



Insecticide Application Limits for Treating Hemlock Woolly Adelgid



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Some insecticides used to control hemlock woolly adelgid (HWA) have annual per-acre use limits. The Michigan Department of Agriculture and Rural Development (MDARD) offers this label guidance to help applicators and others comply with label directions, meet tree treatment objectives, and minimize environmental impacts. Please remember, applicators have a legal responsibility to read, understand, and follow all current label directions for the specific insecticide product being used.

- A treatment area is the total area within the boundaries of a property where a single treatment will occur. Include all surfaces (e.g., paved surfaces and buildings) and water bodies in treatment area delineations. Adjacent, not-to-be treated properties cannot be included in the calculation of the total area or the annual per-acre use limits.
- Annual per-acre active ingredient (a.i.) use limits may mean that not all hemlock trees in an area can be treated in the same year using the same product. If previous use of an insecticide with an annual per-acre use limit in the treatment area is known, include it in the calculations of the annual per-acre use limit for the insecticide.
- When an annual per-acre use limit in a treatment area is reached using soil, foliar, or basal applied methods, a different product with a different a.i. or application method (i.e. trunk injection) can be used to treat additional trees.
- Along with required application information, applicators are encouraged to record units (acres) treated when completing a pesticide application record.

Less than one acre



Prorate the per-acre use limit to correspond to the size of the treatment area.

Greater than one acre



Each acre is subject to annual per-acre use limits. Divide the treatment area into approximately equal one-acre sections before an insecticide application, and adhere to the use limit for each one-acre section.

It is not appropriate to calculate the total acreage on a multi-acre treatment area, determine a volume of insecticide allowed based on that acreage, and then apply that volume to a section of the treatment area.

Miscellaneous (e.g., along a city boulevard)



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Treatment areas may be defined in a variety of ways. For example: An applicator has a contract to treat all trees between the sidewalks on both sides of a boulevard. The boulevard stretches for 2 miles. The distance between the far edges of the treatment area is 50 ft., so one acre is 50 ft. by approximately 870 ft. Under this contract there are approximately 12 acres to be treated (i.e., treatment area). The area can be divided into approximately equal one-acre sections along the contours of the boulevard.

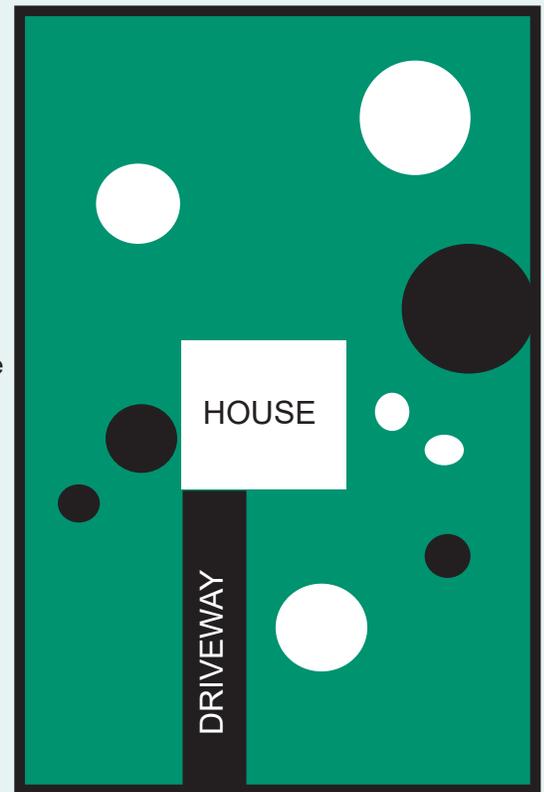
It is the responsibility of the applicator to be familiar with the boundaries of the treatment area.

Annual Per-Acre Use Limit Example

The figure at the right depicts a treatment area. Circles represent hemlock trees. The applicator chooses to treat hemlock trees with an insecticide product that has an annual per-acre use limit. To be compliant with the label, not all hemlock trees in the treatment area can be treated with the chosen insecticide product before reaching the use limit.

White circles indicate hemlock trees selected to be treated with the insecticide product based on the size of the tree - calculated as the diameter of the trunk at breast height (DBH inches) - and the amount of insecticide allowed per acre.

Black circles indicate trees that cannot be treated with the chosen insecticide product because the annual per-acre limit has already been reached in the treatment area. When all trees in a treatment area can not be treated with an insecticide product having an annual per-acre use limit, consider these options:



- A different product, with a different a.i. or application method (i.e. trunk injection) can be used to treat additional trees.
- Insecticides that have no annual per-acre use limit can be used to treat additional trees.
- More trees can be treated in 365 days.
- Some trees may be candidates for removal.

Use Limits for Soil Applied and Basal Trunk Spray Applications Expressed as Diameter at Breast Height (DBH) Inches

Active Ingredient (a.i.)	Formulations	Max product/Acre/Year	Max a.i./Acre/Year (lbs. a.i.)	Treatment Area (Acre)	Max Product/AREA/ Year	Total Treatable DBH Inches Using the min label rate	Total Treatable DBH Inches Using the max label rate
Imidacloprid	2F & 2SC	1.6 Pints (25.6 fl oz)	0.4	1/8	3.2 fl oz	32	16
				1/2	12.8 fl oz	128	64
				1	25.6 fl oz	256	128
Dinotefuran	20SG	2.7 lbs (43.2 oz)	0.54	1/8	5.4 oz	51	12
				1/2	21.6 oz	206	51
				1	43.2 oz	412	102

Read the Label!

It is your legal responsibility to read, understand, and follow all current label directions for the specific pesticide product being used. For label compliance questions, please contact MDARD's Pesticide and Plant Pest Management Division at (800)292-3939.

Additional HWA Insecticide Information - visit michigan.gov/hwa