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Chemicals Division



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**BASF**

MARCH 1989/LANDSCAPE MANAGEMENT 81





John and Beverly Runion show Everett Mealman (center) a sample of the manicured look they are able to achieve by using Atrimmec on Bar Harbour juniper and English ivy. Runion uses Atrimmec on 5 species of juniper; 3 species of ilex; various species of azaleas;

cherry laurel; ligustrum; viburnum; several varieties of arborvitae and varieties of cotoneaster. All of them have held up for a full year with only one treatment except for the danmeri variety of cotoneaster, which required two treatments.

# Cut trimming and pruning labor costs 50% or more:



Every groundskeeper who spends any time using or supervising the business end of a hedge clipper can benefit from the experiences of John Runion, groundskeeper of the Washington Science Center in South Rockville, Maryland.

**Everett Mealman, President**  
PBI/Gordon Corporation

"Finding out about Atrimmec® is one of the most fortunate things that has happened to us in the 15 years we've been taking care of the grounds here at Washington Science Center." Those are the very words of John Runion when he welcomed us into his office.

To fully appreciate the significance of what he says, you need to know that the Washington Science Center is a 40-acre office complex designed to attract very prestigious tenants, and a major selling point is the pristine beauty of the landscaping.

Management's goal is to provide an atmosphere where some 5,000 people can actually look forward to coming to work because each

day is another picnic in the park.

"But it's a commercial venture," smiles Beverly, Runion's wife and shoulder-to-shoulder partner. "We're all very cost conscious."

**Hedges and shrubs look better with less effort and cost**

"Our records show that Atrimmec has reduced our trimming and pruning costs by 70%," says Runion. "But that's only part of the story. Atrimmec has also improved the appearance

of our hedges and shrubs by making them thicker and keeping them more shapely."

To prove his point, Runion showed us the maintenance records on the ilex hedge that is pictured on the opposite page. The hedge is three blocks long and, until the advent of Atrimmec, Runion had to give it a heavy pruning every spring, which required one full week and two touch-ups during the year to eliminate those stragglers that can so devastate meticulous landscaping.

Interestingly, the hours and hours it used to require for trimming was only part of the horrendous cost. There

was also the expense of cleaning up and disposing of the debris, which used to fill 12 dump carts and cost 5¢ a pound to haul away and deposit in a commercial landfill.

Today the maintenance program for the hedge consists of a light touch-up once a year, followed by a spray treatment of Atrimmec. The trimmings, according to Runion, don't even







Runion demonstrates the lateral branching activity of Atrimmec. This ilex stokes bush was partially defoliated by falling ice and, prior to his discovery of Atrimmec, would have been replaced. But now, thanks to Atrimmec, new lateral growth is occurring and the bush will soon be restored to its original thickness.



Runion shows Mealman the actual records that prove Atrimmec has reduced the maintenance cost of the ilex hedge in the background by 70%. According to Runion, Atrimmec has also made the hedge much thicker and more attractive. He says that prior to using Atrimmec there were blank spots so big a man could walk right through them. The hedge is three blocks long, and has become a landmark for identifying the location of the Washington Science Center. When Runion used to trim this hedge mechanically, it required a full week and 12 carts to haul off the debris.

fill three little trash bags, and the total cost is reduced by at least 70%.

Equally, if not even more, important for Washington Science Center is the appearance of the hedge. "We used to have places in the hedge that a man could walk right through," says Runion. "But since using Atrimmec, the blank spots have completely filled in, and hardly a day goes by that we don't hear a compliment about it."

### Do you have a question about using Atrimmec?

At PBI/Gordon, we have a team of plant-growth-regulator specialists who are prepared to help you increase your efficiency through the use of PGRs.

We are the owners of Embarc® Plant Growth Regulator, which is the

foremost PGR worldwide for use on turfgrass; and we are the exclusive marketers in the U.S.A. of Atrimmec, which is by far the premier PGR for use on broadleaf ornamentals.

Accordingly, we have a knowledge of which plant species will respond to Atrimmec, how much to apply and, even more important, when to apply it in your region.

For information, call us toll-free. Not only will we answer your questions about using Atrimmec, we will send you a trimming-cost calculator guide so you can determine how much money you can save by using Atrimmec. We will also send you a little solar-powered, shirt-pocket calculator to help you with the mathematics.



**FREE Calculator**

### Schematic drawing shows how Atrimmec works.

When applied to broadleaf ornamentals, Atrimmec blocks the plant hormones that stimulate apical growth and redirects the plant's energy toward lateral branching. Ornamentals will retain the shape to which you trimmed them, and will grow thicker and more beautiful because of lateral

branching. It is not necessary, however, for ornamentals to be trimmed to activate Atrimmec. You may spray them without trimming if you desire, and they will not only retain their original shape and size, but will also grow thicker and more attractive.



