

GreenSmart

a newsletter for arborists

Reducing Drought Stress for Your Client's Trees

ShortStop® Plant Growth Regulator for Trees can be effectively used by arborists to reduce the stress in trees caused by drought conditions. Research has shown that when treated by Paclobutrazol (ShortStop® TGR), trees show more drought tolerance, fungal & bacterial resistance, less pollution sensitivity, and appear a healthier green.¹ Paclobutrazol (PBZ) increases the abscisic acid in the tree, while blocking the production of the growth hormone, gibberellin. The reduction of gibberellin slows branch growth and the increased abscisic acid has a beneficial effect on the tree's ability to survive a water shortage.

Indications of drought stress include wilting, cupped leaves, dead or dying leads in the tree crown, premature fall coloration in leaves, and early leaf drop. PBZ promotes smaller stomata, thicker leaf cuticle, and enhanced fine root hairs.

For the Arborist:

"This means we can take an active role in pre-treating our clients most valued trees before consecutive dry spells can create excessive damage."

- Mark Mann, CEO -PGMS

These improvements in treated plants prevent excess water loss during transpiration.² A study in the Journal of Arboriculture verified that the efficacy of PBZ applications were not adversely affected during or after a drought.³ Arborists can apply ShortStop® Plant Growth Regulator for Trees by basal drench or soil injection. The application should be



evenly distributed and can be made any time of the year (except when soil is frozen or in standing water). The proper rates can be determined from the arborist rate charts provided by your distributor.

¹ Chaney, W.R., Growth Retardants: A Promising Tool for Managing Urban Trees, FNR-252-W Purdue Extension Publications, Sept. 2005.

² Poole, R.T. and Conover, C.A., Water Use and Growth of Eight Foliage Plants Influenced by Paclobutrazol, CFREC-A Research Projects (RH-92-23), University of Florida, 1992.

³ Groninger, J.W. and Seiler, J.R., Soil Texture and Moisture Availability Impacts on the Efficacy of Soil-Applied Paclobutrazol, JOA 23(3): May 1997.

ShortStop®

TGR

everything you've come to expect from a TGR

- 22.3% active ingredient; *Paclobutrazol*
- much lower price
- higher percent purity of active ingredient
- same growth control & benefits
- less residue & better distribution
- better application rates
- more refined & uniform

"I was amazed..."

In the fall of 1999, at the end of two consecutive drought seasons, I was observing a test plot I had begun in 1989 with approximately fifty (50) Little Leaf Lindens in South Bend, Indiana using a treatment of Paclobutrazol. I was amazed, it looked like two different species of trees had been planted along the street on each side. The leaves on the trees that were left as controls were yellowing and dropping early from drought stress, and the treated trees looked normal, with dark green leaves showing no sign of stress. The next year (2000), I invited Purdue University to join me in an air root excavation to compare the root systems of the treated and untreated trees. The most exciting part of this unexpected benefit was that the growth control had diminished after 1993 but the physiological changes remained, particularly the enhanced root hair growth, and it was still helping to make these Linden trees strong and healthy, even in a less than adequate environment.

Mark Mann, CEO -PGMS

For more information or to order ShortStop® Plant Growth Regulator for Trees, please contact:

Plant Growth Management Systems
Toll free #877-902-7467 pgms@earthlink.net
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Inside Story Headline



Caption describing picture or graphic.

Inside Story Headline

“To catch the reader's attention, place an interesting sentence or quote from the story here.”

Inside Story Headline

This story can fit 75-125 words. Selecting pictures or graphics is an important part of adding content to your newsletter.

Think about your article and ask yourself if the picture supports or enhances the message you're

trying to convey. Avoid selecting images that appear to be out of context.

Microsoft Publisher includes thousands of clip art images from which you can choose and import into your newsletter.

There are also several tools you

can use to draw shapes and symbols.

Once you have chosen an image, place it close to the article. Be sure to place the caption of the image near the image.



Caption describing picture or graphic.

Inside Story Headline

This story can fit 150-200 words.

One benefit of using your newsletter as a promotional tool is that you can reuse content from other marketing materials, such as press releases, market studies, and reports.

While your main goal of distributing a newsletter might be to sell your product or service, the key to a successful newsletter is making it useful to your readers.

A great way to add useful content to your newsletter is to develop and write your own articles, or include a calendar of upcoming events or a special offer that promotes a new product.

You can also research articles or find “filler” articles by accessing the World Wide Web. You can write about a variety of topics but try to keep your articles short.

Much of the content you put in your newsletter can also be used for your Web site. Microsoft Publisher offers a simple way to convert your newsletter to a Web publication. So, when you’re finished writing your newsletter, convert it to a Web site and post it.



Caption describing picture or graphic.

Inside Story Headline

This story can fit 100-150 words.

The subject matter that appears in newsletters is virtually endless. You can include stories that focus on current technologies or innovations in your field.

You may also want to note business or economic trends, or make predictions for your customers or clients.

If the newsletter is distributed internally, you might comment upon new procedures or improvements to the business. Sales figures or earnings will show how your business is growing.

Some newsletters include a column that is updated every issue, for instance, an advice column, a book review, a letter from the

president, or an editorial. You can also profile new employees or top customers or vendors.

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Caption describing picture or graphic.

Primary Business Address

Your Address Line 2

Your Address Line 3

Your Address Line 4

Phone: 555-555-5555

Fax: 555-555-5555

E-mail: someone@example.com

This would be a good place to insert a short paragraph about your organization. It might include the purpose of the organization, its mission, founding date, and a brief history. You could also include a brief list of the types of products, services, or programs your organization offers, the geographic area covered (for example, western U.S. or European markets), and a profile of the types of customers or members served.

It would also be useful to include a contact name for readers who want more information about the organization.



Your business tag line here.



Back Page Story Headline

This story can fit 175-225 words.

If your newsletter is folded and mailed, this story will appear on the back. So, it's a good idea to make it easy to read at a glance.

A question and answer session is a good way to quickly capture the attention of readers. You can either compile questions that you've received since the last edition or you can summarize some generic questions that are frequently asked about your organization.

A listing of names and titles of managers in your organization is a good way to give your

newsletter a personal touch. If your organization is small, you may want to list the names of all employees.

If you have any prices of standard products or services, you can include a listing of those here. You may want to refer your readers to any other forms of communication that you've created for your organization.

You can also use this space to remind readers to mark their calendars for a regular event, such as a breakfast meeting for vendors every third Tuesday of the month, or a biannual charity auction.

If space is available, this is a good place to insert a clip art image or some other graphic.



Caption describing picture or graphic.