

REVIEW

EAB tool list grows

Options emerging to control emerald ash borer

BY PAT KERR

“Almost all ash trees used in landscaping are either green or white ash. If these are not treated they will die,” said Deborah McCullough of Michigan State University. “People need to understand you can treat a large tree for 25 or 30 years for less than the cost of cutting and replanting.” McCullough is one of a handful of U.S. researchers testing and comparing pesticides for use against the emerald ash borer.

The invasive emerald ash borer was first discovered in Detroit in 2002 and soon after in Windsor, Ontario. In the 10 years since it has spread to 13 states and two provinces. Urban ash mortality in these areas is close to 100 per cent, McCullough said. “Urban ash trees not treated will die.”

Canada presently has two systemic injection systems fully registered against EAB. These include Confidor by Bayer, and ACECAPS by Creative Sales. TreeAzin by BioForest is at the label review stage with possible full release in 2013. A fourth system IMA-jet, Arborjet hopes to have registered in Canada by 2013 or 2014. All of these systems have independent supporters and detractors. They are all tools for professional tree workers to consider for different circumstances.

In the pamphlet, Insecticide Options for Protecting Ash six, U.S. researchers are summarized saying systemic systems are more quickly absorbed and transported than soil applications; they take three to four weeks to move through the tree; they are

most effective when the tree is actively transpiring in morning and when the soil is moist not saturated. Uptake is slow in the afternoon and when the soil is dry. Applicators should also expect damage to continue in an infested tree during the first year after injection. Improvement should be seen in the second year.

Prices for the four products vary depending on quantities ordered and injection systems used but in general: TreeAzin is the most expensive; IMA-jet is expected to come in second, with Confidor and ACECAPS as much cheaper options.

Both Arborjet and McCullough have conducted studies on the safety of injection systems. McCullough said, “Ash is very good at recovering from wounds.” She can’t remember seeing an ash infested with fungi following a systemic injection. “The drill holes are covered in cells the first summer and wood within the first year.”

Rob Gorden, arborist and director of urban forestry for Arboret, supplied photos to back up how their injection system protects the tree and prevents the chemical from precipitating back out of the tree. The Arborjet plugs would add about \$1.80 to the cost of a tree injection.

McCullough said the first pesticides they tried for EAB were highly toxic. “If they touched the skin it burned.” All of today’s options are much safer for both the applicator and the environment.

Joe Meating, president of BioForest, stresses their product safety record. TreeAzin™

Systemic Insecticide is produced from extracts of neem Tree seeds. Azadiracta or the active ingredient in neem is used in soap and toothpaste. It was listed as Category 4 or the least hazardous rating. It is, “Not a true toxin in that it disrupts the moulting process. TreeAzin is an insect growth regulator. Therefore, some feeding damage is caused as EAB larvae must keep feeding until they try to moult. Generally damage is limited.”

The BioForest literature states: it “degrades naturally within tree tissues. It does not pose any health risks to applicators, bystanders, pets or the environment. It does not pose any risk to bees, birds or mammals. It does not impact soil or aquatic ecosystems following leaf fall.”

Confidor and IMA-jet both use the active ingredient imidacloprid made by Bayer. However the formulations and strengths are different. Some researchers think higher dosages may not result in higher absorption rates. This is still under study and results won’t be available for a few months or next year. The formulation and the speed of absorption play a role in the effectiveness of the product.

The Confidor label states: “This product is highly toxic to aquatic invertebrates. Do not mix, load or clean equipment within 30 metres of wellheads or aquatic systems. Do not contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes. CONFIDOR® 200 SL Systemic Insecticide is toxic to bees. This product is systemic and



The tree in the foreground was not treated while the tree in the background received TreeAzin.

is transported upwards through the tree. Bees can be exposed to residues in floral pollen and/or nectar resulting from tree injections. Applications to ash, black locust, elm, hackberry, horse chestnut, maple, mountain ash, ornamental apple, poplar, silk tree, sycamore/London plane tree and willow must be made post-bloom.

Applying post-bloom reduces risk; however, some residues may carry over to the next season.”

Rob Gorden said that with their formulation and the nature of ash trees bees are not a concern. “The risk is low compared to other methods.”

ACECAPS label reads: Keep out of lakes, ponds or streams.

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With the Arborjet system, the implants are small, as can be seen in this image with a pencil used for scale.

Do not contaminate water by cleaning of equipment or disposal of wastes. Toxic to bees exposed to direct treatment, drift or residues on flowering crops or weeds. Toxic to birds and wild mammals. The use of this product may result in contamination of groundwater particularly in areas where soils are permeable (e.g., sandy soil) and/or the depth to the water table is shallow. Toxic to aquatic organisms.

However, when you are talking EAB, the thing that matters to customers is, does the treatment work? The answer is, sometimes, and it depends. All of these injection systems must be used according to their manufacturer's instructions. There are some horrendous studies where the systems were used incorrectly and in the words of one researcher, "It worked better than water, well slightly better than water." Use them incorrectly and expect customer complaints.

BioForest has studies from Oakville claiming TreeAzin works for two years. McCullough said she won't be able to say one way or the other until 2013 when her testing is complete.

In a written statement Health Canada said, "Acecap® 97 Systemic Insecticide Implants, and Confidor® 200 SL are both registered for use against emerald

ash borer in Canada. Acecap® is registered as a preventive treatment to reduce populations of emerald ash borer larvae and the damage they cause, but may not provide control of this pest. Confidor® may provide only suppression of this pest, as indicated on its label."

They continued, "Before approving registration of pest control products for use in Canada, Health Canada's Pest Management Regulatory Agency assesses the available information, which includes efficacy, to determine that the product has acceptable value when used according to the use-directions on the label. The expected performance of the pest control product is clearly stated on the label. It should be noted that registered products do not necessarily provide control of the target pest. Products that do not provide control of a pest may still have acceptable value in consideration of an overall pest management strategy."

Darcy Olds, Territory Sales Manager with Bayer, said he will release more information on Confidor to Tree Service Canada later this summer. He believes their product is effective and he wants to prove it.

Brian Wolf President of Creative Sales in Nebraska manufacturers of ACECAPS

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explained they have had some bad test results and they are working on it. They suggest a soil treatment plus ACECAPS. Dave Smitley of Michigan State University is working on the trials and dose testing but was unavailable for comment. His technician advised the data should be available later this summer. The company's biggest market for ACECAPS is currently in Asia.

McCullough has evidence that

TREE-age from Arborjet that uses Emamectin benzoate does control for two years and possibly three. However, this product is not available in Canada and Gorden said the company has not started the Canadian registration process. They feel they can get IMA-jet approved faster as imidacloprid is already registered in Canada in other formulations. They believe IMA-jet can be used every 18 months.

Resistance can develop to any imidacloprid product. The Confidor label suggests rotating it as necessary with another insecticide.

As EAB tools are new on the market so are the products and methods used for treatment. More research is expected within the next 12 to 24 months that should help determine which products are best in what circumstances. ❖

More information is available at the company web sites.

BioForest <http://www.bioforest.ca/>

Arborjet <http://arborjet.com/>

Bayer <http://www.bayeres.ca/>

Creative Sales <http://treecareproducts.com/>

And general information on EAB treatment is at

http://www.emeraldashborer.info/files/multistate_eab_insecticide_fact_sheet.pdf



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