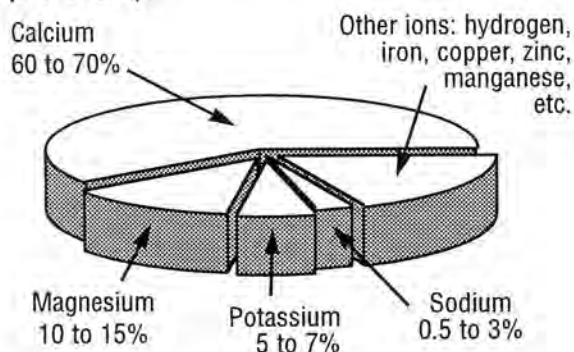
The major inhabitants of the exchange complex include the following ions:

**$K^+$ ,  $Mg^{++}$ ,  $Ca^{++}$ ,  $Na^{++}$  (nutrient ions)**

**$H^+$ ,  $Al^{+++}$  (non-nutrient ions)**

There are other very important ions in the exchange sites, such as  $Zn^{++}$ ,  $Fe^{++}$ ,  $Cu^{++}$ ,  $Mn^{++}$ , and others which are critical for plant nutrition. Yet, those shown above are the ones we must be most concerned about. Aluminum ( $Al^{+++}$ ) becomes important in tropical soils, but seldom in temperate zone soils.

Investigations by soil scientists in the 1940's, but principally by William Albrecht at the University of Missouri, showed that the balance of cations on the exchange complex was important in determining its relative fertility value. It was discovered that by adjusting the percentage of calcium on the exchange sites to 60 to 70%, magnesium to 10 to 15%, potassium to 5 to 7%, and sodium to 0.5 to 3% plants grew best (see the pie chart).



If the ratio of calcium to magnesium deviated much above or below 4:1 to 5:1, plant growth suffered. The concept of an optimum balance of the cationic elements is found throughout nature: in plant sap, in blood, and in the cell contents of most species.

Not all soils lie within this optimum cation balance, either because they never were balanced or modern agricultural methods have adversely affected them. How does one improve the balance?

Cation condition	Possible fertilizers to add
Low calcium	Limestone, gypsum, bone meal
High calcium	Potassium magnesium sulfate, magnesium sulfate
Low magnesium	Dolomitic limestone, magnesium sulfate
High magnesium	High calcium lime, gypsum
Low potassium	Potassium sulfate, potassium magnesium sulfate
High potassium	Limestone, gypsum, magnesium sulfate

The total situation must be accounted for, of course. For instance, a soil low in magnesium and potassium could receive both nutrients in potassium magnesium sulfate. Low calcium, high magnesium soil could receive high-calcium limestone. The fineness of grind of a rock fertilizer, like limestone, is very important in determining how quickly it can be used by plants. A finer grind means more will be quickly available. Another consideration is whether to use the solid or liquid form, which ties in with equipment costs and availability.

The amount of each fertilizer to add depends upon the deficit in the soil of particular cations, which relates to the cation exchange capacity ... and how much the grower can afford. A greater deficit—say, 50% calcium versus 55% calcium—means more calcium must be added for the 50% deficit. However, for a fine-textured, highly organic soil with a high exchange capacity, more fertilizer will be needed to raise the

