New Insecticide Trunk Injection Method for Hemlock Woolly Adelgid Control

NOTE: All pesticides are registered and approved for use by the U.S. Environmental Protection Agency and all pesticide label instructions must be followed to be in compliance with federal law.

- As a result of problems and equipment failures associated with previously used tree pesticide injection systems, the Ohio Division of Forestry in 2018 has moved to a more simplified, cheaper, and more efficient technique, developed by Martin McAllister with The Nature Conservancy.
- Trunk injection is typically used where insecticide soil drench application cannot be made, such as within 10’ of surface water, when the annual per-acre limit of soil applied imidacloprid has been reached, or where there is insufficient soil present around trunk to use soil-applied insecticide.
- Equipment:
  - 10 mL syringes (example product available for sale online [here](#))
  - Blunt-tip 18 gauge needle (example product available for sale online [here](#))
  - #4 Arborplugs (3/8” diameter) made by Arborjet (product info [here](#))
  - Arborjet plug set tool (product available online [here](#))
  - Hammer
  - Drill and 3/8” diameter brad point drill bit
  - IMA-jet imidacloprid (insecticide formulated for trunk injection) (example product available for sale online [here](#))
  - Optional: size #94 rubber bands (example product available for sale online [here](#))
- Injection process:
  1. Measure tree’s diameter at breast height (4.5’ above ground) to determine appropriate amount of insecticide to be applied and appropriate number of injection ports (follow pesticide label instructions)
  2. Divide the needed amount of chemical by the number of needed injection ports into syringes (one per injection port)
  3. Drill appropriate number of injection ports in root flares of tree no deeper than 1”
  4. Tap #4 Arborplugs into drilled holes using hammer and set tool so that the three ridges on the upper half of the plug bridge the sapwood and bark layers
  5. Insert syringe needles into Arborplugs and apply moderate pressure to plunger, either by hand, or attaching rubber band, to push insecticide into the injection ports and tree (may take up to 10 minutes or longer for all chemical to be injected into tree)
  6. Once all chemical has been injected, remove syringes and needles (can be re-used multiple times)
  7. Arborplugs are left in tree and will either be pushed out over time, or healed over by new wood as tree grows