

100-1412

09/13/2011

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U.S. ENVIRONMENTAL PROTECTION AGENCY
 Office of Chemical Safety and Pollution Prevention
 Office of Pesticide Programs
 Registration Division (7504P)
 1200 Pennsylvania Ave., N.W.
 Washington, DC 20460

EPA Reg. Number: **100-1412**
 Date of Issuance: **SEP 13 2011**

Term of Issuance:
 Conditional

Name of Pesticide Product:
Clarelle

NOTICE OF PESTICIDE:
 Registration
 Reregistration
 (under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):
 Syngenta Crop Protection, LLC
 PO Box 18300
 Greensboro, NC 27419-8300

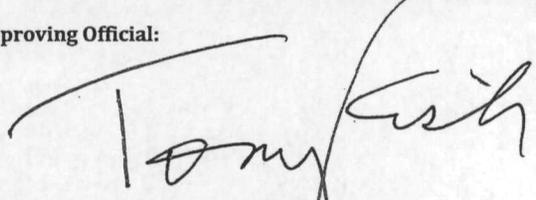
Mailed to:
 Fred Pearson
 Regulatory Team Leader

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. 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 conditionally registered in accordance with FIFRA section 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

Signature of Approving Official:

 Tony Kish, Product Manager (22)
 Fungicide Branch/Registration Division/OPP/OCSP (7504P)

Date:
SEP 13 2011

2. You must submit the following conditional data before the due date of 12/31/2012:
 - a. Storage Stability (830.6317) and Corrosion Characteristics (830.6320) studies for the end-use product. The data matrix provided cites MRIDs which support the technical grade product 100-999 which do not apply to this end-use product.
3. You must submit revised Data Matrix and Certification with Respect to Data forms before the due date of 11/15/2011 along with a copy of this registration notice.
 - a. Delete duplicate MRID entries for the same guideline such as 00150505 on page 1.
 - b. Provide only the most recent MRID which satisfies the requirements of the associated guideline along with any addendum which are necessary.
 - c. We found no MRIDs for product chemistry supporting the end-use product itself, but only technical product chemistries were listed for 100-999 and 10812-EUP-39 (96% and 100% active ingredient respectively) which do not apply. You must list the missing relevant end-use product chemistry studies.
 - d. TGAI data citations which must remain on the data matrix as this product does not qualify for formulator's exemption:
 - i. Product Chemistry
 - ii. Acute toxicity
 - iii. Sub-chronic toxicity
 - iv. Chronic toxicity
 - v. Oncogenicity
 - vi. Mutagenicity
 - vii. Fish and Wildlife studies
 - viii. etc...
 - e. End-Use Product data which must be presented on the matrix and differentiated from the technical data as it is currently missing:
 - i. Product Chemistry
 - ii. Acute Toxicity - The acute toxicity studies cited on the data matrix support product 100-991. Clarelle is a 22.9% active ingredient (AI) product with a signal word of "Caution," but 100-991 is a 50% AI product with a signal word "Warning." Studies supporting the correct signal word must be listed.
 - f. Based upon your response to this condition a revised label may need to be submitted.
4. Make the following change to the label:

- a. Change the product registration number to "EPA Reg. No. 100-1412"
5. Submit one copy of the revised final printed label for the record before the product is released for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A copy of the label stamped "Accepted with Comments" is enclosed for your records.



Tony Kish
Product Manager (22)
Fungicide Branch
Registration Division (7504P)

Enclosure:
Label stamped "Accepted with Comments"

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Clarelle™

Plant Growth Regulator for Turfgrass and Trees

ACCEPTED
with COMMENTS
In EPA Letter Dated
SEP 13 2011

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

100-1412

Active Ingredient:

Pacllobutrazol

(±)-(R*,R*)-beta-[(4-chlorophenyl)methyl]-alpha-
(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol 22.9%

Other Ingredients: 77.1%

Total: 100.0%

Contains 2 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

[See additional precautionary statements and directions for use inside booklet.]