Trim ornamentals if you desire to shape them.



Spray Atrimmec. Apical growth is stopped. Lateral branching occurs.



Trimming costs reduced. Ornamentals thicken up.



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To get this \$100-value SP-1 Back-Pack Sprayer for only \$35, buy one quart or more of Atrimmec from your distributor between January 1 and October 1, 1989, and send us proof of purchase (a sales receipt). No requests honored after October 31, 1989. Please include name, address, and your check for \$35 and mail to PBI/Gordon Corporation.

For more information, or to get your FREE trimming cost guide or solar-powered calculator, call us toll-free: 1-800-821-7925. In Missouri, 1-800-892-7281.

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Circle No. 163 on Reader Inquiry Card

# ATRIMMEC®



## LEARNING WHILE YOU REST

Whoever believes learning about plant classification is boring has never been to the Chicago Botanic Garden's Heritage Garden.

by Will Perry, managing editor

In a city, a garden takes on a special, almost spiritual significance. It's a place where the form and order of concrete, glass and steel bow to the earth and sun. A place where city-dwellers can go to be reminded of their individuality.

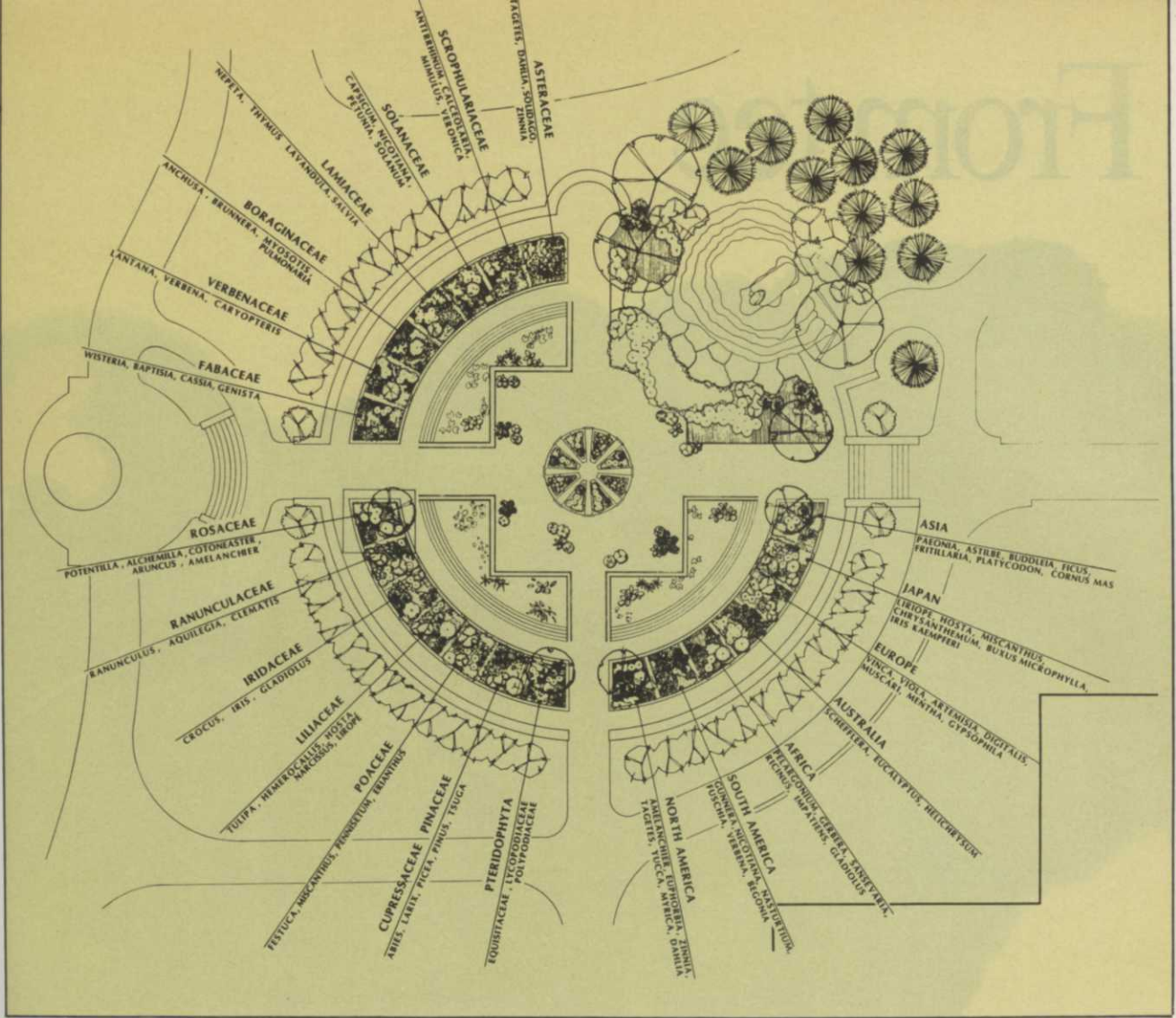
The Chicago Botanic Garden in Glencoe is such a place for Chicago-area residents and visitors. Its purpose exceeds providing the respite craved by thousands of Chicagoland residents, though certainly the tranquility of the site offers it. The Garden has taken upon itself the mission of stimulating interest in and appreciation of horticulture to its visitors. It has therefore become more than an urban escape route. It is a campus for students interested in meshing progress and nature better—and enrollment is growing.

