

19-OCT-2009

2008-1360

**DUTCH TRIG<sup>®</sup>**  
**Vaccine to prevent Dutch elm disease**  
**Biological Control Product**  
**Live Organism**

**RESTRICTED:** Injectable vaccine for use in Arboriculture to prevent Dutch elm disease on elm trees. For use by Professional Arborists/Applicators

**FOR TREE INJECTION USE ONLY**  
**READ THE LABEL BEFORE USING**  
**KEEP OUT OF REACH OF CHILDREN**  
**POTENTIAL SENSITIZER**

**GUARANTEE:**

*Verticillium albo-atrum* strain WCS850 ..... 1 x 10<sup>7</sup> colony forming units (CFU)/mL

**REGISTRATION NUMBER 29447 PEST CONTROL PRODUCTS ACT**

**Net Contents: 40 ml per vial.**

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**Batch and Serial Number:**  
**Expiry Date:**

**See vial**  
**See vial**

## **NOTICE TO USER**

This pest control product is to be used only in accordance with the directions on this label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

## **DIRECTIONS FOR USE**

Do not apply this product in a way that will contact workers or other persons. For any requirements specific to your Province, consult the agency responsible for pesticide regulation.

Both Dutch Trig® and the Tree Inoculation tool to be used for inoculation of American elms (*Ulmus americana*) only!

Keep product and inoculation tool out of reach of children.

Avoid treating trees in the proximity of crops susceptible to *Verticillium* without the consent of the grower.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes

## **GENERAL INFORMATION**

Dutch Trig® contains conidiospores of the hyaline form of *Verticillium* isolate WCS850. Dutch Trig® is a biological treatment used to prevent Dutch elm disease based on the process of optimizing the tree's natural mechanisms capable of stopping a Dutch elm disease (DED) infection, called induced resistance.

Dutch Trig® is injected in the trunk of the elm in the early spring after bud break with the Dutch Trig® tree inoculation tool. The injection tool is the closed system through which spores of *Verticillium* - isolate WCS850 are injected from the sealed vial into the trunk of an elm. The vaccine induces the tree's immune system to respond (induced resistance); there is no direct interaction between the DED causal organism (fungus *Ophiostoma novo-ulmi*, *O. ulmi*) or the DED vector (elm bark beetle) and the Dutch Trig® active ingredient of any kind.

The Dutch Trig® treatment provides protection against Dutch elm disease for the current year only. To ensure ongoing protection, repeat application every year. Dutch Trig® has no curative properties and will not cure trees that are already infected. Dutch Trig® is not efficacious against root graft infections.

## **APPLICATION INSTRUCTIONS**

### **General:**

- Keep Dutch Trig® refrigerated at 2-4° C from receipt until shortly before use.
- Transport Dutch Trig® in a portable refrigerator to the treatment location.
- Application of Dutch Trig® may only be executed with the Dutch Trig® tree inoculation tool.
- Only inject healthy elm trees which show no signs of Dutch elm disease for Dutch Trig® has no curative properties.

### **Treatment:**

- Remove the plastic cap of the vial.
- Place aluminium cap with silicone membrane on the vial. Shake vial gently before use.
- Load the vial containing Dutch Trig® into the injector.
- Place one injection every 10 cm of tree circumference. Make injections in the bark fissures.
- Make the injections at a comfortable waist height.
- Push the chisel through the bark with the tip pointing downwards under a slight angle (see picture) up to the point where resistance is encountered (xylem tissue). Do not push the chisel further into the tree.
- Inject one drop of product with one slow and full pull of the trigger, every 10 cm of tree circumference. The total number of injections depends on the circumference of the tree, the amount per injection point is always one drop.
- Twist the gun slightly sideways (about 20°) to create a small opening, just before the drop on the chisel hits the bark of the elm.
- The vaccine will be sucked into the tree through the xylem tissue.
- Clean the chisel with rubbing alcohol when moving from site to site to prevent the possible spread of (other) diseases.



**Timing:**

- Injections must be made after bud break but before full leaf.
- Only inject if there is uptake of the liquid into the tree.
- Inject during daytime.
- Do not inject when it is raining.

Dutch elm disease control is most effective when Dutch Trig® is used in conjunction with other known cultural practices recommended for prevention of DED:

- Checking trees for symptoms during the growing season
- Removal of dead and diseased elm trees and firewood
- Severing of root grafts between healthy and infected trees

**Read directions for use and precautions before use.**

**PRECAUTIONS**

**KEEP OUT OF REACH OF CHILDREN.** May cause allergies. Avoid contact with skin, eyes or clothing. Wear a long-sleeved shirt, long pants, shoes plus socks, and water-proof gloves when handling, and during all clean-up and repair activities.

Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**FIRST AID****If swallowed**

Call a poison control centre 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 a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**If on skin or clothing**

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

**If inhaled**

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further 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 centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**TOXICOLOGICAL INFORMATION:**

Treat symptomatically.

**STORAGE:**

Dutch Trig® vials must be kept refrigerated at 2–4 °C from receipt until shortly before use. Do not apply Dutch Trig® after the expiration date on vial. Opened vials must be used within 24 hours if they are kept refrigerated; otherwise vials must be used within 8 hours. The content of the vial should appear clear. Do not use Dutch Trig if whitish growth or other discolouration is present. Avoid freezing. Store vials with original caps sealed and lying down.

**DISPOSAL**

1. Follow provincial instruction for any required additional cleaning of the container prior to its disposal.
2. Make the empty container unsuitable for further use.
3. Dispose of the container in accordance with provincial requirements.
4. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

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