EPA Reg. No. 100-

EPA Est.

1 Quart, 1 gallon, 2 gallons, 2.5 gallons, 5 gallons, 10 gallons
Net Contents

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>	
<p>HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident) Call 1-800-888-8372</p>	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category F on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, or Viton®
- 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.

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 washwater or rinsate.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and, (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and of Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

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DIRECTIONS FOR USE

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

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY OR POOR DISEASE CONTROL.

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.

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). 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:

- Coveralls
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, or Viton®
- Shoes plus socks

TURF

USE INFORMATION

Clarelle is a plant growth regulator for non-residential turfgrass that slows grass growth for up to two months after application. The frequency of mowing can be reduced by up to 50% during the period of effective retardation. Use of Clarelle on fine turf should be accompanied by moderate-to-high fertility to maintain turfgrass appearance and reduce discoloration. Growth and development of some grasses (e.g. *Poa annua*) can be significantly reduced, leading to selective control after prolonged use in mixed populations.

What Applications of Clarelle to Turfgrasses Provide

- Slowed vertical growth and reduced mowing for 6 to 8 weeks on established hybrid bermudagrass, bentgrass and perennial ryegrass fairways, tees and roughs, and on St. Augustinegrass and Kentucky bluegrass/perennial ryegrass turf areas (use reduced rates on bentgrass and overseeded bermudagrass greens).
- Improved and extended fertilizer performance for up to 12 weeks when combined with a nitrogen fertilizer while improving turfgrass quality versus fertilizer alone.
- Reduced potential for scalping of all turfgrass areas.
- Better ball playability on hybrid bermudagrass due to increased turf density and tighter-knit turf areas.
- Suppression of *Poa annua* by reducing its growth and competitive ability.

When to Use for Growth Suppression of Warm-Season Grasses

Use anytime when established hybrid bermudagrass and St. Augustinegrass are green, actively growing and have recovered from dormancy (filled in fully following winter).

When to Use for Growth Suppression of Cool-Season Grasses

Apply in spring after green-up and after turf has been mowed once or twice. Apply at least 1 month before onset of high air temperatures. In late summer/early fall, apply at least 1 month before anticipated first killing frost.

When to Use for *Poa annua* Suppression

Apply when the *Poa annua* is actively growing. In moderate climates the application timing may be fall through late spring. In northern climates, spring and fall timings are

recommended. In climates with a prolonged winter dormancy, fall applications can be made up to one month prior to anticipated first killing frost. Repeat application should be made as part of a *Poa annua* suppression program.

When to Use for Color and Quality Enhancement of Winter Overseeded Turf and *Poa annua* Suppression

Apply anytime after overseeded turf has successfully established itself (cool-season turf species should be near 85% of turf composition). Do not apply after March 15th to putting greens to avoid delay in bermudagrass green-up. Moderate soil moisture conditions should be present before and after application to achieve best regulating effect.

USE DIRECTIONS

Apply treatment solution uniformly to turf. Do not use on residential turf. For best results, apply 0.25 inch of water within 24 hours after application to remove product from foliage and onto soil surface.

Apply with standard pressurized spray application equipment with by-pass or mechanical agitation using strainer screens of 50 (or coarser) mesh. Product should be added during filling of applicator tank. When tank is allowed to stand, vigorous agitation should be used to assure material suspension before application.

Apply Clarelle to turf in sufficient amount of water (minimum 1 gallon treatment solution per 1,000 sq. ft. = 43.5 gals./acre) to ensure uniform coverage. For best results, use 2 to 3 gallons of water per 1,000 sq. ft. A color agent or other marking device is advised to avoid skipping and/or overlapping.

Treatment Coverage Chart¹

Rate of Active Ingredient per Acre	Fluid Ounces of Product per Acre
0.10 lbs. a.i./A	6.4 oz.
0.16 lbs. a.i./A	10.0 oz.
0.25 lbs. a.i./A	16.0 oz.
0.50 lbs. a.i./A	32.0 oz.
0.75 lbs. a.i./A	48.0 oz.

