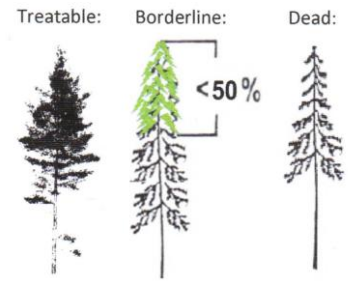


# Hemlock Soil Drench Instructions

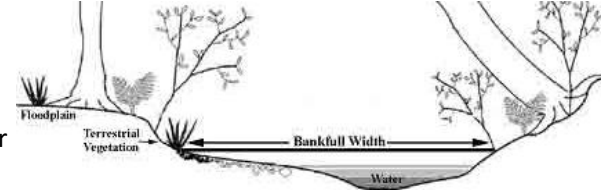
## for use with a 75WSP imidacloprid product

(Revised March 2018)

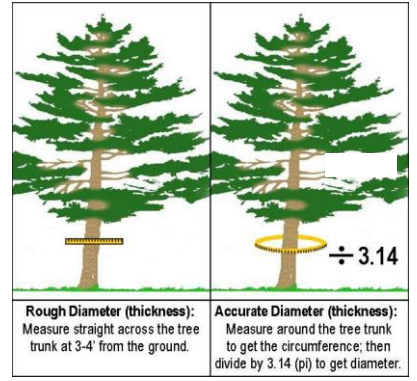


The use of brand names and any mention of commercial products or services in this publication does not imply endorsement nor discrimination against similar products or services not mentioned by the HRI or NCDA&CS.

- Look up: Is it a hemlock? Is it alive and worth treating?  
**Rule of Thumb:** Tree must have  $\geq 50\%$  of its crown intact and moderately dense foliage to use imidacloprid products!
- Treatments work best during the spring or fall, when hemlocks are most active. Soil should be moist, but not saturated or frozen. Do not apply directly to water or near roots of flowering trees. Do not treat during drought conditions.
- Always be sure to follow the product's current label and state regulations when applying pesticides.**
- Put one 1.6 oz packet of imidacloprid 75WSP in a 48 oz designated container with a secure lid.
- Fill with water to form a final volume of 34 fl. oz, seal, and shake until completely dissolved.
- Use a rake or your foot to remove any leaves and loose duff away from the trunk of the tree, 1-2 feet from trunk.



- Measure DBH of tree to nearest inch and record:
  - DBH = diameter in inches at breast height; breast height is 4.5 ft off ground.
  - Measure from upslope side of tree; round to nearest inch.
  - Be sure to use correct side of tape or stick; trees  $> 26''$  in DBH are uncommon.
  - If you don't have a DBH tape or stick, measure the circumference of the tree with a regular tape measure and divide the inches by 3.14 to get the diameter in inches.
  - If trunk splits below breast height, measure all living stems and add for total DBH.
- Follow chart below to determine appropriate number of ounces of solution to apply.
- Pour appropriate ounces of solution into a measuring cup.
- Pour solution from measuring cup to distribute chemical evenly on soil around base of tree (if tree is on a slope, focus application on uphill side of tree).
- Once this is complete, rake the duff and loose soil back towards the base of the tree to cover chemical.
- Mark tree with paint or tag, as appropriate; move on to next tree.



Imidacloprid 75WSP Product		*Mixing instructions:		1. place one 1.6oz packet in bottle 2. fill to 34-oz line with water 3. seal & shake			
DBH (inches)	Ounces to Apply	DBH (inches)	Ounces to Apply	DBH (inches)	Ounces to Apply	DBH (inches)	Ounces to Apply
1	0.5	11	7	21	18	31	30
2	1	12	8	22	19	32	32
3	1	13	9	23	20	33	33
4	1.5	14	10	24	21	34	34
5	2	15	11	25	22	35	36
6	2.5	16	12	26	24	36	37
7	3.5	17	13	27	25	37	38
8	4	18	14	28	26	38	40
9	5	19	15	29	28	39	41
10	6	20	16	30	29	40	43

\* Application rates based on Benton, E. P. and R. S. Cowles. 2016. Optimized Insecticide Dosage for Hemlock Woolly Adelgid Control in Hemlock Trees. The University of Georgia Warnell School of Forestry and Natural Resources, Tifton, GA, WSFNR-17-01.

