

**BACASTAT™**

Tree Injection

**Active Ingredient**

|                                      |        |
|--------------------------------------|--------|
| Oxytetracycline Hydrochloride* ..... | 18.30% |
| Related compounds .....              | 0.17%  |
| Other Ingredients .....              | 81.53% |

|             |         |
|-------------|---------|
| Total:..... | 100.00% |
|-------------|---------|

\*Equivalent to 17% oxytetracycline

EPA Reg. No. 74779-2

EPA Est. No. 46275-IL-2

KEEP OUT OF REACH OF CHILDREN

**CAUTION**

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

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.)

PULL HERE TO OPEN ▲

ACCEPTED  
FOR REGISTRATION

Dec 2, 2010

New York State Department  
of Environmental Conservation  
Division of Materials Management  
Pesticide Product Registration

Classified for  
“RESTRICTED USE”  
in New York State  
under 6NYCRR Part 326

Doc id: 525012

# BACASTAT™

Tree Injection

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.



AD042110

Job #47692

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REACH OF CHILDREN

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Rainbow Treecare Scientific Advancements  
11571 K-Tel Drive  
Minnetonka, MN 55343  
1-877-272-6747  
[www.Treecarescience.com](http://www.Treecarescience.com)

Bacastat is a trademark of  
Rainbow Treecare Scientific Advancements

## 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.

## HOT LINE NUMBER

For 24 hour medical emergency assistance (human or animal), or chemical emergency assistance (spill, leak or accident).

Call **CHEMTREC** at  
**1-800-424-9300**

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

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**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.

### **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, 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/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into 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 wash water 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 1st for best effectiveness. Treatment with Bacastat™ Tree Injection suppresses scorch symptoms only in the year of treatment. Re-treatment is required each 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. This program must not 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 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.

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 injector:**

**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 the 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.

**Installation and Application****M3 injector (CONTINUED):**

Insert the fill tip of the M3 charger into the duckbill and inject up to 10 – 15 cc of air. **9.** Check for leaks. If leaks are found close to 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 Treecare Scientific Advancements 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. 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.



**Installation and Application:**  
(CONTINUED)

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.

**STORAGE AND DISPOSAL**  
(CONTINUED)

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

**Container Handling:** 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.

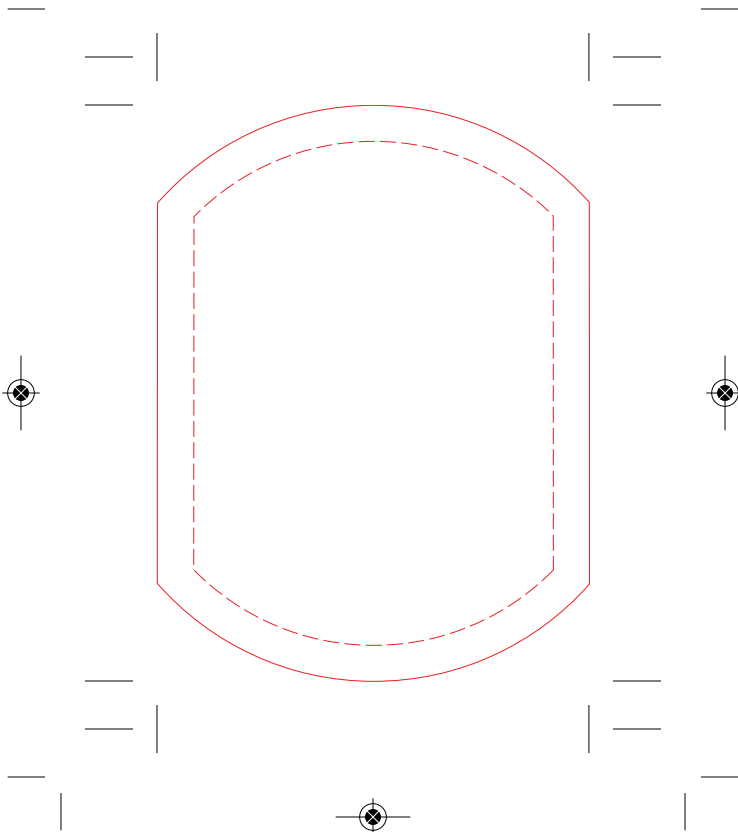
RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions.

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 OF 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 EXCLUSIVE REMEDY OF THE USER OR BUYER, 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 RAINBOW TREECARE OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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Scientific Advancements





Rainbow Treecare Scientific Advancements  
 11571 K-Tel Drive Minnetonka, MN 55343  
 1-877-272-6747 www.Treecarescience.com

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 AD042110

## KEEP OUT OF REACH OF CHILDREN CAUTION

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

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.)

| Active Ingredient              |                |
|--------------------------------|----------------|
| Oxytetracycline Hydrochloride* | 18.30%         |
| Related compounds              | 0.17%          |
| Other Ingredients              | 81.53%         |
| <b>Total:</b>                  | <b>100.00%</b> |

\*Equivalent to 17% oxytetracycline

EPA Reg. No. 74779-2

EPA Est. No. 46275-IL-2

# BACASTAT™

Tree Injection

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.

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

**Contents will treat 100 trunk diameter inches**

PF-27160-2

## PROOF

### THIS PROOF IS TO BE CHECKED FOR ACCURACY

Please review and approve **Text, Spelling, Copy Placement, Size, Shape, Colors, Unwind, and Dieline.**

**Authorized signature** accepts responsibility for accuracy of all copy, color break and artwork. Cimarron Label is not liable for any discrepancies subsequently identified.

**PLEASE NOTE:** Due to color variance between printers/monitors, the colors represented by this proof cannot be deemed accurate. Please refer to a color matching system such as the Pantone Matching System for a truer representation of spot colors. *THIS PROOF IS NOT ACCURATE FOR COLOR-MATCH.*

**WE CANNOT PROCESS THIS ORDER WITHOUT AN AUTHORIZED SIGNATURE**

ARTWORK IS APPROVED

REVISED PROOF NEEDED

Signed \_\_\_\_\_

Date \_\_\_\_\_

Please Return To: \_\_\_\_\_



4201 North Westport Avenue, Sioux Falls, South Dakota 57107  
 Phone: (605) 978-0451 • Fax: (605) 978-0463

Please indicate the correct unwind position

|               |           | Unwind Positions |          |           |          |
|---------------|-----------|------------------|----------|-----------|----------|
|               |           | Head-Off         | Foot-Off | Right-Off | Left-Off |
| Wound Outside | 1         |                  | 2        | 3         | 4        |
|               | AD03 COPY |                  |          | AD03      | COPY     |
| Wound Inside  | 5         | 6                | 7        | 8         |          |
|               | AD03      | COPY             | AD03     | COPY      |          |
|               |           | Head-Off         | Foot-Off | Right-Off | Left-Off |

PROOF DATE: May 14, 2010

CUSTOMER: RAINBOW TREECARE

JOB NUMBER: 47691

LABEL SIZE: 1.75" x 12.0"

LEAFLET FLAT SIZE: \_\_\_\_\_

LEAFLET FOLDED SIZE: \_\_\_\_\_

LABEL COLORS: BLACK PMS 152

LEAFLET "IN" COLORS: \_\_\_\_\_

LEAFLET "OUT" COLORS: \_\_\_\_\_

dieline does not print