



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (7505T)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

91234-353

Date of Issuance:

6/1/23

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

A589.03

Name and Address of Registrant (include ZIP Code):

Atticus, LLC  
5000 CentreGreen Way, Suite 100  
Cary, NC 27513

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

*Continues page 2*

Signature of Approving Official:

Kristy Crews, PhD., Product Manager 22  
Fungicide Branch, Registration Division (7505T)

Date:

6/1/23

EPA Form 8570-6

2. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 91234-353.”
3. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

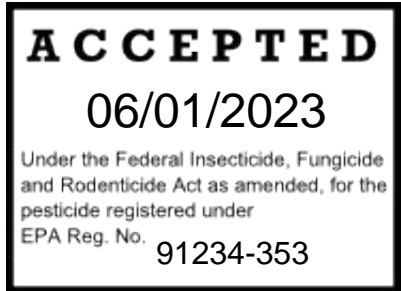
If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

The record for this product currently contains the following CSF(s):

- Basic CSF dated 11/02/2022
- Alternate CSFs 1-11 dated 11/02/2022

If you have any questions, please contact Yasmin Bowers at 202-566-2507 or [Bowers.Yasmin@epa.gov](mailto:Bowers.Yasmin@epa.gov).

Enclosure- Stamped “Accepted” Label



{Note to reviewer: [Text] in brackets denotes optional or explanatory language}  
{Note to reviewer: {Text} in braces denotes where in the final label text will appear}  
{BOOKLET FRONT PANEL LANGUAGE}

# A589.03 [™]

[Alternate Brand Name: Berati 10 XC]

[Ornamental Plant Growth Regulator]

[For use on Outdoor Commercial Ornamentals and Nursery / Greenhouse container grown plants.]

**ACTIVE INGREDIENT:** (% by weight)

Paclobutrazol

((±)-(R\*,R\*)-β-[(4-Chlorophenyl) methyl]- α -(1,1-dimethylethyl)-IH-1,2,4-triazole-1-ethanol):.....4.0%

**OTHER INGREDIENTS:** .....96.0%

**TOTAL** .....100.0%

Contains 0.34 lbs of active ingredient per gallon.

## KEEP OUT OF REACH OF CHILDREN DANGER

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

[See inside label booklet for [additional] Precautionary Statements, and Directions for Use.]

[See below additional Precautionary Statements]

EPA Reg. No.: 91234-XX

EPA Est. No.:

Net Contents:

Manufactured for:

**Atticus, LLC**

940 NW Cary Parkway, Suite 200

Cary, NC 27513

## {LANGUAGE INSIDE BOOKLET}

<b>FIRST AID</b>	
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>Note to Physician</b> Probable mucosal damage may contraindicate the use of gastric lavage.	
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at <b>1-844-685-9173</b> for emergency medical treatment information.	

**For Chemical Emergency:  
Spill, Leak, Fire, Exposure, or Accident,  
Call CHEMTREC Day or Night  
Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

### **PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER**

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Avoid contact with skin or clothing. Wear protective clothing (long-sleeved shirt, long pants, socks, and shoes) and eyewear such as goggles, face shield, or safety glasses, and gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**IMPORTANT:** Read the entire directions for use and the conditions of sale and warranty before using this product.

#### **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

##### **Applicators and other handlers must wear:**

Long-sleeved shirt and long pants.

- Chemical-resistant gloves made of out of: barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride  $\geq 14$  mils, or Viton  $\geq 14$  mils.
- Protective eye wear (goggles, face shield, or safety glasses).
- Shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

#### **User Safety Recommendations**

##### **Users should:**

- Wash hands before eating, drinking chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As

soon as possible, wash thoroughly and change into clean clothing.

## ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment or disposal of equipment washwaters or rinsate.

### Physical-Chemical Hazards

Do not mix or allow coming in contact with oxidizing agent. Hazardous Chemical reaction may occur. Combustible. Do not use or store near heat or open flame.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

In outdoor commercial ornamental and nursery uses (plants grown in containers), follow foliar applications of **A589.03** by irrigation within 24 hours to remove product from foliage and limit surface movement. If overhead irrigation is not available, time applications to allow **A589.03** to dry on the treated surface prior to a rain event.

To limit unwanted surface runoff in outdoor ornamental uses, do not apply when growth media is saturated.

Read all label directions carefully before use.

{**NOTE TO REVIEWER:** Registrant may add or remove the following state restriction statement as required throughout. (e.g. NOT FOR USE IN CALIFORNIA)}

[**NOT FOR USE IN** \_\_\_\_\_ ]

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Long-sleeved shirt and long pants.
- Chemical resistant gloves made of any waterproof material such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, Polyvinyl Chloride, or Viton.
- Protective eye wear (goggles, face shield, or safety glasses).
- Shoes plus socks.

## PRODUCT INFORMATION

- The multitude of variations in application methods, cultivar, species, climactic and growing conditions makes it impossible to test **A589.03** under all conditions. TREAT A LIMITED NUMBER OF PLANTS AND OBSERVE PLANT RESPONSES BEFORE APPLYING **A589.03** TO A LARGE NUMBER OF PLANTS FOR THE FIRST TIME.
- **A589.03** is a plant growth regulator for use on commercially grown ornamental plants grown in containers in nurseries and greenhouses.
- **A589.03** reduces internode elongation, resulting in more desirable compact plants.
- Apply **A589.03** by spray, drench or liner dip.
- Under certain conditions, **A589.03** may be most effective when applied in sequential applications.
- Consistently agitate the spray/drenching solution of **A589.03** to ensure uniform distribution during application.
- **A589.03** does not require the addition of wetting agents.
- The efficacy of **A589.03** is affected by environmental and cultural conditions. Conditions causing vigorous growth require higher rates of **A589.03** to achieve the desired effect. Temperature is particularly important in this respect.
- Response to **A589.03** treatments varies with species and variety.

In this label there is wording noting production zones for the USA in reference to rates to be applied to various plant species. The following is a description of the ornamental plant production zones in the USA. These are meant to serve as a general guideline and not exact demarcation lines for the delineation of the zones. As geographies and topographies near the zonal change areas and even within zones can vary in their microclimates, altitudes and general weather patterns, the zonal descriptions below are only meant to serve as a general guideline or starting point for the determination of rates of products to be applied.

### ZONES:

**Northern Zone** (e.g. Northern Belt Region): In general, this would be the area of the USA north of Longitude 39-degrees.

**Central Zone:** In general, this would be the area of the USA between 34- and 39-degrees Longitude.

**Southern Zone** (e.g. Sunbelt Region): In general, this would be the area of the USA south of Longitude line 34-degrees.

### Restrictions

- **A589.03** is an effective compound. DO NOT REUSE POTS, TRAYS, OR OTHER CONTAINERS THAT PREVIOUSLY HELD PLANTS OR SOIL TREATED WITH **A589.03**.
- Do not use on fibrous begonias as they are very sensitive to **A589.03**.
- DO NOT USE **A589.03** on annual Vinca (periwinkle) as it may cause spotting of foliage.

### MIXING INSTRUCTIONS

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Half fill the mix tank with clean water. Accurately measure out the required amount of **A589.03** according to Table 1. Add the **A589.03** to the mix tank and fill the tank with the remaining required amount of water to achieve the correct concentration.

Table 1 – A589.03 Dilution Table

ppm paclobutrazol desired	ml per gallon of water
1	0.10
2	0.20
3	0.30

4	0.40
5	0.50
10	1.00
20	2.00
25	2.50
30	3.00
40	4.00
50	5.00
100	10.0
200	20.0

## APPLICATION TECHNIQUES

### 1. SPRAY APPLICATIONS

- Spray application must only be performed in enclosed areas, such as greenhouses, where spray drift outside the treated area cannot occur.
- A period of 30 minutes must be allowed after application before overhead irrigation or rain occurs.

