DISEASE NOTES

1. **Bacterial Leaf Scorch (BLS)** is a bacterial plant disease caused by a vascular clogging bacterium (Xylella fastidiosa) that rapidly multiplies within active plant xylem. Distinct scorch-like leaf symptoms are followed by twig and branch death leading to plant decline and death. BLS bacterium is spread from diseased to healthy plant material during feeding by common urban xylem-feeding insects such as leafhoppers and treehoppers.
2. **Elms with phloem necrosis** exhibit leaves which turn yellow (out of season) and may drop prematurely. On trees that survive over winter, leaves in the spring are small and sparse. Symptoms are quite similar to Dutch Elm Disease, however it is important to distinguish between the two diseases as treatments are different. In Elms with phloem necrosis the entire crown is likely to show symptoms at the same time with symptoms appearing from July to late September. With Dutch Elm Disease, usually one or several small branches in the upper crown show earlier symptoms, which may appear anytime during the growing season.

HOW TO APPLY ARBORSYSTEMS DIRECT-INJECT CHEMICALS WITH ARBORSYSTEMS DIRECT-INJECT TREE INJECTION SYSTEM

1. Use only ArborSystems Direct-Inject chemicals with your unit as they have been formulated specifically for the Direct-Inject system.
2. Measure the circumference of the tree within 12" of the ground. Follow the label directions and application dosages in this booklet to determine the number of injection sites and the amount of chemical to be injected at each site.
3. Choose which style and length of ArborSystems Injection Tip is most appropriate for type of tree you are treating.
4. The injection unit is preset to deliver a 1 ml dose of chemical with each full stroke of the handles. If you need to inject a 0.5 ml dose of chemical, move the dose adjustment ring to the 0.5 ml dose adjustment grove.
5. Make injections working around base (or flare) of the tree. All injections should be made within 12" of the ground unless otherwise noted.
6. With a smooth motion, firmly squeeze the injection unit handles to deliver chemical into tree. Apply equal pressure on both handles—unequal pressure may bend or break the tip.
7. Continue making injections moving around the tree until the entire tree trunk has been treated.
8. When removing tips from the tree, use a straight rearward motion. Avoid rocking motions as that may damage tips or the injection unit.
9. Tips should be cleaned after each use by submerging in alcohol or diluted bleach.
10. At the end of the day, water flush the Wedgle Direct-Inject unit to prevent clogging.

Avoiding chemical waste: Any time you remove a chemical pack (after making injections), there is approximately 2.5 ml of chemical retained in the injection unit. To avoid wasting this chemical, remove the chemical pack before making your final injections. You will be able to make two additional 1 ml doses with the chemical remaining in the injection unit.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool (>45ºF) place with containers in an upright position. Do not expose material to high temperatures (>85°F) for prolonged periods.

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

Container Handling: Non-refillable container; do not reuse or refill this container. Completely empty pack into application equipment, then offer for recycling, if available, or dispose of empty pack in a sanitary landfill or by incineration.

ArborSystems
Tree Injection Solutions
800-698-4641 • Fax: 402-339-5011
10168 L Street • Omaha, NE 68127

NOTICE OF WARRANTY

ArborSystems warrants that this product conforms to the chemical description on the label and is reasonably fit for use when used strictly in accordance with the directions on the labeling. To the extent consistent with applicable law, ArborSystems does not make or authorize any agent or representative to make any other warranty, guarantee or representation, express or implied, concerning this product.

THIS PANEL GLUES TO CHEMICAL PACK

TERRIER™ Systemic Antibiotic

An ArborSystems® Direct-Inject™ Chemical

For suppression of certain diseases including bacterial leaf scorch, fire blight, yellows diseases and phloem necrosis on ornamental trees.

ACTIVE INGREDIENT:	
Oxytetracycline hydrochloride	4.3%
OTHER INGREDIENTS	95.7%
Total	100.0%

Keep Out of Reach of Children

CAUTION

See Inside for First Aid, additional Precautionary Statements and complete Directions for Use.

Use within 6 months of the container-stamped packaged date.

TERRIER™ Systemic Antibiotic

An ArborSystems® Direct-Inject™ Chemical • Easy • No Drilling • Saves Time and Money

For suppression of certain diseases including bacterial leaf scorch, fire blight, yellows diseases and phloem necrosis on ornamental trees.

Intended for use by arborists/applicators, grounds maintenance personnel and landscapers.

To be used only with the ArborSystems Direct-Inject™ Tree Injection System.

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EPA Reg. No. 69117-10 **EPA Est. 69117-NE-1**

FIRST AID

If Swallowed: Immediately call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

If on Skin or Clothing: Take off contaminated clothing. Immediately rinse skin with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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.

