

The Widening Potential Of Tree Injection

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TREE INJECTION can be a valuable asset to the commercial arborist. It offers an almost complete pollution free method of chemically treating trees. And it can be done with less labor than normal spray operations. Further, timing of treatment is not influenced by weather conditions, as is true with spraying.

My interest in this system began a few years ago when I first tried the system. Having been involved

in the tree surgery field more than 20 years, I was enthused to the point of helping form a new company based on this method. This was the beginning of CLM National. I sold my very successful tree service company in northern California and became part owner in this new corporation, which began operating in January. Headquarters are at San Jose, Calif.

CLM operates as factory distrib-

utors for the J. J. Mauget Co., makers of tree injection products. We are presently setting up dealers to use these products across the US and Canada, using the Mauget tree injection system. We will not sell to the homeowner. We want only professional tree people to use our products.

My first experience with this Mauget tree injection system was some three years ago. I started using it immediately in my own business. At the time I was a bit skeptical as is most everyone when first using a new product. But after using it on a few problem trees I was convinced beyond doubt at the positive results. I was able to get trees to respond where other methods failed, thus my enthusiasm for the system.

It also increased the earnings of my tree business.

I have been a member of the National Arborist Association for some years and when I was asked to speak at the 1970 annual meeting at Phoenix, Ariz., on DDT substitutes, I agreed at once. At this time I was not associated with the J. J. Mauget people, other than by using their products in my own business. I felt that with the problems tree companies were experiencing with state bans on chemicals plus the public emphasis on pollution, that tree injection had to be reckoned with. I was glad to pass this information on my experience to my many friends, who were also feeling the squeeze on their spray business. It is their livelihood.

Some N.A.A. members then began using the injection system with very good results. Others did not, because the system was new to them.

In light of this, let's consider some problems of the spray business. First, how many times has a crew been dispatched to the job and failed to complete the work because of high winds or because of rain? Further, most businessmen in this industry have had customers demand repeat treatments "because it began to rain, shortly after your crew sprayed the trees." Adroit salesmen, as most custom applicators are, can usually convince customers that the stickers and spreaders used in the chemical have kept the rain from washing the material off, and that it will still do the job. Customers may accept this, for the time being, but if they subsequently see so much as one insect on their trees, they will be right back on the phone demanding another spray application. They may be a regular customer, or a new one. Regardless, the man in business cannot afford to

Editor's Note: Mr. Kennedy, author of the accompanying article on tree injection is president of CLM National. A veteran tree care operator, he has been working with the J. J. Mauget Company in developing tree injection as a practical means of treating trees. A new area being researched is the use of Dupont's Benlate, a benomyl fungicide, to treat trees infected with Dutch elm disease via the Mauget injector system. Mauget has developed a carrier for chemicals which apparently speeds circulation of chemical through the tree system, basis of the CLM Company's market approach, for the entire Mauget product line.

Use of benomyl via this method is in the test stage. It is not as yet labeled. However, the use of benomyl for treatment of trees infected with DED is being researched by scientists in both this country and elsewhere. Problem appears to be to get trees to absorb the chemical in sufficient amounts to be effective against the disease. Newspaper

articles, though vague regarding details, have listed costs as high as \$400 per treated tree where soil was dug up around the tree and benomyl placed in the ground (Cleveland Press, Aug. 5, 1971).

A Canadian researcher, Dr. Edward S. Kondo, has used benomyl by cutting major roots and then pumping the chemical under pressure into the tree. Damage to roots admittedly places a severe strain on the tree. He is now testing the Mauget injection system.

Because of the apparent effectiveness of Benlate as a treatment, the Mauget system does hold promise for the future. Early reports, though unofficial, indicate that the injection system has been able to circulate sufficient benomyl into the tree system.

In brief, the article by Kennedy is his own testimonial for the tree injection system and one hope of the industry for an effective method of using a fungicide to treat trees infected with Dutch elm disease.

—A. E.

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lose them. Even so, when you have to repeat a job, you usually have lost your profit.

There are other hazards in spraying. These include spray drift on cars, windows, lawn furniture, etc. The list is almost endless. If I were asked to name the greatest hazard, it would be the expense of paying men while they wait in the shop for wind or rain to cease. Secondly, I would name pollution and contamination of the environment. Remember, it is the responsibility of each of us to try to provide a safe place for our children and grandchildren to live and to lead normal lives.

Tree injection offers an alternative system. Application of plant foods and pesticides directly into the sap flow of trees has been of interest for several hundred years. Like some basic medical practices, it was initiated by Leonardo da Vinci! Until recently, however, systemic materials and the methods for injecting them were limited.

Some supposedly professional tree companies are still using the crude method of drilling into the cambium layer and putting chemicals in the hole, which is then plugged, usually with putty. I only wish they could see some of the beautiful trees on the grounds of the California capital at Sacramento which suffered severe damage by this type of work. Rotten spots and slime flux which oozes down tree trunks are common. Such results are tragic for the industry and not to be condoned.

The Mauget Tree Injector, which is patented in both the US and abroad, is one method by which tree injection can be accomplished, without undue damage to the tree. The principle of the device is much like that of the medical hypodermic needle in that the fluid is introduced internally. There is a minimum of damage to the intervening tissue. Healing is as rapid as the condition of the tree will allow.

CLM's most widely used product, Inject-A-Cide is a special, concentrated grade of organic phosphate, systemic insecticide. It is called Meta-Systox-R and is produced by Chemagro Corporation under license by Farbenfabriken Bayer, A.G. of West Germany.

This new system of shade tree care is a breakthrough in effective control of insect pests that damage trees. It utilizes a completely closed system which implants the chemical directly into the sap stream, and eliminates the hazards of drift in spraying.

The injector unit is made of two

interlocking plastic cups containing the premeasured quantity of Inject-A-Cide. A small length of metal tubing called a feeder tube is used to connect the injector unit to the tree trunk. The feeder tube is embedded in the trunk by means of an inserting tool. Feeder tubes are driven into the tree every six inches around the trunk at approximately breast height.

Once feeder tubes have been installed, the operator then squeezes the units of chemical together causing them to be pressurized. Once the operator places the units of chemical on the feeder tubes and ruptures the seal, chemical is blown into the sap stream under pressure. It then flows by systemic action into the tree, up through the branches and leaves, where it is toxic only to those insects feeding on the tree. It does not offer a hazard to birds, wildlife, humans, or such beneficial insects as bees. It takes only a short time for the units to empty. They can then be removed and the feeder tubes pulled out with a pair of pliers. Injecting can be done in any weather. High winds, heavy rain, or even darkness fail to foil the operation.

Feeding trees is another use for tree injection, using the same injecting methods. In reality, the system is used to introduce a balanced plant food into the system of the tree. This treatment is particularly useful for problem trees with advanced stages of chlorosis where other methods have failed. One reason for this is that it is possible to bypass the roots. Thus, vigor is quickly restored to nutritionally starved trees.

Fertilizers used for injection must be a certain type and strength, compatible with the tree. After many years of actual field testing, the Mauget people have developed a liquid nutrient called Stemix. Stemix contains dilute quantities of nitrogen, phosphorous, potassium, zinc, iron, manganese and copper, fortified with vitamins and hormones.

Stemix will show noticeable results quickly, usually within one to two weeks. Once improvement is observed, the recommendation is that normal applications of fertilizers be made via the soil.

We have other chemicals that are being field tested. These include chemicals for gypsy moth and the dreaded Dutch elm disease. I am confident more data on these will shortly be available. These new data may provide the big breakthrough for control of both.