REC0MENDATIONS FOR CHEMICAL CONTROL OF EMERALD ASH BORER FOR THE CITY OF BAYFIELD AND ITS RESIDENTS

The emerald ash borer (EAB) is a beetle that infests only ash tree species. It is of Asiatic origin and has caused the death of millions of trees in cities and native populations in the last ten years, mainly in the Midwest. The vascular tissues of ash trees are destroyed by the feeding of the larval stage grubs (borers). It takes several years for infested trees to show damage, and at the present time, without treatment with systemic insecticides an infested tree will die within four or five years.

The currently available insecticides are of relatively low toxicity to higher organisms and are mostly contained within the tree they are targeted to, or bound to soil if applied as a soil drench, but there have been instances reported of toxicity to bees, although this has not been particularly well documented. The USDA sets standards for use, and some chemicals must be applied professionally by a licensed applicator.

Chemicals, according to their types, are applied by injection into the tree, by soil drench around the base of the tree, and by spray application to the trunk of the tree. What methods and chemicals to use are a choice of the municipality or the home owner, and are based on many factors, including cost, ease of application, and environmental concerns.

Since detection of the insect is almost impossible before damage occurs to the tree, and the chemicals have a very short useful life span, usually not more than two years, chemical applications are not recommended until actual insect damage occurs on the tree or nearby trees. Chemical control is usually good before the tree has lost 30% of its leaf canopy, and declines after that. Once 50% of the canopy is affected the chances of survival are slim.

Infested trees, or trees within an infested location, must be treated every two years, and regardless of the cost of the initial application is bound to become expensive over time. This factor must be balanced by the cost of tree and stump removal (as much as several thousands of dollars for a large tree) as well as the importance of the tree in a given landscape or location. For most chemicals, regardless of type, or method of application, spring is the preferred time of application.

CHEMICALS CURRENTLY RECOMMENDED BY THE USDA

Xytect (imidacloprid) is applied to the soil as a liquid drench by the owner of the tree or by soil injection by a professional applicator. It is available as Bayer Home Advanced from larger stores and can be applied by the homeowner to smaller trees (15" DBH or less). As Optrol it is stronger, for large trees, and must be applied by a licensed applicator. At an average chemical cost of $10 per application, Xytec is the least expensive of the chemicals.

Transect (Dinotefuran) is used as a soil drench or bark spray. It is twice as expensive as Zytec.
But bark spraying is a simple application.

Tree-age, Emmamectin benzoate, is injected into the tree and usually must be done by a professional arborist. It is highly effective and a good control for large trees.

Tree-Azin, Azadirachtin, is an organic substance made from the African Neem tree, and is injected with a caplet system. It is the only chemical currently registered for EAB treatment in Canada.

My recommendations at present for trees owned by the City of Bayfield are to consider bark spray with Transect for the few good ash street trees it has. A final decision can be postponed until EAB actually shows up in the area. This would not be expensive, relatively easy to do and would provide good information for homeowners. I do not consider treating the large ash trees in Dalrymple Park practical and if they become infected they will have to be taken down.

My recommendation to Bayfield homeowners is to consider the cost and landscape factors involved and make their own decisions. Larger and more prominent trees may well be worth treating and saving, and home applications of the easier to use chemicals may be practical for smaller (under 15" DBH) trees. Dead ash trees disintegrate quickly and must be removed before they become dangerous.

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