¹Product should be mixed with minimum 1 gal water/1,000 sq. ft. Use 2 to 3 gals/1,000 sq. ft. for best results.

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Specific Rates

Warm Season Grasses	Cool Season Grasses¹ (except putting greens)	Bentgrass Putting Greens	Overseeded Bermudagrass
0.50 lbs a.i./A (sandy soils)	0.25 to 0.50 lbs. a.i./A	0.10 to 0.25 lbs. a.i./A	0.10 to 0.16 lbs. a.i./A
0.75 lbs a.i./A (clay soils)			

¹ Reduce application rate by 50% if *Poa annua* is a significant portion of turfgrass population (greater than 50%).

Apply 0.5 to 0.9 lbs. nitrogen/1,000 sq. ft. of a non-burning fertilizer product on warm and cool season grasses. Apply 0.25 to 0.5 lbs. nitrogen/1,000 sq. ft. on bentgrass greens and overseeded bermudagrass.

Results to Expect from Application of Clarelle

When applied as directed, vertical growth of turf will be slowed within 3-10 days, resulting in reduced mowing frequency for a 6- to 8-week period. Following applications, turf will gradually undergo increased greening and density, which may persist up to 12 weeks.

Following application of product, weed populations should not be any greater than on untreated turf, although weed visibility may be higher on regulated turf.

Growth and competitive ability of *Poa annua* will be reduced within 1 to 2 weeks after application; regulation will last 3 to 8 weeks. Turfgrass shoots and leaves will become discolored for 3 to 8 weeks following onset of growth regulation. With proper fertilization, desired turfgrasses will be stimulated to crowd out weakened *Poa annua*.

As density of treated fairways increases due to altered growth habit, ball playability may improve, causing ball to sit higher on turf. This result is most evident on hybrid bermudagrass.

Seedhead formation will not be prevented. Seedheads should be mowed off as they grow above turf cutting height to maintain a desirable-looking turf.

Excessive irrigation and/or nitrogen fertilization may shorten period of growth regulation.

Regulator response will vary somewhat according to turf variety. For St. Augustinegrass, Bitter Blue will be the most responsive and Floratam the least responsive.

HYBRID BERMUDAGRASS

Cultivar	Sensitivity/Activity	Period of Growth Regulation	Period of Color Response
Tifway I, II	Medium/Good	5 - 6 weeks	6 - 8 weeks
Tifgreen	High/Excellent	6 - 8 weeks	8 - 10 weeks
Ormond	High/Excellent	6 - 8 weeks	8 - 10 weeks

ST. AUGUSTINEGRASS

Cultivar	Sensitivity/Activity	Period of Growth Regulation	Period of Color Response
Floratam	Low/Moderate	4 - 6 weeks	5 - 8 weeks
Floralawn	Low/Moderate	4 - 6 weeks	5 - 8 weeks
Floratine	Medium/Good	6 - 7 weeks	7 - 8 weeks
Raleigh, Texas Common	Medium/Good	6 - 7 weeks	7 - 8 weeks
Bitter Blue, Seville	High/Excellent	7 - 8 weeks	8 - 10 weeks

Program Scheduling

If crabgrass or other annual grassy weeds have been a problem in the past, an application of the appropriate preemergence weed control product should be made before the use of Clarelle. Space the applications of Clarelle and oxadiazon-based preemergence products at least 4 weeks apart on putting greens.

If a weed, disease or insect problem occurs after application of Clarelle, apply an appropriate control product at its recommended rate. Clarelle is compatible with most existing control products. Use of Clarelle in combination with fungicides containing propiconazole, fenarimol, triadimefon, and myclobutanil can result in increased growth inhibition of *Poa annua* on putting greens.