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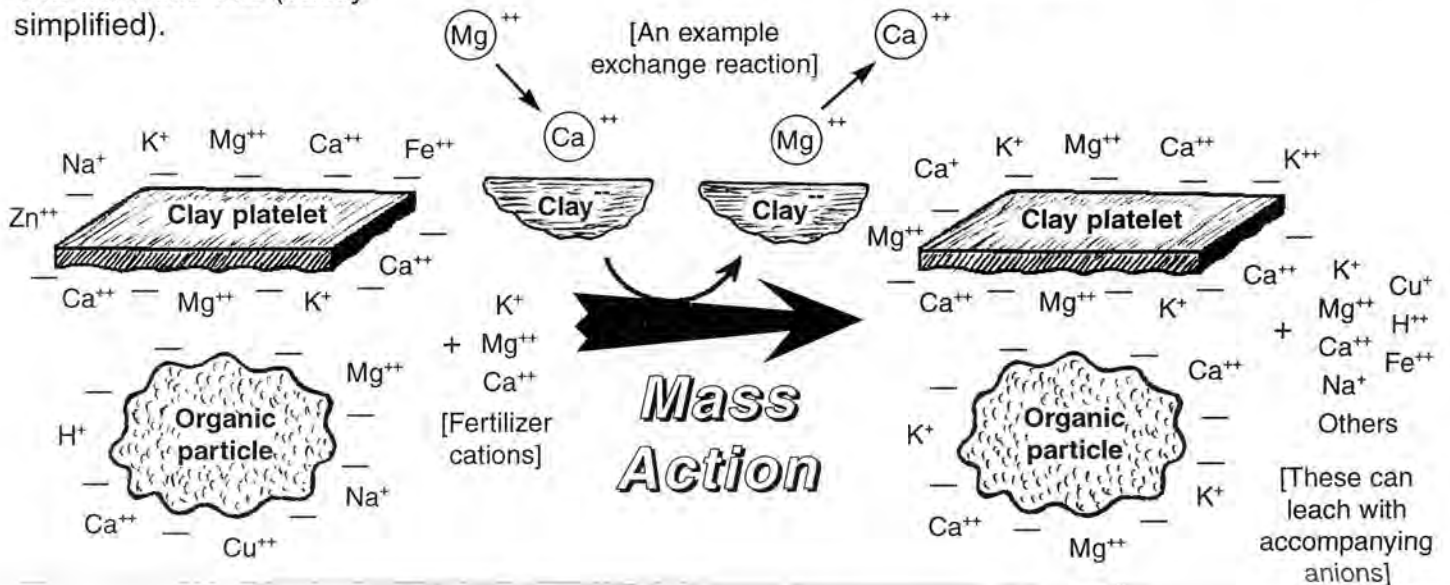
# 15-Minute Soils Course

Continued from previous page

level a given amount than for a sandy, low organic matter soil.

The replacement reactions in the soil when nutrients are added are termed **mass action**, and work like this (vastly simplified).

on the soil, proportional to the clay and organic matter content), the degree of charge needed for a particular cation, and the type of fertilizer material to be applied. Those details are not covered in this lesson.



Since fertilizers carry anions with them, like chloride ( $\text{Cl}^-$ ), nitrate ( $\text{NO}_3^-$ ), or sulfate ( $\text{SO}_4^{--}$ ), these can leach out after the exchange reactions have occurred and carry along various cations. A leaching cation (+ charge) must carry on anion (- charge) with it. Changes in nature always balance.

Ideally one wants the excessive cations leached out and replaced with cations that are deficient, to bring the overall balance nearer to the goal. Non-nutrient ions like  $\text{H}^+$  and  $\text{Al}^{+++}$  should be removed to as low a level as possible, making room on the exchange sites for nutrient ions.

The best way to balance the cations in a soil or potting mix is to analyze a well-chosen sample (ten or more probes to six or seven inches for a field soil) at a reputable soils laboratory. Ask for the percent base saturation levels of the elements. The calculation of how much of a particular fertilizer material to apply to remedy an imbalance involves knowing the cation exchange capacity (amount of negative charge

## See How Much You Learned

1. What is the reaction called when fertilizer cations react with cations in the soil?
2. A soil with a high cation exchange capacity requires (more)\_\_\_\_\_ (less)\_\_\_\_\_ fertilizer cations to change its relative composition than a low cation exchange capacity soil.
3. What are usually the three most common nutrient cations in soils?
4. The hydrogen ion composition of the exchange complex should ideally be (high)\_\_\_ (low)\_\_\_ in a fertile soil.
5. What might be a logical fertilizer to add to a soil low in calcium? \_\_\_\_\_
6. Who was a major investigator in balancing cations on the exchange complex?

1. Mass action; 2. more; 3. calcium, magnesium, and potassium; 4. low; 5. finely ground limestone; 6. William Albrecht.

# Vital Earth/Carl Pool Gearing for 1997

*Continued from page 1*

spilling over. Will the weather ever be "normal" again?

I hope you are rolling toward a successful 1997 season. 1996 was a terrific year for Vital Earth with sales gains for Carl Pool Products exceeding 25% and substantial gains in our agricultural division for our front-line product, Vitazyme. The Vital Earth soils division advanced throughout 1996 with the addition of several pieces of new equipment. We have upgraded our trucking fleet to better serve our customers by adding two new International tractors and one new Mack dump and pup unit. We have also added a Powerscreen chieftan screening plant for additional processing capacity. We hope we are sufficiently prepared for the onslaught of the spring season in both the soil and fertilizer areas.

