
From: Jeffrey Gillis
Sent: Monday, April 1, 2019 1:30:40 PM
To: Patterson, Megan L

Subject: Questions regarding approved pesticides for browntail spraying

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Dear Meghan,

From our recent phone conversations and email exchanges, you have confirmed that permethrin is not a permissible insecticide for browntail spraying within 250 feet of water bodies.

I have several questions:

Permethrin, or at least the brand name Astro, used to be allowed and I would like to know if it could once again be considered as an allowable insecticide within the 50'-250' water setback. Several companies, including WellTree, used to use permethrin on select trees with extremely high browntail populations prior to caterpillar emergence or during later stages of caterpillar development which were still defoliating the trees. It was also labeled for use on many fruits and vegetables, which made it acceptable to apply when infested trees included both harvestable fruit trees such as apple, and non fruiting, or non harvestable trees such as oak.

My understanding is that bifenthrin is currently allowed within the 50'-250' setback area. It is also my understanding that bifenthrin labels do not support use on most fruits and vegetables. Lastly, it's always been my understanding that bifenthrin is extremely toxic to many marine organisms.

If my understandings are correct, why is permethrin no longer allowed, but bifenthrin is?

I am interested to know why imidicloprid is listed as an acceptable insecticide to use between the 50'-250' setback area,

or at all. I am confused by this as several of my professional colleagues and I are not aware that imidicloprid is in any way effective in the control of browntail caterpillars.

I am concerned that if the mission of the Board of Pesticides and or the Maine Forest Service is to support judicious and minimal pesticide use, it seems that allowing imidicloprid for browntail use may support the contrary. Additionally, listing imidicloprid as an allowable product could suggest to the greater public that imidicloprid is effective. This in turn could spur much greater use of the readily available product by the public, and needlessly expose the surrounding environment to the pesticide.

I look forward to discussing these questions with you further during the April 19th meeting at 9am in the Deering Building.

Sincerely,

Jeff Gillis
President
WellTree, Inc.
3 MacMillan Drive
Brunswick, ME 04011

Office: 207-721-9210
Mobile: 207-522-1021
Fax: 207-729-3392



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

**MAINE BOARD OF PESTICIDES CONTROL POLICY ON ALLOWABLE
PESTICIDES FOR THE CONTROL OF BROWNTAIL MOTH WITHIN 250
FEET OF MARINE WATERS**

Adopted January 11, 2017

BACKGROUND

On January 25, 2008, the Board adopted Section 5 of Chapter 29 which regulates the use of insecticides used to control browntail moth within 250 feet of marine waters. Section 5 limits insecticide active ingredients to those approved by the Board. Since that time, a number of newer chemistries have been registered for use and far more data is available on the efficacy of many products. On November 4, 2016 and December 16, 2016 the Board discussed the browntail moth populations and the available products. On January 11, 2017, the Board approved the following active ingredients for control of browntail moth in coastal areas located between 50 and 250 feet from the mean high water mark in accordance with CMR 01-026 Chapter 29: Standards for Water Quality Protection.

Acetamiprid
Bifenthrin
Clothianidin
Deltamethrin
Diflubenzuron
Dinotefuran
Fluvalinate
Imidacloprid
Spinosad

HENRY JENNINGS, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-2731
WWW.THINKFIRSTSPRAYLAST.ORG



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12/29/16

TO: Board Members
FROM: Lebelle Hicks PhD DABT
RE: Active Ingredients for Approval for Use in the 50 to 250 Foot Area from the Mean High Tide Mark, in Accordance with Chapter 29 Section 5 for Control of Browntail Moths

Background

In 2006, the Board's Environmental Risk Advisory Committee reviewed insecticides for aquatic toxicity to marine invertebrates. The relative aquatic risks for marine and freshwater invertebrates were evaluated for insecticides currently registered for:

- foliar applications to hardwood,
- use on landscape ornamental trees, and
- demonstrated efficacy for Browntail moth caterpillar control

Since 2006, new chemistries with known browntail moth efficacy have become available including, neonicotinoids and spinosad. Other active ingredients with potential efficacy are also available such as azadirachtin, several Bt strains, chlorantraniliprole, cyantraniliprole, indoxacarb, methoxyfenozide and tebufenozide. These latter compounds may be evaluated for relative risks when specific efficacy on browntail moth is available.

December 2016 Review

The methodology for the relative risk determination is similar to that used by the ERAC in 2006. The most sensitive marine invertebrate toxicity endpoint (acute LC50) was chosen and an Estimated Environmental Concentration (EEC) based on use rates from the product label were determined. EECs for a worst case scenario, of a spill of 100 gallons of use mix into a 1 acre body of water with depths of ½ foot (shallow), 6 feet (deep) and 23 feet deep (this is the average depth of inner Casco bay according to Gustafsson 1998) were determined.

The ratios (modified risk quotients (modRQ), based on the worst case scenario) of the EEC to the LC50 were calculated and the resulting relative risks were analyzed. Active ingredients and their relative risk quotients are presented in Tables 1 and 2, with a risk quotient of 500 used to segregate the active ingredients.

HENRY JENNINGS, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-2731
WWW.THINKFIRSTSPRAYLAST.ORG

Table 1. Invertebrate Modified Risk Quotients less than 500 for Aquatic Invertebrates, for Acute Worst Case Scenarios of 100 gallons of use mix spilled into a ½ foot deep, 1 Acre body of Water

Compound	Invertebrate Modified Risk Quotients		Status in 2006 Review
	Marine	Freshwater	
Acetamiprid	11	36	Not registered for this use
Bifenthrin	4	28	Not registered for this use
Clothianidin	6	14	Not registered for this use
Deltamethrin	54	2	Not evaluated
Diflubenzuron	125	31	Approved by the Board
Dinotefuran	1	0	Not registered for this use
Fluvalinate	278	16	Approved by the Board
Imidacloprid	5	3	Not registered for this use
Permethrin	306	833	Approved by the Board
Spinosad	1	0	Not registered for this use

Table 2. Invertebrate Modified Risk Quotients Greater than 500 for Aquatic Invertebrates, for Acute Worst Case Scenarios of 100 gallons of use mix spilled into a ½ foot deep, 1 Acre body of Water

Compound	Invertebrate Modified Risk Quotients		Status in 2006 Review
	Marine	Freshwater	
Acephate	no data	454	Not evaluated
<i>Carbaryl</i>	<i>1,326</i>	<i>4,447</i>	<i>Not approved by Board in 2006</i>
Cyfluthrin	967	93	Approved by the Board, new Marine toxicity data in 2010; 2016
Cyhalothrin	1,220	62,500	Not evaluated
Malathion	8,591	192,857	Not evaluated