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

For non-emergency information concerning this product, call the National Pesticide Information Center (NPIC) at 1.800.858.7378
(NPIC website: www.npic.orst.edu).

Note to Physician: There is no specific antidote available. Treat patient symptomatically.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed. Avoid contact with skin or clothing. Causes moderate eye irritation. Thoroughly wash with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear long-sleeved shirt and long pants, socks, shoes and chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC), Viton, Selection Category C). Avoid contact with eyes or clothing. Wear protective eyewear such as goggles or shielded safety glasses. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are listed below. Applicators and other handlers must wear: Long-sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves, such as polyethylene, butyl rubber, neoprene rubber or Viton and protective eyewear such as goggles, face shield or safety glasses.

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 should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Immediately remove clothing/PPE if pesticide gets inside; then thoroughly wash and put on clean clothing.
- Immediately remove PPE after handling this product. Wash the outside of gloves before removing. As soon as possible, thoroughly wash 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 disposing of equipment washwaters or rinsate.

PHYSICAL OR CHEMICAL HAZARDS

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.

ARBORSYSTEMS® DIRECT-INJECT™ TREE INJECTION SYSTEM

The ArborSystems® Direct-Inject™ Tree Injection System is a no-drill trunk injection method that is easy to use. Most trees are treated in as little as 5 minutes or less, allowing applicators to treat trees quickly. There is no need to wait for absorption (translocation); chemical is injected into the cambial area (the active vascular system) of the tree. Because the chemical is placed right where the tree can use it, effectiveness of the chemical is increased. Use in sunny or overcast conditions, rainy or dry, at any time of day. As no drilling or implants are required, you can treat trees year after year, with no threat of long-term or permanent damage to the tree. This system minimizes wounding and promotes long-term tree health and vigor.

RESTRICTIONS

This product is not to be used on trees or shrubs that will produce food within the year following treatment; during the year following treatment, do not use any part of treated trees or shrubs, including sap, as food or feed. Do not inject trees that are less than two inches in diameter.

This product contains the antibiotic oxytetracycline. To reduce the development of drug-resistant bacteria and maintain the effectiveness of this and other antibacterial products, this product should be used only to treat or prevent infections that are proven or strongly suspected to be caused by bacteria. This material is not to be used for medical or veterinary purposes.

PRODUCT INFORMATION

TERRIER™ Systemic Antibiotic is a ready-to-use antibiotic for non-crop bearing ornamental trees and large woody shrubs. TERRIER™ Systemic Antibiotic provides seasonal suppression of a variety of diseases including bacterial leaf scorch, fire blight, yellows diseases, phloem necrosis, mycoplasmas, xylem-limited bacteria (*Xylella fastidiosa*, BLS) and some bacterial blight diseases. Late summer or early fall applications provide disease suppression the following season. Some diseases may require repeated yearly application.

Preventative application is more effective than therapeutic treatment in trees showing disease symptoms. Apply as a preventative when other trees in the area are showing symptoms. In trees showing symptoms, begin treatment as soon as possible. Trees in advanced stages of disease development may not respond to treatment. Infected trees will absorb the chemical more slowly due to the vascular damage caused by the disease. If TERRIER™ Systemic Antibiotic is not absorbed within 24 hours, the tree is considered high risk and has a poor chance of survival.

Dosage

Inject 1 to 2 ml per every 4" of trunk circumference measured within 12" of the ground using the Direct-Inject Tree Injection System. Use Portle® Tips for injecting Sycamores or thick-barked hardwoods such as elms. For other trees, use Wedgle® Tips.
Make all injections around the base (or flare) of the tree.

Diseases Treated	Application Timing	
Bacterial Leaf Scorch in Elm, Oak, Sycamore, Oleander, Sweet Gum (Liquidambar) (1)	Apply in late summer or early fall for preventive suppression the following season. Applications made in spring (April or May) will suppress current year symptoms.	
Fire Blight in Mountain Ash	Applications are most successful when made in early spring (January through May depending upon location) prior to or during bloom period. Applications made after bloom period will still prevent secondary twig infections. Fall applications are NOT recommended for fire blight suppression.	
Ash Yellows in Ash	Applications for treatment of ash yellows are most successful in the spring and early summer when leafout has reached at least 50% or more as adequate foliage is needed to assure translocation.	
Phloem Necrosis in Elm, also called Elm Yellow (2)	If phloem necrosis has been identified in nearby trees it is preferable to treat unaffected trees in late summer or early fall for preventive suppression the following season. Applications made in spring MAY suppress current year symptoms, however results on trees with symptoms is inconsistent.