

74779-2

5/17/2010

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

David Anderson  
Rainbow Treecare Scientific Advancement  
11571 K-Tel Drive  
Minnetonka, MN 55343

MAY 17 2010

Subject: Bacastat Tree Injection  
EPA Reg. No. 74779-2  
Amendment dated: April 21, 2010  
EPA Decision No. 432917

Dear Mr. Anderson,

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act as amended, is acceptable provided the conditions herein are observed in a revised final printed master label.

On page 1,

1. Please remove the company website from the label. Should you wish to retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act 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) list 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 Assurance. As an alternative, you may refer consumers to the company's phone number or email address.

On page 2,

2. Within the Hazards to Humans and Domestic Animals text, delete the last three sentences of the paragraph.
3. Revise the User Safety Recommendations as follows.  
Users should:
  - Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

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- Remove clothing/PPE 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.

On page 3,

4. In the paragraph immediately following the Agricultural Use Requirements text box, make the phrasing “Resistance Management Statement” a title heading, so that the paragraph starts with “Bacastat Tree Injection contains...”.

On page 4,

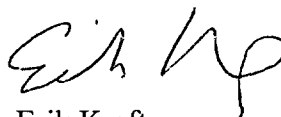
5. Within the directions for Lethal palm Yellows, change the second sentence “It is not recommended that this program be carried out indefinitely” to “This program must not be carried out indefinitely”.
6. Within the second paragraph of the Applications Methods section, revise the text as follows.  
Most injection devices may require several minutes or more to empty into tree, however, some may take longer to empty depending on the health of the treated tree and local weather conditions. Do not leave the injection devices unattended. Do not leave empty injection devices on trees. Promptly and safely remove them according to manufacturer’s directions. Follow the manufacturer’s directions for proper cleaning and storage of the injection device.

On page 6,

5. Change the title Container Disposal to Container Handling within the Storage and Disposal text box.

One copy of the label stamped “Accepted with Comments” is enclosed for your records. This label supersedes all labels previously accepted for this product. Please submit one copy of the final printed label that incorporates the required changes before the product is released for shipment. Should you have any further questions, please feel free to contact Shaunta Hill via email at [hill.shaunta@epa.gov](mailto:hill.shaunta@epa.gov) or telephone at 703.347-8961.

Sincerely,



Erik Kraft  
Acting Product Manager (20)  
Fungicide Branch  
Registration Division (7504P)

Enclosure

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# Bacastat™ Tree Injection

Bacastat™ Tree Injection is a unique water soluble oxytetracycline formulation that is used for injection into non-crop bearing ornamental trees such as oak, elm, sycamore, and palm for suppression of bacterial diseases. Bacastat is tree friendly, as it contains no solvents.

Contents will treat 100 trunk diameter inches (DBH).

Active Ingredient	
Oxytetracycline Hydrochloride*	18.30%
Related compounds	0.17%
Other Ingredients	81.53%
Total	100.00%

\*Equivalent to 17% oxytetracycline

## KEEP OUT OF REACH OF CHILDREN CAUTION

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 Side/Back Panel for Additional Precautionary Statements, First Aid and Directions for Use

EPA Reg. No. 74779-2

EPA Est. No. 74779-MN-1

Net Contents: 58.8g (2.07 oz) (20 individual 2.94g or 0.104 oz packets)

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
MAY 17 2010**

Rainbow Treecare Scientific Advancements

11571 K-Tel Drive

Minnetonka, MN 55343

1-877-ARBORIST

1-877-272-6747

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

**74779-2**

www.treecarescience.com

### FIRST AID:

#### IF IN EYES

- 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.

#### IF ON SKIN OR CLOTHING

- 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.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

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**HOT LINE NUMBER**

For 24 hour medical emergency assistance (human or animal), or chemical emergency assistance (spill, leak or accident). Call CHEMTREC at 1800-424-9300

**PRECAUTIONARY STATEMENT  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Harmful if absorbed through skin. Do not breathe mist. Prolonged or frequently repeated exposure may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or the toilet. Remove and wash contaminated clothing before reuse. This material is not to be used for medical veterinary or human purposes.

**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 A on an EPA chemical resistant category selection chart.

Applicators and other handlers must wear:

- Long sleeved shirt
- Long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

**User Safety Requirements:**

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**User Safety Recommendations:**

Users must:

- 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.

**Environmental Hazards**

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

### DIRECTIONS FOR USE

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

#### Restrictions

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. Do not apply this product through any type of irrigation system. Only use **Bacastat™ Tree Injection** on trees greater than 6" in diameter. To be used on non-crop bearing ornamentals only.

#### 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 apply to uses 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.

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, wear:

- Coveralls over long-sleeved shirts and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Resistance Management Statements Bacastat™ Tree Injection contains a Group 18 (fungicide/bactericide). Fungal isolates/bacterial strains with acquired resistance to Group 18 may eventually dominate the fungal/bacterial population if Group 18 fungicides/bactericides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Bacastat™ Tree Injection or other Group 18 products.