For Growth Regulation

Repeat applications can be made within the same growing season as long as the turf is actively growing. Turfgrass species and growth rate will dictate rate and timing of applications. Do not apply more than 4 quarts per acre per year (2 lbs. a.i./A).

For *Poa annua* Suppression

Clarelle will suppress the growth and competitive ability of *Poa annua*. Apply when *Poa annua* is actively growing at 16 to 32 ounce per acre. Lower rates and more frequent applications can be made if *Poa annua* discoloration cannot be tolerated. However, only moderate *Poa annua* suppression may be achieved. Do not apply more than 4 quarts per acre per year (2 lbs. a.i./A).

For Color, Quality Enhancement, and *Poa annua* Suppression in Overseedings

On bentgrass greens and overseeded bermudagrass, repeat applications can be made as long as the turf is actively growing. Do not apply more than 4 quarts per acre per year (2 lbs. a.i./A). Apply to overseeded turf when seed has established and turf composition is near 85% of the cool season species.

Do not apply to overseeded bermudagrass greens after March 15th to avoid delay of spring green-up of dwarf-type bermudagrass.

Do not aerify or topdress and drag greens with steel mats while under growth regulation.

Do not seed within 6 weeks prior to or 2 weeks after application of Clarelle.

If Embark is used for *Poa annua* seedhead control, apply this product **at least** 14 days after application of Embark.

USE PRECAUTIONS

Do not use on residential lawns.

Do not use on bermudagrass putting greens except for winter overseeding enhancement use.

Do not use on athletic fields under heavy traffic where maximum growth potential of turf is desired.

Do not use on shrubs, flowers, fruits, or vegetable plants (applications to turf areas under trees will not affect/harm trees).

Do not use during periods of extreme dry or cold weather conditions, or during heavy insect or disease activity.

Do not apply product when soil is already saturated. Heavy rainfall or irrigation in the treated areas may cause active ingredient to move laterally on slopes and collect in low areas. These areas may undergo more severe growth control for a longer period of

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time.

Do not use on areas containing greater than 70% *Poa annua*, since discoloration of *Poa annua* may be unacceptable.

Delay treatment of newly-sodded or sprigged turf until grass has knitted down and rooted firmly.

Delay sprigging for at least 4 weeks and sodding at least 2 weeks after application is made.

Do not apply this product through any type of irrigation equipment.

Withhold application on large turf areas that have been thinned from winter drainage, disease, or insects until desired fill-in is achieved.

Assure that dosage rates are measured accurately since rates greater than those recommended may cause undesirable turf growth control and may discolor areas temporarily.

Shake container thoroughly before use.

For best residual activity, Clarelle should be removed from leaf surfaces by irrigation or rainfall prior to mowing.

Broadleaf weeds are not significantly affected by Clarelle. To control the growth of weeds, treat with an appropriate herbicide when weeds are actively growing. Carefully follow label directions.

Do not use on areas to be cultivated for food or feed crops or to be resown with grasses within two years of treatment.

Do not apply more than 4 qts. per acre per year (2 lbs. a.i./A).

Do not graze treated areas or harvest for forage or hay.

TREES

USE INFORMATION

Clarelle is a xylem mobile plant regulator that slows vegetative growth as well as creating other physiological effects by inhibiting gibberellin biosynthesis. Clarelle reduces the above ground vegetative growth and changes specific morphological characteristics of the plant. Clarelle is most effective when applied to the soil near the base of the tree either by soil injection or with basal soil drench.

Clarelle can be used on listed trees found in such areas as urban environments, utility rights-of-way, residential areas and other non-crop areas.

Characteristics of results in the tree:

The activity of Clarelle occurs following root uptake and xylem translocation throughout the tree canopy. This occurs within a few weeks, although maximum growth inhibition may not be fully visible for up to 18 months following application. Initial effects of Clarelle may be observed as intense greening of the foliage with no phytotoxicity. Trees treated with Clarelle will exhibit shorter internodes, a reduction in the diameter growth of the main stem wood, thicker leaf cuticles, and an increase in fine root growth in some species. Smaller leaf size and enhanced flowering may also be observed in some species.