When applying **A589.03** by spray, it is important that:

- Sufficient volume is used to thoroughly wet plant stems.
- Application of excessive spray solution may result in greater than desired effect as **A589.03** is taken up through both roots and stems.
- Uniform coverage of all plants is achieved.
- Maximum application rates must never be exceeded.

Sequential applications using 50-100% of the lowest application rate can provide more uniform growth effects and also guard against overdosing. This is particularly true when cooler temperatures or lower light conditions occur.

Generally the spray volume for small plants in small containers or plug trays which are closely spaced is 1-2 qts./100 sq. ft. of bench space. For larger plants with a well developed canopy, the spray volume is approximately 3 qts./100 sq. ft. of bench space.

### 2. DRENCH APPLICATIONS

Drench applications of **A589.03** tend to be the most effective in reducing plant height and producing a uniform effect. Drench applications can be made, without phytotoxic effects, late in the growing cycle, at or near the point that marketable size is reached.

When applying **A589.03** by drench, it is important that:

- Applications are made to moist potting media.
- Uniform distribution of drench is achieved.
- No more than 10% run through of solution occurs.
- Regard is paid to the growing media. Media containing bark or of high organic content may require the use of higher application rates.
- When applied as a drench through sub-irrigation in saucers or benches etc. reduce rates by 25-50%.
- When continuously applied through irrigation water, reduce the rate used to 5-25% of a single conventional drench application.
- Maximum application rates must never be exceeded.

Table 2 provides a guide to determining the appropriate drench volume needed for the specified pot sizes based on the capacity of a 6 inch 'Azalea' type pot. Individual pots vary in style and depth and thus capacity. Growers must

determine the appropriate concentration and volume of drench to apply according to the pot volume, media and species/variety of plant considered.

**Table 2 - DRENCH VOLUME GUIDELINES**

Pot Diameter (inches)	Drench Volume (fl. oz./pot)	mg of paclobutrazol/pot			
		1 ppm	2 ppm	3 ppm	4 ppm
4	2	0.063	0.125	0.188	0.250
5	3	0.094	0.188	0.282	0.375
6	4	0.125	0.250	0.375	0.500
8	10	0.313	0.625	0.938	1.25
10	25	0.783	1.56	2.35	3.125
10" hanging basket	15	0.470	0.939	1.41	1.878
12	40	1.25	2.50	3.75	5.00

**DETERMINING OPTIMUM RATES**

Optimum **A589.03** rates will vary between growers and will depend on the desired final plant height, growing conditions, applications techniques, species, and variety or cultivar. Conduct trials with small numbers of plants using the specified label rates to determine the optimum rates before **A589.03** is applied to a large number of plants. Growers may find they have to adjust application rates, techniques, timings and treatment periods to achieve their desired effect.

- The rates on this label are rate ranges and must only be used as guidelines.
- Always start trials at the lowest rate and work up as required.
- Do not exceed the maximum rate.

For ornamental plant species not specifically listed on the label, growers should run initial trials using the rates specified in Table 3.

**Table 3 - TRIAL RATES BY GENERAL PLANT TYPE \***

Plant Type	Spray (ppm)	Drench (ppm)
Bedding Plants	30	1
Bedding Plant Plugs	5	NR
Flowering/Foliage Plants (annual or perennial)		
- Herbaceous Species	30	1
- Woody Species	50	2
Woody Landscape Plants	100	4
Bulb Crops	100	10

NR = use is not recommended

\* These trial rates are based on use in the Sunbelt Region. Run initial tests using 0.5 X the rates listed in regions north of the Sunbelt.