To delay fungicide/bactericide resistance consider:

- Avoiding the consecutive use of Bacastat™ Tree Injection or other target site of action Group 18 fungicides/bactericides that have a similar target site of action, on the same pathogens.
- Using tank-mixtures or premixes with fungicide/bactericides from different target site of action Groups as long as the involved products are all registered for the same use and are both effective at the tank mix or pre-pack rate on the pathogen(s) of concern. Do not use any product that has a prohibition on tank mixing and follow the more restrictive use directions.
- Basing fungicide/bactericide use on a comprehensive IPM program.
- Monitoring treated fungal/bacterial populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors, and/or manufacturer for fungicide/bactericide resistance management and/or IPM recommendations for specific crops and resistant pathogens.

#### Bacterial Leaf Scorch

Apply once per growing season using a micro injection or macro infusion system. Make treatments after full leaf development in the spring and prior to July 1<sup>st</sup> for best effectiveness. Treatment with **Bacastat™ Tree Injection** suppresses scorch symptoms only in the year of treatment. Re-treatment is required each

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growing season for continued suppression of scorch symptoms. Using this product in combination with sound cultural treatments such as mulching, irrigation during periods of drought, and management of insect and disease pests is helpful in suppressing symptoms and delaying the onset of decline.

The Growth Regulator **Cambistat™** has been shown to be effective in suppressing Bacterial Leaf Scorch symptoms by increasing the drought tolerance and improving the vigor of infected oak trees.

### **Lethal Palm Yellows**

Apply every 3 months for suppression of symptoms on palm trees. It is not recommended that this program be carried out indefinitely. A replanting program that utilizes native palms that are resistant to Lethal Yellows must accompany treatment.

## **Application Methods**

### **Root Flare Injection**

**Bacastat™ Tree Injection** can be used with a variety of root-flare injection devices including small volume microinjection and high volume macro-infusion devices. For all injection devices, read carefully and follow all manufacturer use directions.

Most injection devices may require several minutes or more to empty into the tree, however, some may take longer to empty depending on the health of the treated tree and local weather conditions. Do not leave the injection devices unattended and promptly and safely remove them, according to the manufacturer's recommendations. Do not leave empty injection devices on trees. Follow the manufacturer's recommendations for proper cleaning and storage of the injection devices.

If the injection device does not completely empty within a few hours, depressurize the device and remove from the tree in an inverted position to avoid the solution leaking. When using a refillable injection device, empty the leftover solution into an enclosed chemical resistant container. After the leftover solution has been emptied from the injection device, triple rinse the device with water. Ensure that the rinsate is collected in an enclosed chemical resistant container. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### **Micro-Injection (Small Volume Devices):**

### **Mixing Instructions**

1. Measure the diameter of the tree at breast height (DBH).
2. Use 1 package of **Bacastat™ Tree Injection** for each 5" diameter (or 16" Circumference).
3. In a separate chemical resistant container, combine 45 ml (1.5 fl. oz.) of water for every 1 package of Bacastat Tree Injection. Place the package in the container unopened (the packaging will dissolve).
4. Seal the container and gently shake the solution until the **Bacastat™ Tree Injection** has dissolved and the contents are evenly distributed throughout the mixture. Mix only the desired amount of **Bacastat™ Tree Injection** that will be used for each application and use immediately after adding water.
5. Dispense 9 milliliters (0.3 fl. oz.) of ready to use solution per inch of tree diameter into each individual injection device. For best tree distribution use approximately 1 injection site for every 2 diameter inches (approximately 1 injection site every 6 inches) evenly spaced around the root-flares.

### **Installation and Application using the Rainbow Treecare Scientific Advancement M3 infuser:**

1. Examine the tree for the presence of root flare. If flares are not visible, excavate the root collar.
2. Thoroughly brush all dirt from the root flare. A dirty root flare will dull the drill bit and increase Bacastat uptake time.

3. Close the M3 infuser control valve.
4. Attach the mixing bottle to the M3 fill gun.
5. Insert the needle of the M3 fill gun into the M3 infuser duckbill valve and inject up to 18 mls (0.6 fl. oz.) of treatment solution. Note: Do not penetrate the duckbill valve with the needle.
6. Lay the M3 infusers around the tree to select injection sites. The application rate is 1 injection site for every 2 diameter inches (approximately 1 injection site every 6 inches). Evenly space the M3 infusers around the root-flares. Using a 15/64" HIGH HELIX drill bit, drill a hole at a downward angle into each selected buttress root flare above the soil line. Drill to a depth of 3/4 to 1 inch (2 to 2.5 cm) past the bark into healthy xylem tissue. The hole needs to be drilled at an angle that will allow the M3 infuser to empty. If the M3 infuser is too horizontal to the ground, the solution may not completely drain and will remain inside the infuser.
7. Insert the injector tip of the M3 infuser into the hole and seat firmly with hand pressure.
8. Start the infusion. Holding the M3 infuser firmly with one hand, turn the control valve to the left (Counter-clockwise) until fluid has entered the tip. If you find that the solution is not emptying, air may be added to increase the internal pressure within the M3 infuser. Insert the fill tip of the M3 charger into the duckbill inject up to 10 – 15 cc of air.
9. Check for leaks. If leaks are found close the valve, seat firmly into the tree and re-open the valve. If leaks persist, the problem may be too shallow of a hole. Close the valve, remove the infuser and re-drill to a deeper depth.
10. Uptake usually occurs within minutes. When all of the treatment liquid is out of the injector, a wash solution of water can be injected into the M3 injector and it can be re-pressurized or the M3 injector can be closed and removed from the tree.
11. Remove the M3 injector from the tree and store properly for reuse.

