

Systemic Trunk Injections

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Trunk injection is not new. It has been in existence for over 40 years. What is trunk injection? Who should do it and does it work? What do the terms micro-injection, macro-injection, and macro-infusion mean?

All are methods specifically designed to introduce chemical products through a tree's bark into its xylem allowing its own transport system to move specialized materials throughout the tree. Micro-injection typically refers to a method of using individual pre-measured dosage capsules, normally spaced at 6 inch intervals around the circumference of a tree. By definition these individual capsules are installed via drilled holes smaller than ¼ inch diameter and contain less than 10 ml of material per unit. The most common size hole for micro-injection is 11/64 inch diameter.

Macro-injections typically have one common product holding container and a system of tubing with injector ends that are attached at intervals around the circumference of the tree. Some methods of macro-injection require excavation at the trunk-soil interface to expose the buttress roots allowing access to this preferred injection site. The volume of product used in a macro-injection is considerably higher than the micro-injection. Macro-injection volumes can be many gallons. The hole size for macro-injection is by definition greater than ¼ inch diameter. Some product brands utilize the term of macro-infusion; it has the same meaning as macro-injection.

Then there is the issue of getting the product out of its capsule or container by means of high or low pressure. The arborist community as a whole prefers the low pressure methods. Low pressure is less than 10 psi. In most cases there is just enough pressure to get the fluid out of the container but is not meant to move it once the product is in the tree. The speed at which uptake occurs is directly related to soil moisture, temperature, wind velocity, time of year and tree species. High pressure is typical of macro-injected methods. Due to the high pressure, large volumes of materials are moved into a tree very quickly.

These methods are not rocket science but do require some training. They are not for the home owner. The tree care professional is the proper applicator. Most states require pesticide certification in addition to an applicator's license if you are injecting into the trunk of a tree.

All of the various methodologies of trunk injection should be viewed as tools that are available for service to the tree care professional. Which tool an applicator decides upon will depend upon an individual tree's species, size, location, and specific problem.

With all of the various injection methodologies available today, there are now products available for just about any insect, disease, or mineral problem encountered. Southern pine beetle, hemlock woolly adelgid, asian ambrosia beetle, emerald ash borer, long horn asian beetle, dutch elm disease, yellows, phytophthora; these are of some of the better know tree killers that are controllable by means of systemic injection. In years past it would not be unusual to hear someone say that if a "pest" gets in your tree the only thing to do is to cut it down. Today, if you can get to the tree before insect damage or the canopy damage is not too far along it can be treated and saved. Unlike the average home owner, tree care professionals have the ability and resources to determine whether or not a tree is too far gone for successful treatment.

This brings up the point of prevention. Many tree care professionals are taught to be reactive to pests and diseases. When spraying was the only option this made perfect sense. These new trunk injection tools allow you to control tough insects as well as diseases such as anthracnose, bacterial leaf scorch, canker, diplodia, fusarium and others with no environmental impact. The product goes directly into the tree, with no exposure to the applicator or the client. The application is targeted to the specific pest or disease with no off target interactions. Some of these products offer multiple years of control or protection. Because some products have longevity in the tree a proactive rather than reactive approach is ethical and prudent especially when dealing with pests where the death of the tree is imminent and other trees in a particular area are already infested, infected, or liable to become so..

As a tree care professional systemic trunk injections should be a part of your arsenal. Tools like these intensify the need to become a better diagnostician. It could be said that the treatment is only as good as the individual prescribing the treatment. Naturally if the wrong treatment is applied then the outcome may be disappointing. With the variety of products and methodologies available you should be able to find several that suit your needs. It is the responsibility of the arborist or tree care professional writing the prescription to correctly diagnose the problem in order to select the proper treatment. It is also important to select only treatments and products that offer concrete evidence such as University studies or independent studies that prove their claims scientifically. All company offering these products should be able to provide this type of information. Answers to any technical, or research questions regarding the methods or the specific products available, should always be available through the manufacturers and distributors representatives.

If systemic injections are not a part of your service kit then both great client service, and profitability opportunities are being missed. Systemic Trunk Injections are safe, easy, effective and profitable. It is important to decide carefully and use them wisely.

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