USE PRECAUTIONS

- Apply at recommended rates and follow safety procedures.
- Trees not used for food production and that are not specifically listed on this label may be treated if all other label directions are followed.
- Local soil and environmental conditions can affect the degree and longevity of effect following application of Clarelle. Follow label instructions to increase effectiveness depending on these factors.
- Do not reapply Clarelle until symptoms from the previous applications begin to disappear, or within 3 years of the last application, whichever comes first.
- For hard-to-wet soils, the mobility of Clarelle can be enhanced by using a nonionic, organosilicone surfactant.
- Trees growing in heavily compacted soils may need to be vertical mulched or soil aerated for Clarelle to effectively promote root growth.
- Basal drench and soil injection application of Clarelle may result in localized, temporary discoloration of turfgrass immediately adjacent to the treatment site.
- Avoid basal drench applications on slopes or other areas where Clarelle or treated soil may be washed away from the base of the tree by rainfall or irrigation.

- Treatment of trees bordered by shrubs and/or herbaceous ornamentals may cause these plants to be affected if their roots extend into the treatment zone.
- Do not treat sugar maple trees or any other trees that are or could be tapped for sugar within one year of application.
- Do not treat nut or fruit trees that will be harvested within one year of application.
- Do not treat trees that are severely stressed or rapidly declining
- Do not apply this product through any type of irrigation system.

APPLICATION METHODS

Clarelle may be applied as a basal drench or by soil injection. Application should be made as close to the tree and the soil interface as possible to obtain the most consistent results.

Basal Drench

Apply the required dose (see Table 1 for rates based on tree size and species) uniformly around the base of the tree at the point of contact between the soil and the tree trunk (Figure 1). The diluted mixture of Clarelle may be carefully poured around the tree or an applicator that provides a controlled flow may be used. If there is potential for rainfall or irrigation to move the surface applied product to non-target plants, apply Clarelle diluted mixture to the bottom of a shallow furrow around the base of the tree. After applying, refill the furrow with untreated soil.

Soil Injection

The diluted mixture of Clarelle should be injected approximately 3-6 inches deep. Use injection equipment capable of delivery at 60-150 psi. Injection orifices should be oriented to release the diluted product horizontally at the point of injection. The required dose should be divided evenly among injection sites spaced as uniformly as possible around the tree trunk. The injection sites should be positioned to release the Clarelle diluted mixture as close as possible to the point of contact between the soil and the tree beneath the soil so that the active ingredient may be readily absorbed by the tree (Figure 2). Injection sites should also be located next to buttress roots (Figure 2). For trees less than 6 inches DBH, use at least 4 evenly spaced injection sites per tree.

APPLICATION TIMING

Applications can be made throughout the year, weather permitting, except when the soil is frozen or saturated with water. Note: Clarelle is absorbed by plant roots and translocated to the growing tissues in response to evaporative water loss (transpiration). If applications are made after fall leaf drop, uptake of Clarelle will not occur until development of new leaves in the spring and resumption of evaporative water loss.

MIXING PROCEDURES

Refer to Table 1. When mixing large amounts of Clarelle, use a suspension aid to improve suspension of the diluted mixture at a rate of approximately $\frac{1}{2}$ pint to 2 pints per 100 gallons. To re-suspend a solution that has settled, use 1 to 2 pints of a suspension aid per 100 gallons. Follow all label directions and precautions on the product label of the suspension aid.

If applying mixture to compacted soils, high clay content soils, or other hard-to-wet soils, use a nonionic, organosilicone wetting agent (surfactant) to increase penetration of the soil. Mix approximately $\frac{1}{2}$ ounce surfactant per 3 gallons or 1 pint surfactant per 100 gallons. Follow all label directions and precautions on the product label.