**Notes:** **1)** For trees  $> 40''$ , add an additional 3 oz solution per additional inch. **2)** Do not apply more than 8.53 oz of 75WSP product per acre per year (equivalent to 181 oz of solution, or 5 & 1/3 1.6 oz packets, or 0.4 lb active ingredient). **3)** For more immediate protection of larger trees with heavy HWA or elongate hemlock scale (EHS) infestations, consider an additional application of Safari 20SG (dinotefuran) at the low rate, as instructed in the product label.



## HEMLOCK RESTORATION INITIATIVE

(A program of WNC Communities, sponsored by NCDA&CS & USDA-FS FHP)

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**Always be sure to follow the product's current label and state regulations when applying pesticides.**

Treatments work best during the spring or fall, when hemlocks are most active. Soil should be moist, but not saturated or frozen. Do not apply directly to water or near roots of flowering trees. Do not treat during drought conditions.

### Hemlock Soil Drench Instructions for Use with 20SG Dinotefuran product:

1. Measure diameter in inches at breast height (DBH) of tree to nearest inch and record. (See instructions on reverse side.)
2. Use measuring cup provided with dinotefuran product to measure 4 oz of product (by weight).
3. Slowly pour dinotefuran granules into a 48 oz designated container with a secure lid.
4. Slowly add water to form a total solution of 40 oz, seal, and shake until completely dissolved. Add a drop of a de-foamer to reduce foam.
5. Use a rake or your foot to remove any leaves & loose duff away from the trunk of the tree, 1-2 feet from trunk.
6. For trees < 24" DBH, pour 1 fl oz solution for every inch DBH.
7. For trees ≥ 24" DBH, pour 2 fl oz solution for every inch DBH.
8. For trees with heavy infestations and declining health, double the dose.
9. Pour appropriate ounces of solution into a measuring cup.
10. Pour solution from measuring cup to distribute chemical evenly on soil around base of tree. (If tree is on a slope, focus application on uphill side of tree.)
11. Once this is complete, rake the duff back towards the base of the tree to cover chemical.
12. Mark tree with paint or tag, as appropriate; move on to next tree.



From Safari Label: One level tsp. contains 2.4 grams, and 1 cup (8 fl oz) contains 4.0 oz by weight of Safari 20 SG Insecticide. Do not apply more than 2.7 lbs (0.54 lbs a.i.) per acre of nursery or landscape per year (just less than one 3 lb container).

### Hemlock Soil Application Instructions for Use with CoreTect Tablets:

1. Measure diameter in inches at breast height (DBH) of tree to nearest inch and record. (See instructions on reverse side.)
2. Use chart below to determine number of tablets needed based on DBH. For trees larger than 40" DBH, add 3 additional tablets for every additional inch of diameter.
3. Use hammer and stake to make holes in ground around base of tree. For large trees, 2-3 tablets can be placed in same hole, as long as tablets are placed 2-5" deep in soil.
4. Cover holes after tablets have been inserted.
5. Mark tree with paint or tag, as appropriate; move on to next tree.



CoreTect Tablets		Place tablets in soil 2-5" deep at base of tree. Maximum tablets per acre = 1080 (or 450 within 15' of water)					
DBH (inches)	Tablets to Apply	DBH (inches)	Tablets to Apply	DBH (inches)	Tablets to Apply	DBH (inches)	Tablets to Apply
≤ 1	1	11	13	21	34	31	60
2	1	12	15	22	37	32	62
3	2	13	17	23	39	33	65
4	3	14	19	24	42	34	68
5	4	15	21	25	44	35	71
6	5	16	23	26	47	36	74
7	7	17	25	27	49	37	77
8	8	18	27	28	52	38	80
9	10	19	30	29	54	39	82
10	11	20	32	30	57	40	85

\* Application rates based on Benton, E. P. and R. S. Cowles. 2016. Optimized Insecticide Dosage for Hemlock Woolly Adelgid Control in Hemlock Trees. The University of Georgia Warnell School of Forestry and Natural Resources, Tifton, GA, WSFNR-17-01.