**3. PRE-TRANSPLANT LINER DIP APPLICATIONS ON PLUGS OR ROOTED CUTTINGS OF BEDDING PLANTS AND HERBACEOUS FLOWERING/FOLIAGE PLANTS**

Applying **A589.03** by liner dip involves submerging the roots and substrate (media) of seedling plugs or rooted cuttings in a treated solution prior to transplanting into the final container. Pre-transplant liner dip applications of **A589.03** can be effective in controlling the height of very vigorous plants that tend to grow rapidly, following



transplant. Liner dip applications also allow the use of variable **A589.03** rates within single mixed-plant containers, thereby providing greater plant growth uniformity.

Moisture level of the substrate at the time of liner dip treatment will influence the degree of **A589.03** absorption, and thusly its availability to the roots. At the time of **A589.03** application, the substrate can be moderately dry, but prior to plant wilting. Before treatment, allow liners to dry down following irrigation. The length of time the liner remains in the **A589.03**-treated solution may also affect the degree of size control achieved. For dry liners, use a soak time ranging from 30 seconds to 2 minutes.

**Root Development:** The degree of root development at the time of treatment can affect the plant’s response to **A589.03**. Poorly rooted or immature cuttings can be excessively stunted. Therefore, treat only well rooted cuttings with liner dip applications of **A589.03**.

**Solution Depth:** The depth of treated solution may affect the activity level of a **A589.03** liner dip treatment. Since the majority of roots are located at the lower one-half of the plug, ensure the solution depth covers at least 50% of the liner cell height.

**Treatment Timing:** The length of time from treatment to transplanting will have a minimal impact on **A589.03** activity, allowing for good flexibility. Times ranging between 2 hours to a 10 with liner dip treatments have been shown to provide equally effective results.

**Use Rates:** Due to the number of factors that can result in treatment variability; including: substrate moisture levels, light level, growing conditions, plant cultivar, root development and desired degree of growth control, optimum **A589.03** rates will vary. The key to ensuring consistency in results is to develop a practical system to standardize as many factors as possible, including: substrate moisture level, duration of dip, age of cuttings and length of time between treatment and transplant. Conduct initial trials using the rates in Table 3.

**Table 4– TRIAL RATES FOR LINER DIP APPLICATION**

RATES FOR VEGETATIVE ANNUALS SHOULD FOCUS ON THE LOW TO MEDIUM RANGE, WHILE HIGHER RATES MAY BE MORE APPROPRIATE TO TRIAL FOR VIGOROUS PERENNIALS.

Desired Level of Activity	Southern Climates (ppm)	Northern Climates (ppm)
Low	2 - 3	0.5 - 1
Medium	4 - 5	2 - 3
High	6 - 8	4 - 6

- Avoid liner soaks for any crop in which the spread of root-borne disease is possible.

**USES AND RATES BY CROP**

**BE SURE YOU HAVE READ, UNDERSTOOD AND ACTED UPON THE INSTRUCTIONS OF THE SECTION ‘DETERMINING OPTIMUM RATES’ BEFORE APPLYING A589.03 TO A LARGE NUMBER OF PLANTS.**

**A. FLORIST AZALEAS**

Apply **A589.03** as a spray or drench to azaleas.

Use concentrations of 100 - 200 ppm for spray applications and 5 - 15 ppm for drenches.

Make applications to control plant height and promote flower bud initiation when new growth after final pruning is 1.5 - 2 inches long.

Make applications to reduce bypass shoot development after bud set when bypass shoots are barely visible, or about 5 to 7 weeks prior to cooling.

## B. BEDDING PLANTS

Spray bedding plants with **A589.03**. Use rates are:

Plant	Rate Range (ppm)	Plant	Rate Range (ppm)
Ageratum	15 - 45	Marigold (African)*	30 - 60
Alyssum	40 - 60	Marigold (French)	15 - 30
Celosia	15 - 45	Pansy	5 - 15
Coleus	15 - 30	Petunia	15 - 45
Dahlia	15 - 45	Salvia	20 - 60
Dianthus	20 - 60	Snapdragon *	30 - 90
Impatiens (standard)	10 - 45	Verbena	15 - 30
Impatiens (New Guinea)	2.5 - 15	Zinnia	15 - 45

\* Apply at an early stage of plant growth with good stem coverage, especially for vigorous varieties.