I must make mention of the outstanding work Dr. Paul Syltje is doing at our one-year-old research center and test greenhouse. The center has been a valuable asset in developing new products as well as documenting the performance of long-established products. We are committed to developing new and better ways to enhance plant growth in both the horticultural and agricultural industry. Dr. Syltje and Mr. Michael Medders, our fertilizer formulator, welcome your technical questions concerning soils, soil fertility, or fertilizers. I'm proud to offer our customers this level of expertise and experience. I hope you get a chance to take advantage of this service.

Let me share with you our advertising plans for Carl Pool fertilizers and Vital Earth bagged soil products for 1997. We

will be advertising on KRLD on the Neil Sperry Lawn and Garden Show. KRLD covers all of North Texas and beyond. We have also contracted to advertise Carl Pool Products on the Texas State Network (38 smaller-market stations around Texas) on both the "Sperry Lawn and Garden Hour" and "Sperry's Plant Talk Texas." Once again we will be advertising on KTRH Houston and the "KTRH Garden Line" with John Burrows and Randy Lemmon. These fellows always do a great job for us. In the East Texas area we will continue our year-around contract with KTBB Tyler on the Dale Groom (Plant Groom) Garden Show. Dale, as a user of Vital Earth and Carl Pool Products, probably has more first-hand knowledge of our operation than any other garden show host. We appreciate Dale's work. He has done an outstanding job for us for many years now.

A new addition to our radio advertising is KEES/KYZS Radio Longview/Tyler. We are anticipating solid growth for our local dealers on our product lines as a result of ads running on the "Dr. Laura Show" five days a week.

On another front, we will be running print ads promoting Carl Pool in "Texas Gardener" and "Neil Sperry's Gardens" magazines through the spring and summer.

We are definitely putting more effort into media advertising, and we trust that our distributors and dealers will see positive results.

I wish you the best of spring seasons, and don't hesitate to call on us if we can help you in any way. ■

## OrganagrO for Atlanta Horticulture

*Continued from page 2*

healthy plants with higher-than-average flowering. "We amended the beds with a mix of 50 percent compost and 50 percent ground pine bark, which we added to create a coarse texture," said Christenberry. (This product is being marketed for bulk delivery, and is specially formulated to increase health and drainage for use in annual and perennial flower beds.) "I like the appearance of the pansies, and I'm looking forward to seeing a strong finish in the spring."

**Early results [with OrganagrO] show extremely healthy plants with higher than average flowering.**

Other landscape companies who wish to conduct testing with the OrganagrO compost product should contact Dan Jackson, the company's marketing director, at (770) 442-4455. "Many companies are recognizing the value of Bedminster's compost, and responding well to the quality and pricing of our products," said Jackson. "As we roll out in Atlanta early in 1998, we plan on having some real success stories to tell." ■

### Statement of Purpose

Vital Earth Resources is a for-profit private corporation dedicated to the development, production, and sale of top-quality, ecologically sound horticultural and agricultural products. *The Vital Earth News* is a periodic publication of Vital Earth Resources to inform customers and other interested parties about our products and programs, and to educate our readership on critical issues facing growers today and in the future. If you would like to receive future issues of this newsletter or product information, simply fill out the form on the right and mail it to us.

**Yes! Send me a subscription to *The Vital Earth News* and/or product information!**

- The Vital Earth News Horticultural Edition* (two issues per year)
- Carl Pool water soluble fertilizers
- Potting soils, mulches, and compost
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**VitalEarth  
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*Carl Pool*

## *New High Quality Products From Vital Earth and Carl Pool*

**Vital Earth Top Dress/Top Soil** - a clean, humus-rich, sandy loam plus rich compost topdressing for lawns and turf to improve growth and vigor of grasses long-term. [1 cubic-foot bags, 75 bags per pallet]

**Vital Earth Ready Rose Mix** - a ready-to-use, complete rose mix containing pine bark, rose peat compost, and sand ... for potting or beds. This mix was specially designed for, and is used by, Tyler Rose Growers. [2 cubic-foot bags, 60 bags per pallet]

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