Nowhere at the Garden is this mission more obvious than at

**The Heritage Garden is based on the Botanic Garden of Padua of 1543, considered the first true botanic garden of western civilization.**







the Heritage Garden. Installed in 1983, the 1.5 acre site is ideally located between the parking lot and the Education Center, thereby serving as a sort of foyer where the visitor is introduced to the world of plants. You approach it across an elegant sweep of steps lined by cascading water, flowers and planters. The Garden's purpose, as stated by its designer, landscape architect Geoff Rausch of Environmental Planning and Design Partnership, Pittsburgh, is to "present the historic and scientific value of plant classification in an interesting and aesthetically pleasing setting, and to promote the role of the botanic garden as a scientific institution."

The Heritage Garden design is based on the Botanic Garden of Padua of 1543, considered the first true botanic garden in Western civilization. The central walk is made of red brick, called Calvert Colonial Paver in 20 to 20 rose full range color and limestone veneer. The brick was supplied by Victor Cushwa & Sons, Inc., of

Williamsport, Md. and the stone by William C. Weber Stone Co. of Stone, Iowa. The walk is reminiscent of the paving patterns used in Padua. At the garden's center is a physic garden, which contains potted specimens of tender plants and floats over a large lily pool of aquatic plants. The raised stone planters at the perimeter contain beds arranged by plant families.

#### A fitting tribute

The Garden is divided into four quadrants that represent the four seasons and the four corners of the earth. One of the quadrants contains a large bronze sculpture of Carl von Linné (Linnaeus) designed by Robert Berks. Linnaeus, whose binomial system of plant classification and nomenclature brought form and order to the field of biology in general and horticulture in particular, is captured kneeling beside his notebook, studying a rose. The contrast between the comparatively disorganized planted area along the gateway and the organized garden is in itself a tribute

to Linnaeus and his work. The plants that complement the statue are low-growing shrubs and ground covers for the most part.

The remaining three quadrants are devoted to teaching about plant classification. They include plantings grouped by geographic area and plantings grouped according to a taxonomic system.

The geographic quadrant summarizes classification by origin, a system used at many botanic gardens in Europe. Since many different climates are represented, certain plants are grown in greenhouses and set out in the summer.

The two quadrants with taxonomic plantings are arranged according to the Englerian system, a morphological system based on observed similarities and complexities of flower parts.

Pools filled with bubbling jets surround a physic garden at the site's center.

It is hoped visitors to the Heritage Garden will begin to understand modern plant classification systems. It is believed that this understanding is the first step toward appreciation. **LM**



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## Chipco® 26019

Fungicide

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# GELS, WETTING AGENTS FOR TREES AND SHRUBS

The success of these products in reducing moisture stress in turf is well documented, but their ability to do the same for woody plants may be a pleasant surprise.

by Terry A. Tattar, Ph.D., University of Massachusetts

**M**oisture management is important for the health of all woody plants. It is especially critical for newly-transplanted materials. Loss of plant materials on new landscapes from moisture stress is all too common.

Moisture stress is usually the result of excessively dry conditions on new transplants, but can also be due to excessively wet conditions that smother the roots. Losing plant materials is costly to both landscapers and nurserymen who must replace the lost plants and absorb these additional costs.

Landscaper managers should more effectively manage moisture levels in newly-transplanted trees and shrubs. Wetting agents and, more recently, super-absorbent gels, have been used extensively with turf to improve survival and establishment. Why not use them on woody plants?

## Wetting agents

Wetting agents are chemicals that lower the surface tension of water, and thereby allow a more rapid and even penetration of irrigation water in the soil or growing medium. They are in a class of chemicals known as surfactants.