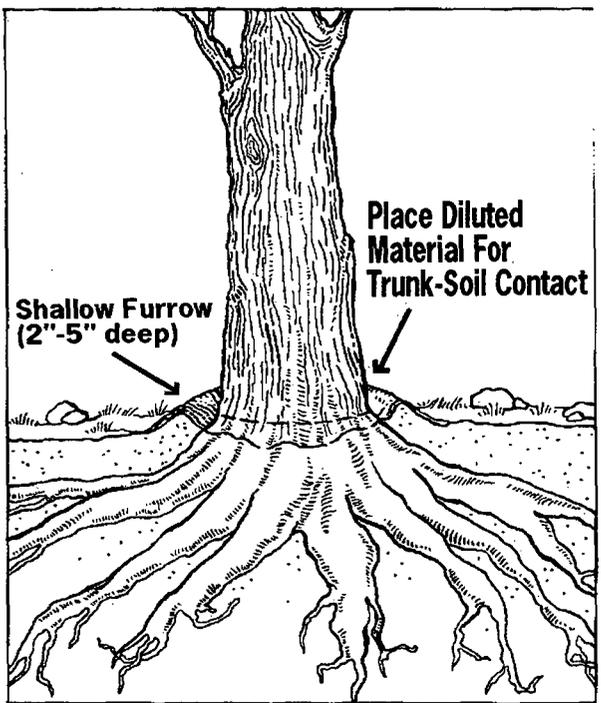


Figure 1. Placement of Clarelle as a basal drench

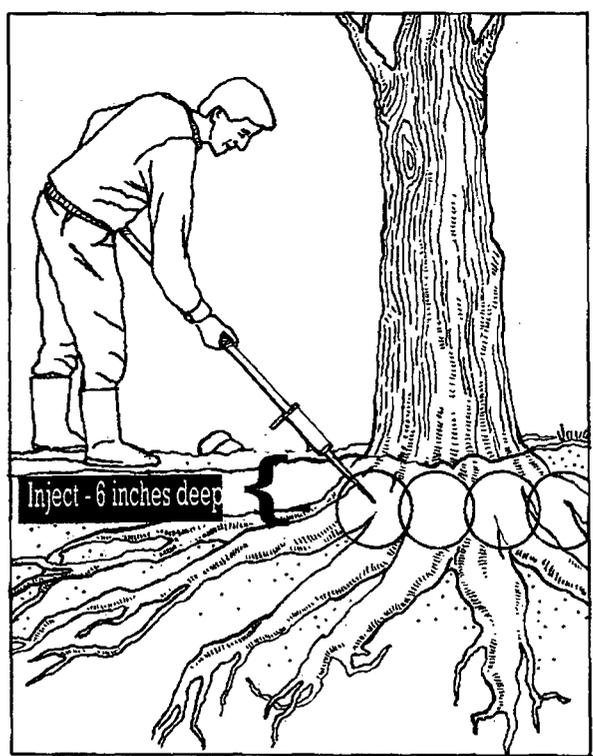


Figure 2. Placement of Clarelle as a soil injected treatment

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Table 1: Amount of Clarelle and Minimum Water Required for Specific Trees and Tree Sizes