### **Macro-Injection (Large Volume System):**

With this product, a 3 –5 gallon hand pump reservoir is the recommended device along with the Rainbow Scientific Tee and Harness system.

### **Mixing Instructions**

1. Measure the diameter of the tree at breast height (DBH).
2. Use 1 package of **Bacastat™ Tree Injection** for each 5" diameter (or 16" Circumference).
3. In your hand pump reservoir, combine 750 ml (25.5 fl. oz.) of water for every 1 package of **Bacastat™ Tree Injection**. With large volume systems, more water can be utilized without a decrease in product effectiveness. Place the water soluble packet in the container unopened (the packaging will dissolve).
4. Seal the container and gently shake the solution until the **Bacastat™ Tree Injection** has dissolved and the contents are evenly distributed throughout the mixture. Mix only the desired amount of **Bacastat™ Tree Injection** that will be used for each application and use immediately after adding water.

### **Installation and Application:**

1. Examine the tree for the presence of root flare. If flares are not visible, carefully remove soil from the base of the tree to uncover the top of the flare roots. Brush away loose soil. Very thoroughly – Dirty flares will dull the drill bit and increase uptake time. Make infusion sites 4-8 inches below the top of the root flare.
2. Drill holes through the bark, into sapwood, using a clean, sharp, HIGH HELIX drill bit. Drill perpendicular to the surface of the flare. Drill hole diameter needs to be adequate to allow insertion of injection tees and formation of airtight contact between active xylem and the delivery point of the injection tees. When using the Rainbow Scientific tees, use a 15/64-diameter drill bit. Follow manufacturer's instructions if other injection devices are used in the treatment.

Drill hole depth must be adequate to deliver the product into active xylem tissue. Make the depth approximately 1 inch past the bark. Drill at slow speeds and do not unnecessarily spin the bit in the hole.

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For best tree distribution use 1 injection site for every 2 diameter inches (approximately 1 injection site every 6 inches) evenly spaced around the root-flares.

3. Check each tee to be sure it is not plugged and replace badly damaged tees. Firmly insert tees by hand. Attach tubing from the solution reservoir to feed into the harness in 2 locations, on opposite sides of the tree.
4. Pull out 2 tees on opposite sides of the tree. Prime the pump if it is not self-priming. Turn on the pump and bleed the air out of the line. With all air out of harness, re-insert the 2 tees and check for leaks. Adjust the pressure to 15-20 psi. Lightly tap any leaking tees.
5. During the infusion, monitor tees for leaks. Maintain pressure at 15-20 psi.
6. Turn off the pump when air is drawn into the harness. Remove tees from the tree. Flush holes with water to assist with wound closure. Replace soil and sod around the base of the tree. It is not necessary to treat drill holes with wound paint or other sealing compounds.

### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Keep tightly closed and sealed. Product is moisture, temperature and light sensitive. Product is hygroscopic so protect from moisture. Store in a cool (<77°F, 25°C), dry place away from heat and open flames with minimum exposure to the atmosphere. Avoid extremes in temperature. If the injection device does not completely empty within a few hours, depressurize the device and remove from the tree in an inverted position to avoid the solution leaking. When using a refillable injection device, empty the leftover solution into an enclosed chemical resistant container which is labeled with the product name and EPA registration number.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

### 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. Tree injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or tree conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS or seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS and seller harmless for any claims relating to such factors.

RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS 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. This warranty does not extend to the use of the product contrary to label instructions, and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, RAINBOW TREECARE MAKES NO WARRANTIES OR MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the fullest extent permitted by law, RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE



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**OPTIONAL MARKETING CLAIMS**

**Aids in the suppression [control] of Ash Yellows**

**Aids in the suppression [control] of Bacterial Leaf Scorch (&) (Phloem Necrosis) of Elm**

**Aids in the suppression [control] of Bacterial Leaf Scorch of Oak**

**Aids in the suppression [control] of Palm Lethal yellows**

**Aids in the suppression [control] of Bacterial Blight of flowering crabapple (hawthorn)**

**Aids in the suppression [control] of Bacterial canker of hickory [horsechestnut], [maple], [mimosa], [oak], [walnut]**

**Aids in the suppression [control] of Fire Blight of ornamental [hawthorn] [mountain ash] [pear]**

**Aids in the suppression [control] of Vascular Yellows of ash (elm)**

**Aids in the suppression [control] of fungal and bacterial pathogens systemically**

**For seasonal suppression [control] of certain diseases of ornamental trees**

**Suppresses [controls] certain diseases of ornamental trees**

**Contents [117.6g] [176.4g] will treat [200] [300] trunk diameter inches (DBH).**