- High rates of **A589.03** may delay flowering, especially of impatiens and petunia.
- Late applications and overdosing may cause slow growth on transplantation. This can be avoided by using multiple applications of 25 - 50% of the specified rate and monitoring plant growth.

For bedding plants not listed above, start with a rate of 30 ppm in the Sunbelt Region and 15 ppm in the Northern Belt Region. Start applications when new growth reaches 2 inches or when plants reach marketable size.

## C. BEDDING PLANT PLUGS

Spray bedding plant plugs with **A589.03**. Use rates are:

Plant	Rate Range (ppm)	Plant	Rate Range (ppm)
Ageratum	5-10	Marigold (African)	10-20
Alyssum	10-20	Marigold (French)	5-10
Celosia	5 - 10	Pansy	1 - 5
Coleus	5 - 10	Petunia	5 - 10
Dahlia	5 - 10	Salvia	5 - 10
Dianthus	10 - 20	Snapdragon	10 - 20
Impatiens (standard)	0.5 - 10	Verbena	5 - 10
Impatiens (New Guinea)	0.25 - 5	Zinnia	5 - 10

- Drench applications of **A589.03** are not recommended for bedding plant plugs.
- When assessing optimum rates pay particular attention to how treated plants grow after transplanting to avoid overdosing.

For bedding plants not listed above, start with a rate of 5 ppm to determine optimum rates. Start applications when plants reach the 1 - 2 true leaf stage.

## D. BULB CROPS

Apply **A589.03** by spray or drench. Spray applications of **A589.03** are the least desirable method for controlling plant height and must be applied sequentially to maximize uniformity of the crop. Begin applications when plants reach a height of 2 – 4 inches.

Drench applications of **A589.03** are very effective. For most bulb types, begin drench applications when plants reach a height of 1 - 2 inches. For bulbs which require a cold period, apply **A589.03** drenches 1 to 5 days after thermal

treatment.

Use rates and soak timings are:

Plant	Spray Rate (ppm)	Drench Rate (ppm)
Amaryllis	ND	200
Caladium	100 - 200	2 -16
Calla Lily	ND	5 - 15
Daffodil	ND	20 - 40
Dahlia	ND	10 - 40
Freesia	ND	2 - 4
Hybrid Lily (Asiatic Oriental, LA)	200 - 500	4 - 30
Montbretia	ND	ND
Tulip	ND	5 - 40

ND = Rates for this particular use have not been determined. For these applications and for species not listed, run initial trials as outlined in the section 'DETERMINING OPTIMUM RATES'.

#### E. POT CHRYSANTHEMUMS

Apply **A589.03** to pot chrysanthemums as a spray or drench.

Use concentrations of 50 - 200 ppm for spray applications and 1 - 4 ppm for drenches.

Begin applications when axillary shoots are 2 to 3 inches long. Earlier applications can be made to vigorous varieties.

- When spraying, sequential applications of reduced rates tend to produce more uniformly shaped plants.
- If late treatment is required at disbud, minimal effect on flowering will occur if drench applications are used.
- Uniform application of both sprays and drenches is critical to uniform crop development.

#### F. UNLISTED FLOWERING & FOLIAGE PLANTS

Apply **A589.03** as a spray or drench to a wide variety of other flowering plants and foliage plants. Herbaceous species tend to require lower rates than woody species. For species not listed, run initial trials as outlined in the section 'DETERMINING OPTIMUM RATES'.

#### G. GERANIUMS

Apply **A589.03** as a spray or drench to geraniums.

Use concentrations of 10 - 30 ppm for spray applications. Begin applications for zonal geraniums when new growth is 1.5 - 2 inches long. Begin applications for seeded geraniums at 2 - 4 weeks after transplanting or when necessary.