DBH (in.)	Tree Species Group (See Table 2)											
	Group A		Group B		Group C		Group D		Group E		Group F	
	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)
4	17	500	33	667	42	833	46	917	50	1,000	67	1,333
5	20	625	42	833	52	1,042	57	1,146	63	1,250	83	1,667
6	25	750	50	1,000	63	1,250	69	1,375	75	1,500	100	2,000
7	44	875	58	1,167	73	1,458	80	1,604	88	1,750	117	2,333
8	50	1,000	67	1,333	83	1,667	92	1,833	100	2,000	133	2,667
9	56	1,125	75	1,500	94	1,875	103	2,063	113	2,250	150	3,000
10	63	1,250	83	1,667	104	2,083	115	2,292	125	2,500	167	3,333
11	69	1,375	92	1,833	115	2,292	126	2,521	138	2,750	183	3,667
12	75	1,500	100	2,000	125	2,500	138	2,750	150	3,000	200	4,000
13	81	1,625	108	2,167	135	2,708	149	2,979	163	3,250	217	4,333
14	88	1,750	117	2,333	146	2,917	160	3,208	175	3,500	233	4,667
15	94	1,875	125	2,500	156	3,125	172	3,438	188	3,750	250	5,000
16	100	2,000	133	2,667	167	3,333	183	3,667	200	4,000	267	5,333
17	106	2,125	142	2,833	177	3,542	195	3,896	213	4,250	283	5,667
18	113	2,250	150	3,000	188	3,750	206	4,125	225	4,500	300	6,000
19	119	2,375	158	3,167	198	3,958	218	4,354	238	4,750	317	6,333
20	125	2,500	167	3,333	208	4,167	229	4,583	250	5,000	333	6,667
21	131	2,625	175	3,500	219	4,375	241	4,813	263	5,250	350	7,000
22	138	2,750	183	3,667	229	4,583	252	5,042	275	5,500	367	7,333
23	144	2,875	192	3,833	240	4,792	264	5,271	288	5,750	383	7,667
24	150	3,000	200	4,000	250	5,000	275	5,500	300	6,000	400	8,000
25	156	3,125	208	4,167	260	5,208	287	5,729	313	6,250	417	8,333
26	163	3,250	217	4,333	271	5,417	298	5,958	325	6,500	433	8,667
27	169	3,375	225	4,500	281	5,625	309	6,188	338	6,750	450	9,000
28	175	3,500	233	4,667	292	5,833	321	6,417	350	7,000	467	9,333
29	181	3,625	242	4,833	302	6,042	332	6,646	363	7,250	483	9,667
30	188	3,750	250	5,000	313	6,250	344	6,875	375	7,500	500	10,000
31	194	3,875	258	5,167	323	6,458	355	7,104	388	7,750	517	10,333
32	200	4,000	267	5,333	333	6,667	367	7,333	400	8,000	533	10,667
33	206	4,125	275	5,500	344	6,875	378	7,563	413	8,250	550	11,000
34	213	4,250	283	5,667	354	7,083	390	7,792	425	8,500	567	11,333
35	219	4,375	292	5,833	365	7,292	401	8,021	438	8,750	583	11,667
36	225	4,500	300	6,000	375	7,500	413	8,250	450	9,000	600	12,000
37	231	4,625	308	6,167	385	7,708	424	8,479	463	9,250	617	12,333
38	238	4,750	317	6,333	396	7,917	435	8,708	475	9,500	633	12,667
39	244	4,875	325	6,500	406	8,125	447	8,938	488	9,750	650	13,000
40	250	5,000	333	6,667	417	8,333	458	9,167	500	10,000	667	13,333

DBH (in.)	Tree Species Group (See Table 2)											
	Group A		Group B		Group C		Group D		Group E		Group F	
	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)	Clarelle (ml)	Water* (ml)
41	256	5,125	342	6,833	427	8,542	470	9,396	513	10,250	683	13,667
42	263	5,250	350	7,000	438	8,750	481	9,625	525	10,500	700	14,000
43	269	5,375	358	7,167	448	8,958	493	9,854	538	10,750	717	14,333
44	275	5,500	367	7,333	458	9,167	504	10,083	550	11,000	733	14,667
45	281	5,625	375	7,500	469	9,375	516	10,313	563	11,250	750	15,000
46	288	5,750	383	7,667	479	9,583	527	10,542	575	11,500	767	15,333
47	294	5,875	392	7,833	490	9,792	539	10,771	588	11,750	783	15,667
48	300	6,000	400	8,000	500	10,000	550	11,000	600	12,000	800	16,000
49	306	6,125	408	8,167	510	10,208	562	11,229	613	12,250	817	16,333
50	313	6,250	417	8,333	521	10,417	573	11,458	625	12,500	833	16,667

*More water may be used than indicated on the table to deliver the desired rate of product. Do not use less water as distribution of the chemical in the tree can be compromised.

