



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

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COMMISSIONER

TO: Board Members  
 FROM: Lebelle Hicks, MS PhD DABT  
 RE: Review of Potential Browntail Moth Control Products  
 DATE: 10/26/2016

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The current resurgence of browntail moth populations is likely to present challenges for residents and pest managers in 2017. Chapter 29, Section 5 of the Board of Pesticides Control’s rules establishes standards for the use of insecticides to control browntail moths within 250 feet of marine waters, and limits which active ingredients can be used in that zone to those approved by the Board. Active ingredients currently used in the 50-250 foot zone for control of browntail moth include diflubenzuron, permethrin, tau-fluvalinate and cyfluthrin. A number of new chemistries have emerged since the Board’s Environmental Risk Advisory Committee recommended the current list. Additionally, more information is available on the efficacy of available insecticides. Consequently, the Maine Forest Service has suggested the time is right to update the list of appropriate products.

In addition to the question of which products should be approved for browntail moth control, there are two questions relating exemptions contained in CMR 01-026, Chapter 29, Section 5 (A), which is excerpted below:

***Exemptions***

*The prohibitions and restrictions in Section 5 do not apply to biological pesticides, to the injection of pesticides directly into the soil or shade and ornamental trees or to the application of pesticides by licensed commercial pesticide applicators using non-powered equipment.*

The first question relates to the definition of the term “biological pesticides”. At the time this section of the rule was adopted, the intention of the exemption was to permit the use of *Bt* and similar microbial pesticides. However, the term is not currently defined in Maine law and questions have arisen about non-microbial products, such as spinosad, derived from living organisms.

The second question relating to the exemptions is the broad question about injecting neonicotinoids and other persistent insecticides into trees pollinated by bees, given recent concerns for pollinators.

Table 1—which follows—contains a list of products registered in Maine that are labeled for use on moths in ornamental hardwood residential landscapes together with efficacy data provided by the Maine forest service.



<b>Table 1. Summary of Products Registered in Maine in 2016 for Use for Moths</b>				
<b>Efficacy <sup>(4)</sup></b>	<b>Compound (Chemcode) <sup>(1)</sup></b>	<b># prods</b>	<b>Chemical Class</b>	<b>MOA</b>
yes	Abamectin (122804)	2	Mectins	Chloride channel activators
yes	Emamectin benzoate (122806)	3		
yes	Acephate (103301)	12	Organophosphate	Cholinesterase inhibition
yes	Malathion (57701)	1		
yes	Carbaryl (56801)	5	Carbamate	
yes	Diflubenzuron (108201)	2	Insect growth regulator	Chitin inhibitors
unknown	Azadirachtin (121701)	13	Neem	Ecdysone agonist
unknown	Methoxyfenozide (121027)	2	Diacylhydrazine	
unknown	Tebufenozide (129026)	1		
unknown	Bta strain ABTS 1857 (6523)	1	<i>Bacillus thuringiensis</i>	Membrane disruption in gut
unknown	Btk Strain ABTS-351 (6522)	8		
unknown	Btk strain SA-11 (6519)	1		
unknown	Btk strain SA-12 (6518)	1		
yes	Acetamiprid (99050)	7	Neonicotinoid	nAChR activators
yes	Clothianidin (44309)	9		
yes	Dinotefuran (44312)	2		
yes	Imidacloprid (129099)	42		
yes	Spinosad (110003)	6	Spinosyns	nAChR allosteric activators
unknown	Chlorantraniliprole (90100)	2	Diamide	Ryanodine receptor modulators

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unknown	Cyantraniliprole (90098)	2		Ryanodine receptor modulators
unknown	Indoxacarb (67710)	1	Other	Sodium channels blocker
yes	Bifenthrin (128825)	33	Pyrethroid	Sodium channel modulators
yes	Cyfluthrin (128831)	3		
yes	Cyfluthrin-beta (118831)	4		
yes	Cyhalothrin-lambda (128897)	18		
yes	Cypermethrin (109702)	1		
yes	Cypermethrin-zeta (129064)	1		
yes	Deltamethrin (97805)	5		
yes	Fluvalinate (109302)	2		
yes	Permethrin (109701)	5		

- 1) National Pesticide Information Retrieval System (NPIRS, 2016) <http://nspirs.ceris.purdue.edu/>
- 2) BTM Product search methods 10/21/2016 LRH; for list of products by type of application see; tree moth all by method 10-24-16.XLXS <http://nspirs.ceris.purdue.edu/>
- 3) Scanning Label review of EPA approved Master Labels using EPA's Pesticide Product Label System (PPLS) <https://ofmpub.epa.gov/apex/pesticides/f?p=PPLS:1>
- 4) AI = active ingredient
- 5) Master List of Active ingredients and Mechanisms of Action Master List of AIs and MOA.XLS