- Geranium species are extremely sensitive to **A589.03** treatment. Growers must be cautious and conduct test trials before using drenches to apply **A589.03**.
- Early applications may require lower rates to avoid overdosing.
- **A589.03** will reduce late stretch when applied as the flower stems begin to elongate.

#### H. HIBISCUS

Apply **A589.03** as a spray or drench to Hibiscus.

Use concentrations of 30 - 150 ppm for spray applications.

Begin applications when lateral shoots are 1 to 4 inches long.

- Single applications will control growth for 3 to 6 weeks but sequential applications tend to produce more uniformly shaped plants.
- Apply **A589.03** 1 to 2 weeks prior to flowering to prevent late stretch.
- Conduct test trials as outlined in the section 'DETERMINING OPTIMUM RATES' before using drenches to apply **A589.03**.

## I. PERENNIALS

Apply **A589.03** as a spray or drench to a wide variety of perennial plants.

Use rates are:

Plant	Spray Rate (ppm)	Drench Rate (ppm)
Alcea rosea	30 - 50	1 - 2
Asclepias	30 - 60	ND
Chrysanthemum	50 - 200	1 - 4
Coreopsis	80 - 100	5 - 10
Delphinium	30 - 60	ND
Digitalis	80 - 160	2 - 4
Eupatorium	240*	8 - 10
Gaura	30 - 80*	15
Jacobinia (pink)	5 - 10	0.5 - 1
Monarda	60 - 100*	6 - 10
Salvia	40 - 60	ND
Stokesia	40 - 80	ND
Verbena	80*	10
Veronica	20 - 40	ND

\*Multiple applications may be required.

ND = Rates for this particular use have not been determined. For these applications and for species not listed, run initial trials as outlined in the section 'DETERMINING OPTIMUM RATES'.

## J. POINSETTIAS

Apply **A589.03** as a spray or drench to Poinsettias.

Use concentrations of 10 - 30 ppm for spray applications in most regions but 15 - 45 ppm in southern Florida.

Begin applications to slower growing varieties in cool climates when axillary shoots are 2 to 3 inches long. For vigorous growing varieties in warm climates, begin applications when axillary shoots are 1.5 to 2 inches long. Sequential applications may be applied 1 to 3 times, applying approximately the same amount of **A589.03** in total as a single dose, at 7 to 14 day intervals, depending on plant vigor/growth.

Late sprayed applications of **A589.03** will reduce plant height but may reduce bract size. Do not apply **A589.03** after the initiation of short days. Generally, do not apply **A589.03** sprays after October 25 in Florida or after October 1 in other regions.

Use concentrations of 0.25 - 3 ppm for drench applications. (Based on 4 fl.oz./6 inch pot).

Make early production applications when axillary shoots are 1.5 to 3 inches long. Late season drench applications can be made after the initiation of short days in order to prevent late season stretch (i.e. growth). Late season drench applications will have a minimal effect on bract size.

- Single applications at the higher rates are very effective but sequential applications tend to produce more uniformly shaped plants and also guard against overdosing.
- Optimum **A589.03** rates and timings will vary depending on the variety. For slower growing, less vigorous varieties, use the lowest labeled rate.

#### **K. WOODY PLANTS**

Apply **A589.03** as a spray or drench to woody plants.

Effective rates vary greatly with species. For all applications, run initial trials as outlined in the section 'DETERMINING OPTIMUM RATES'.

Examples of woody plants include, but are not limited to:

Azalea	Bougainvillea	Camellia	Cotoneaster
Euonymus	Hibiscus	Hydrangea	Ilex (Holly)
Juniper	Kalmia	Ligustrum	Magnolia
Photinia	Pine	Rhododendron	Rose

#### **USE DIRECTIONS FOR CHEMIGATION**

In addition to the above use rates, the following precautions must be observed when using this product in any type of irrigation system:

Apply this product only through the following systems:

- 1) Overhead sprinklers such as impact, or micro-sprinklers, or booms.
- 2) Micro irrigation such as spaghetti-tube or drip emitters.
- 3) Mist-type irrigation.
- 4) Hand-held calibrated equipment such as the hand-held wand with injector.
- 5) Sub-irrigation, such as ebb and flow and flooded floor systems, or through individual saucers.