The objectives of using a wetting agent are to promote even soil wetting, to minimize runoff and to provide better aeration and drainage; all of which will improve conditions for root growth. Despite widespread use of wetting agents in turfgrass management, these agents have not been widely used on woody plants.

A study was conducted in 1985 in Central Park, New York City, using the wetting agent Aqua-Gro around newly-planted trees and shrubs in an attempt to improve woody plant sur-

**Wetting agents allow water to penetrate deeper and be distributed more evenly; providing better rooting conditions for woody plants.**





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The survival rate of three species studied at this Florida site was improved when a super-absorbent gel was used during transplanting.

vival. During the study, the City of New York imposed a total watering ban. Test plants received only rain-water, no supplementary irrigation. Most of the trees and shrubs treated with the wetting agent produced increased terminal growth in comparison to the untreated plants.

Further studies using the same wetting agents were conducted in 1986 and 1987 in western Massachusetts on newly-planted trees and shrubs on new condominium sites. The test materials consisted of azaleas, *Rhododendron* spp., P.J.M. rhododendrons, P.J.M. Hybrid rhododendrons, *Potentilla fruticosa*, flowering crabapples, *Malus* spp. and Norway maples (*Acer platanoides*.) On most sites the survival rates and overall condition of the plants treated with the wetting agent was improved over the untreated controls.

Research continues on the specific effects on plant roots. It is known, however, that plant growth is favored by uniform levels of soil moisture as well as adequate soil aeration.

A possible explanation for this increased survival and growth of the plants treated with the wetting agents in these studies is that the wetting agent improved the soil environment for root growth by increasing water penetration and providing more even distribution of water.

### Super-absorbent gels

Super-absorbent gels are very long molecules (polymers) that have the capacity to absorb 50 to 600 times their weight in water. They are used to store water in the soil around plants and then release that water to the soil during dry periods. Forty to 98 percent of the water absorbed by the gels will eventually be available to the

plant roots or soil.

The two general types of superabsorbent gels are starch-based and synthetic-based. But due to their limited stability in the soil, starch-based gels are not widely used. Most gels used in landscaping are synthetic-based and are known to be effective for at least two years in the soil.

Gels are applied at recommended rates in a dry state and mixed with soil at the bottom of the planting hole and backfill soil. The plant is then irrigated and the gel becomes completely hydrated in less than one hour.

Using a super-absorbent gel during planting provides a water reservoir to minimize moisture stress and provides conditions for root establishment, thereby improving plant condition and avoiding plant loss.

A 1987-88 study in south Florida used the synthetic-based super-absorbent gel Supersorb-C. The author studied its effects on survival and growth of ligustrum (*Ligustrum ovalifolium*), *Ixora*, *Ixora* sp.; and hibiscus (*Hibiscus rosa-sinensis*) recently transplanted in landscapes. All plants were transplanted from one-gallon containers. The study was conducted with plantings made throughout the year, in both wet and dry seasons.

The survival rate of all three species was improved when the super-absorbent gel was used during transplanting when compared to controls. In addition, the average growth rate was also greater when the gel was used during transplanting. The soil condition around the gel-treated plants was noticeably softer and more spongy to the touch than untreated soils.

In western Massachusetts, at the University of Massachusetts' research

nursery, a study was conducted last summer to determine survival and condition effects of the same super-absorbent gel on native trees and shrubs. The following plants were used: eastern white pine (*Pinus strobus*), white spruce (*Picea alba*), Colorado blue spruce (*P. pungus*), amur privet (*Ligustrum amurense*), eastern hemlock (*Tsuga canadensis*), weigela (*Weigela florida*), common mockorange (*Phadelphus coronarius*) red spirea (*Pirea frobelli*), arrowwood viburnum (*Viburnum dentatum*) and yellow twig dogwood (*Cornus lutea*).

All the plants were local B & B stock. Planting was done in midsummer and irrigation was provided only at the time of planting. Equal numbers of each species were planted with the super-absorbent gel and without the gel.

### Early results positive

Very few plants were lost in either treatment to this date. However, the gel-treated plants were consistently rated higher in condition than the untreated plants. This study is part of a long-range effort to determine the most effective strategies for moisture management in the landscape and will continue for at least three years.

Moisture management is critical for successful establishment of trees and shrubs in the landscape. Studies with a wetting agent and with a super-absorbent gel have indicated that these types of materials may provide a beneficial affect to plant condition, survival and growth of trees and shrubs. The landscape contractor may wish to consider the use of wetting agents and super-absorbent gels in new landscape installations as aids to successfully establishing plant materials.

LM