



INSTRUCTIONS FOR USE OF CHEMJET TREE INJECTOR  
FOR OAK WILT /DUTCH ELM DISEASE TREATMENT  
READ ALL INSTRUCTIONS BEFORE USING!!

**WHAT YOU WILL NEED:**

1. Eye protection and latex gloves
2. Cordless drill – 18V works best
3. 11/64” drill bit
4. Spray disinfectant- Lysol
5. Propiconazole 14.3% - Can be purchased online from most pesticide retailers. Brands include Alamo, Propizol or Quali-Pro and be sure it is for injections. Some similar products are only for spray application. Also know how many injections you will be making to determine the size of container you will buy. For example, as a rough estimate - 1qt = 94 injections. 1 gal = 378 injections, 2.5 gal = 945 injections.
6. Distilled water, preferably
7. Measuring cups and large mixing bowl

**ASSEMBLY:** Line up the tabs and push body and nozzle together until both tabs snap together. To open use a flathead screw driver and use a little twist to pop tabs apart.

**PROCEDURE:**

The first step is to determine what kind of treatment you will be administering, preventative or therapeutic. With preventative, you are treating to protect your trees for up to 2 years in the event Oak wilt is close but not within 100 feet of your trees at the time of treatment. Therapeutic treatments are done on trees that are already in the early stages of Oak wilt or in a “high pressure disease” area, meaning Oak wilt is within 100 feet or closer to the trees you are treating. Preventative treatments require 10 ml of chemical per diameter inch and therapeutic treatments require using 20 ml per diameter inch. To determine the diameter of your tree you will need to measure the circumference of the tree at 4.5 feet from the ground (or below the first major limb or crotch if below 4.5 feet). Some trees have 2 or more trunks that split just above the ground and can be measured individually or as one if you can measure around the base of the tree. Now that you have decided on the type of treatment and the size of the tree you are treating; it is time to determine the number of Chemjet injectors you will need. This is the easy part. Preventative = 1 injector per diameter inch. Therapeutic = 2 injectors per diameter inch. You can do two separate injections if doing the therapeutic treatment within a day or two and using new entry holes.

Now you can mix your propiconazole and water in a bowl as a 50/50 solution and start loading your injectors by putting the nozzle tip in the solution and pulling up on the handle to draw up 20 ml of solution and turning the handle a quarter turn to lock in place.

**IMPORTANT: SINCE THE CHEMJETS USE THE TREES NATURAL TRANSPORT SYSTEM, WE RECOMMEND WATERING YOUR TREES, IF POSSIBLE, A NIGHT OR TWO BEFORE TO HELP SPEED UP THE INJECTION PROCESS.** In long periods of dry weather, injecting trees may take longer and could cause stress on the trees. We like to recommend injecting after a good rain on trees that cannot be watered ahead of time and if they are not in eminent danger. The injection holes are usually only good for about 48 hours and then the vessels in the tree begin to seal from inside. We want to get all the chemical we can get into a tree and watering helps that process.

You are going to drill your holes as low as possible on the tree. If you have flare roots exposed, then inject into them as well. The bark is thinner and there is more xylem tissue to allow for quicker distribution of the chemical into the tree. You want to put an injection site about every 3” around the base of the tree as a rule of thumb, but don’t worry if you have to go a little bit wider. The important part is to get the injectors all the way around the tree for even distribution. You want to drill at a 45-degree angle and about 1 to 1 ½” deep in the trunk (you may have to chisel away thick bark) or ¾ to 1” deep in the flare roots. Make sure you see healthy, white tissue come out of the hole. If you get a brown ribbon, that is dead tissue and no good to use. Avoid drilling into valleys or where wood tissue has been damaged.

Holding the Chemjet by the body, insert the nozzle firmly into the hole. The threads on the nozzle are for strengthening the tip and not intended to be used to screw in the injector. While still holding the body, give it a good bump on the end

of the handle with your palm. This will help set the injector. Turn the handle a quarter turn to unlock and move on around the tree until you have the correct number of injectors in the tree (you can drill a couple of holes at a time but don't let the bit get too hot). That's it! The rest is up to the tree. Check back in a few hours to see that the plungers are moving down in the body of the Chemjets. If you don't see any movement in some, you can lock the handle and drill another hole to move the injector to. Sometimes you just hit a bad spot on the tree even with healthy tissue.

Here are a few other helpful tips.

1. Inject early, especially when the temperature is going to get above 90. Trees shut the stomates in the leaves when it gets hot and do not do any water transporting until it cools back down. Trees also do this when temps drop below the 50's
2. DO NOT inject trees while they are putting on new leaf. Wait until they have "hardened off". Live oaks, being semi-evergreen, should not be injected from the beginning of March to the beginning of May. Trees cycle at different times, so just look at the leaf to be sure.
3. Make sure your trees have at least 50% or more canopy before deciding to inject. Trees with a lot of canopy loss may not be able to draw up very much if any of the chemical.
4. You can leave the Chemjets in the tree for up to 48 hours but after that you will have to retreat if not all the injections pulled in. Note where the tree did draw up and try around that area.
5. Trees are going to draw up as much chemical as they can handle. Less canopy, less chemical.
6. What to do about the holes after you pull the Chemjets. I recommend using a toilet bowl wax ring that they sell at any hardware store and a grease gun. You can fill an empty tube or just fill the gun if you are going to use it solely for the wax. It needs to be softened up before loading it and once it gets flowing works great to seal the holes. And on those days when it may be too cool for the wax to flow, I just push it into the hole with a finger.
7. Keep a record of your treatment dates. It is important to reevaluate your trees progress in 12 months from first injections if you know you have treated trees you suspect are infected or have shown early signs. 18 months is recommended for healthy trees.

#### **CLEANING YOUR CHEMJETS:**

There are 2 methods to cleaning the Chemjets depending on how many you have.

Method 1: Fill a bowl with hot water and draw up water into the Chemjet but don't lock it. Instead, off to the side release the handle and let the water shoot out. Repeat this step a couple of times and then pull back on the handle to dispel the remaining water until nothing comes out.

Method 2: Soak the Chemjets for about 10 minutes in a bucket of hot water and then stand them on the handle in a separate container with a drain hole and let them dry. I use this method mostly because I have a large quantity to clean at any one time. Once they are dry you can give the handle a few pulls to make sure no water is left in the tip before you load them again.

\*You can add a small amount of liquid disinfectant to hot water if your Chemjets have any residue built up.

The gaskets need to be dry to maintain the suction. If they pop off when you are loading then you may have to open the Chemjet up and clean and dry the gasket and reassemble.

If the gaskets are not sliding up and down smoothly then a shot of WD-40 or spray silicone down the back of the body where the handle comes out and pulling up and down on the handle should free it up.

If you ever have any questions or need assistance, don't hesitate to give me a call at 830-282-9724.

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