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Table 2: Tree Species for Each Group Corresponding to Application Rates in Table 1.

Group A	Group E	Group F
Australian pine (NOT Austrian Pine)	Anaqua*	Alder
Dogwood	Baytree	Arborvitae
Sweetgum (eastern US)	Beech	Ash – All Species
Redbud	Camphor	Aspen**
	Cedar – Deodora	Banyan*
Group B	Chinaberry	Birch – All Species
Basswood	Catalpa	Black olive
Cypress	Ebony – Texas*	Bradford pear
Elm – small (<10" DBH)	Hickory	Cedar – All others (except Deodora)
Elm – Siberian	Holly – American	Cherry – black
Linden – all varieties	Locust – Honey	Cottonwood**
Mountain ash	Mesquite*	Crabapple
Norway maple – small (<10" DBH)	Mimosa*	Eucalyptus
Red maple – small (<10" DBH)	Oak – Black	Fir
Sugar maple – small (<10" DBH)	Oak – Live - large (>10" DBH)	Hackberry
Sweetgum (western US)	Oak – Pin	Hawthorne
Tupelo	Oak – Post	Hemlock
	Oak – Red	Jackaranda
Group C	Oak – Sandshinnery	Juniper
Australian bottle*	Oak – Water	Laurel
Black gum	Oak – White	Locust – Black
Box elder	Oak – Willow	Magnolia
California pepper*	Olive – Russian	Melaleuca*
Elm – large (>10" DBH)	Paloverde*	Mugo Pine
Horse chestnut	Paulownia	Mulberry
Live oak – small (<10" DBH)	Pecan*	Oak – Laurel
Norway maple – large (>10" DBH)	Raintree*	Oak – valley
Oleander*	Saltcedar*	Osage orange
Persimmon*	Sassafras	Palms*
Red maple – large (>10" DBH)	Soapberry*	Pear – Bradford
Rosewood*	Sumac – African*	Photinia
Silver maple – small (<10" DBH)	Walnut	Pines – All Species**
Sugar maple – large (>10" DBH)		Poplar – Lombardy, Tulip, Yellow**
Group D		Redwood
Ailanthus		Spruce – All Species
Buckeye		Sugarberry
Ironwood		Sycamore**
Silver maple – large (>10" DBH)		Tallow – Chinese
		Waxmyrtle - Pacific
		Tallowood*
		Tamarisk*
		Willow
		Yew

* These trees may exhibit variable results.

** These trees have a limited response to Clarelle and may need multiple consecutive years of treatment for acceptable growth control.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by 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 [Less than 5 gallons]: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use and 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 incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Container Handling [Greater than 5 gallons]: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. 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 $\frac{1}{4}$ full with water. Replace 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 incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

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Embark® is a trademark of PBI/Gordon Corporation

Viton® is a trademark of E.I. DuPont de Nemours and Company

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For non-emergency (e.g., current product information) call Syngenta Crop Protection at 1-800-334-9481.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

[BASE LABEL]

Clarelle™

Plant Growth Regulator for Turfgrass and Trees

Active Ingredient:

Paclobutrazol

(+)-(R*,R*)-beta-[(4-chlorophenyl)methyl]-alpha-(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol 22.9%

Other Ingredients: 77.1%

Total: 100.0%

Contains 2 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

[See additional precautionary statements and directions for use inside booklet.]

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

EPA Reg. No. 100-

EPA Est.

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Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

1 Quart, 1 gallon, 2 gallons, 2.5 gallons, 5 gallons, 10 gallons
Net Contents

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing.

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>	
<p>HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident) Call 1-800-888-8372</p>	

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 washwater or rinsate.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by 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.

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