Do not apply this product using irrigation systems that may result in spray drift, such as micro-sprinklers or mist-type irrigation systems, except in enclosed areas, such as greenhouses, where spray drift outside the treated area cannot occur.

Do not apply this product through any other type of irrigation system. Crop injury or lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have any questions about calibration, contact your State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system, (including greenhouse systems), used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### **SPRINKLER CHEMIGATION:**

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Fill the supply tank with the desired amount of water. Then add the amount of **A589.03** required in order to achieve the final solution rate for the specific crop to be treated. Agitate the mixture of **A589.03** and water frequently during the chemigation period to assure a uniform distribution throughout the system. Apply **A589.03** continuously for the duration of the water application but do not exceed labeled rates and volumes as outlined on the product label. For overhead applications to the foliage and stems, apply at a volume of 1 to 2 qts. per 100 sq. ft. for plugs and plants with small canopies. Volumes of 2 to 3 qts. per 100 sq. ft. may be necessary for plants with large canopies. For applications to the soil, apply at a volume of 4 fl. oz. per 6 inch pot.

#### **CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS:**

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year.

Chemigation systems connected to public water systems must contain a functional, reduced pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water systems should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where the pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.



## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**STORAGE:** Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area.

**PESTICIDE DISPOSAL:** Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### CONTAINER HANDLING:

**[For plastic containers ≤ 5 gallons: Nonrefillable Container:** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.]

**[For plastic containers > 5 gallons: Nonrefillable container:** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Recap and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.]

## LIMITATION OF WARRANTY AND LIABILITY

**IMPORTANT: READ BEFORE USE.** Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

[A589.03] is a trademark of Atticus, LLC



**{LANGUAGE ON LABEL AFFIXED TO CONTAINER}**

**A589.03<sup>[TM]</sup>**

[Alternate Brand Name: *Berati 10 XC*]

[Ornamental Plant Growth Regulator]

**ACTIVE INGREDIENT:** ( % by weight)

Paclobutrazol ((±)-(R\*,R\*)-β-[(4-Chlorophenyl)methyl]-1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol):.....4.0%

**OTHER INGREDIENTS:**.....96.0%

**TOTAL** ..... 100.0%

contains 0.34 lbs of active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**DANGER**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

<b>FIRST AID</b>	
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>● Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>● Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>● Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>● Take off contaminated clothing.</li> <li>● Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>● Call a poison control center or doctor for treatment advice.</li> </ul>
<b>Note to Physician</b>	
Probable mucosal damage may contraindicate the use of gastric lavage.	
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at <b>1-844-685-9173</b> for emergency medical treatment information.	

**For Chemical Emergency:**

**Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER**

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Avoid contact with skin or clothing. Wear protective clothing (long-sleeved shirt, long pants, socks, and shoes) and eyewear such as goggles, face shield, or safety glasses, and gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**ENVIRONMENTAL HAZARDS:** Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment or disposal of equipment washwaters or rinsate.

**Physical-Chemical Hazards**

Do not mix or allow coming in contact with oxidizing agent. Hazardous Chemical reaction may occur. Combustible. Do not use or store near heat or open flame.

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See inside label booklet for additional Precautionary Statements and Directions for Use.

Manufactured for:  
**Atticus, LLC**  
940 NW Cary Parkway, Suite 200  
Cary, NC 27513

**EPA Reg. No.: 91234-XX**  
**EPA Est. No.:** \_\_\_\_\_  
**NET CONTENTS:** \_\_\_\_\_

{Optional Marketing graphics}

