

# **SPRUCE**

## General Information

A systemic fungicide in ready to use capsules for tree injection use for seasonal suppression of certain diseases of ornamental trees.

## GENERAL DIRECTIONS

Important: Preventative application is more effective than therapeutic treatment in trees showing disease symptoms. Trees in advanced stages of disease development may not respond to treatment. Infected trees will absorb the material more slowly due to the vascular plugging caused by the disease. If Fungisol is not absorbed within 24 hours, the tree is considered high risk and has a poor chance of survival.

## RESTRICTIONS

Do not inject trees that are less than two inches in diameter. This product is not to be used on trees which will produce food within the year following treatment. Fungisol is not registered in California for pesticide use.

## APPLICATION, USE and DISEASE

Make applications when disease first appears. Repeat treatment if disease symptoms progress. Do not repeat within 3 months of first application. Some diseases may require repeated yearly application. Preventative Dutch Elm Disease treatments are made 4 weeks after Bark Beetle emerges. Therapeutic treatments are made as soon as possible after flagging branch is observed.

## Limitations, Restrictions, and Exceptions

## SPRUCE

### 1. The MAUGET SYSTEM

(A) Mauget compressible capsule with insert hole

(B) Feeder tube with flanged gun-sight and opposite tapered beveled end

## 2. TOOLS

- (A) Portable electric drill
- (B) 11/64 in. (0.4 cm) drill bit
- (C) Plastic mallet
- (D) Tape measure
- (E) Insertion tool (optional)

## 3. NUMBER OF CAPSULES

Measure the tree at chest height in inches. If measuring the circumference, divide this number by six (6) to determine the number of capsules needed. If measuring the diameter, divide this number by 2 (two) to determine the number of capsules needed. If the number of capsules results in a fraction, round down to the lower whole number.

The following dosage, per capsule, is generally recommended. Depending on tree diameter, use the following dosage, per capsule:

4 mL – 2 to 10 inches dbh (Diameter at Breast Height)

6 mL – 10 inches dbh and above (Diameter at Breast Height)

Trees in advanced stages of insect infestation and/or disease development, may not respond to treatment. The health, species of the tree and the environmental conditions will determine the rate of uptake.

## 4. PRESSURIZING THE CAPSULES

Apply the appropriate amount of pressure on the top of the capsule in order to compress.

## 5. DRILLING THE TREE HOLE

Predrill spaced injection sites at a slight downward angle at the root flair/buttress area (approximately 6.0 to 8.0 in., 15 to 20 cm) above ground level, using a clean 11/64 in. (0.4 cm) drill bit (except monocotyledons, conifers, etc.). Drill to a depth of

3/8 to 1/2 in. (0.95 to 1.3 cm) into healthy xylem tissue under the bark. For mini-micro feeder tube, see Step 10. Disinfect drill bit, insertion tool (if used) as well as mini-micro insertion tool prior to use on each tree.

## 6. TREE HOLE DEPTH

It is important that the feeder tube be set to the proper depth in the conductive xylem tissue. If set too deeply, flow is restricted by blockage in the heartwood; if set too shallow, leakage may occur. The feeder tube dispensing end is beveled to allow for a 1/4 in. plus tolerance.

## 7. COMBINING CAPSULE AND FEEDER TUBE

Several methods of combining the capsule with the feeder tube are acceptable including placing by hand, the feeder tube's flange end, with the flange notch upward, into the capsule insert hole of a compressed upright capsule. Push the flange end of the feeder tube flush with the membrane located at the inner end of the insert hole.

## 8. PLACING THE FEEDER TUBE IN THE TREE

Firmly seat the beveled, dispensing end of the feeder tube, with the attached upright capsule, into the predrilled tree injection hole. Tap the rear side, opposite the insert hole of the capsule with a mallet. This action will simultaneously seat the feeder tube in the injection hole while breaking the capsule membrane for releasing the capsule contents into the feeder tube and into the tree. Another method is to place the feeder tube in the predrilled hole of the tree using the optional insertion tool. Then place the compressed capsule onto the feeder tube in place.

## 9. REMOVAL

Uptake in the tree usually occurs within several minutes. Capsules may be temporarily rotated in place to see if any liquid is left. When empty, turn the capsules upside down for one minute before removal. Applicators must remove micro-injectors promptly after treatment. Empty capsules must not be left on the tree. The health and species of the tree, and local environmental conditions will determine the rate of uptake. If the capsule does not completely empty within a few hours, invert and carefully remove the capsule and enclose it in a heavy duty plastic bag for disposal in accordance with state and local regulations.

#### 10. MINI-MICRO FEEDER TUBE

For established trees with thin bark (less than 3/8 in. thickness), use a 7/64 in. drill bit to produce a micro-injection site for a mini-micro feeder tube. Use of the Mini-Micro Insertion tool is recommended.

Method

[Injection](#)

Rates

[field\\_rates 0](#)

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Timings

[when disease first appears.](#)