Maine Board of Pesticides Control

2015 BPC Update

287-2731

www.thinkfirstspraylast.org

What I plan to cover

- Posting problems
- New rules and policies
- School IPM reminder
- Storm water sampling results
- Pollinator protection

Posting problems

- When posting signs
  - Make sure they are easily seen from all points of normal ingress
  - Make sure the phone number on the sign is answered by someone who can provide quick answers to individuals who call with concerns about a pesticide application
  - Make sure the personnel answering the phone know how to quickly get information about an application done on that same day

New BPC rules & policies

- New posting requirements (Chapter 28)
- New licensing/certification periods and subsequent credit requirement changes
- New policy regarding vegetation management applications to recreational trails and parks
- New notification policy for applications to sidewalks and trails

Recently approved rule changes

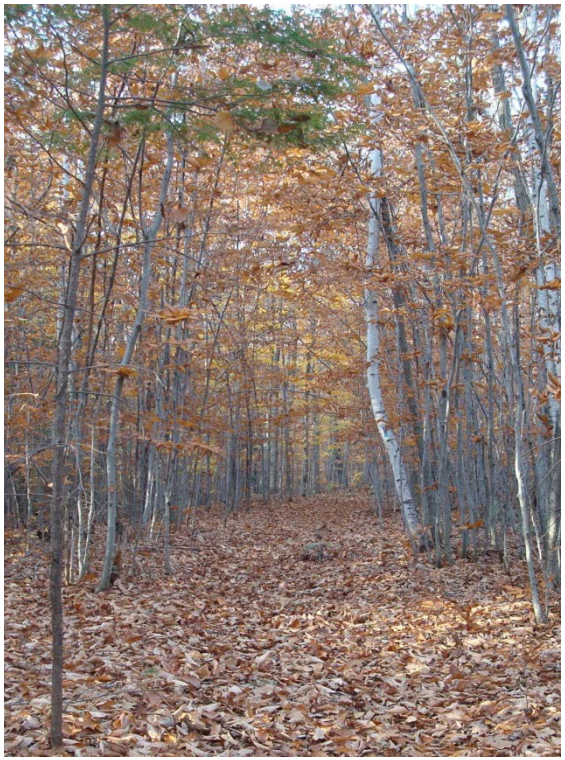
- Chapter 22 - Eliminate the requirement of identifying sensitive areas for commercial applications conducted under categories 6A, 6B and 7E

- Chapter 28 - Added to the list of categories that require posting: 6B except when making applications to sidewalks and trails (next slide), and 7E.
  - Must provide Board approved public notice when applications are conducted under category 6B to sidewalks and trails open to use by the public
  - This aligns with the amendments to Chapter 22, eliminating the requirement for mapping sensitive areas, in lieu of posting or public notice

Posting for sidewalks and trails

- Sidewalk - paved or constructed pedestrian walkway adjacent to a road

- Trail – marked passage, path or route used by the public for foot, bicycle or similar means of transport
  - Does not include rights-of-way **primarily used** by registered vehicles; (automobiles, ATVs or snowmobiles).



Posting for sidewalks and trails

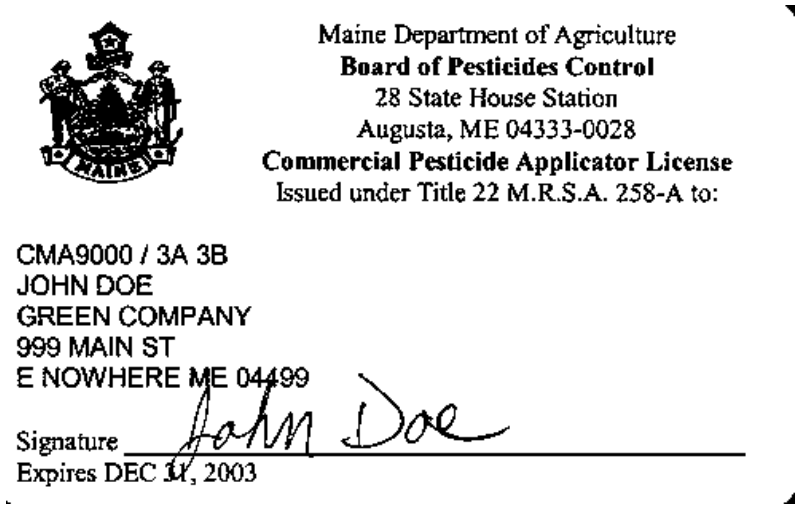
- Must use one or more of the below methods
  - Post signs at a kiosk and/or prominent points of ingress and egress
  - Post signs in areas frequented by the public and in the vicinity of the application, i.e., commercial, retail or institutional buildings or public gathering places
  - Above signs must be:
    - Must be posted for 48 hours
    - Must be conspicuously positioned with print of sufficient size to be readily observed
  - Provide public notice through a website, listserv or print publication of local or regional relevance

Commercial applicator licensing changes

- License & certification periods
  - Change the license period from two years to three;
  - Change the certification period from six years to three
- Amend the description of Category 6B to clarify what types of applications are included
  - management of vegetation on industrial, commercial, municipal or publicly owned areas including, but not limited to, industrial or commercial plants and buildings, lumber yards, airports, tank farms, storage areas, parking lots and sidewalks

License & certification periods

- With the change of the certification period from six years to three comes commensurate changes in the number of credits needed to renew the certification
  - Commercial Master
    - 9 credits/3 years
  - Commercial Operator
    - 6 credits/3 years



Maine Department of Agriculture
Board of Pesticides Control
28 State House Station
Augusta, ME 04333-0028
Commercial Pesticide Applicator License
Issued under Title 22 M.R.S.A. 258-A to:

CMA9000 / 3A 3B
JOHN DOE
GREEN COMPANY
999 MAIN ST
E NOWHERE ME 04499

Signature John Doe
Expires DEC 31, 2003

Commercial applicator licensing changes

- Change the requirement for passing both the core and category exams within one year of each other to within five years
- Shorten the time period a person must wait before re-taking a failed exam

Exam fail wait time

- Board changed the exam fail wait time
  - Before it was
    - 14 days first exam fail
    - 30 days subsequent exam fails
  - Now it is
    - 6 days for **any** exam fail

Spray contracting firm licensing changes

- Remove the requirements for spotters and monitors for forest insect aerial spray programs.
- Change the license period from two years to three.

Policy becomes law

- The Board added the requirement for applicators making outdoor treatments to positively identify application sites into Chapter 20 of its rules.
- Positive ID must be made by:
  - Checking electric meter number
  - GPS coordinates that are confirmed
  - Digital photo of property on work order
  - Company logo or tag affixed to property
  - Other Board approved method

School IPM duties!

- Make sure to get the IPM coordinator's signature whenever you apply pesticides:
  - Outdoors (unless Maine CDC has ID'd arbovirus in the area)
  - Indoors that are not baits, gels, crack and crevice, etc.
- Make sure you leave a complete record of each school application

Records, reports, authorization

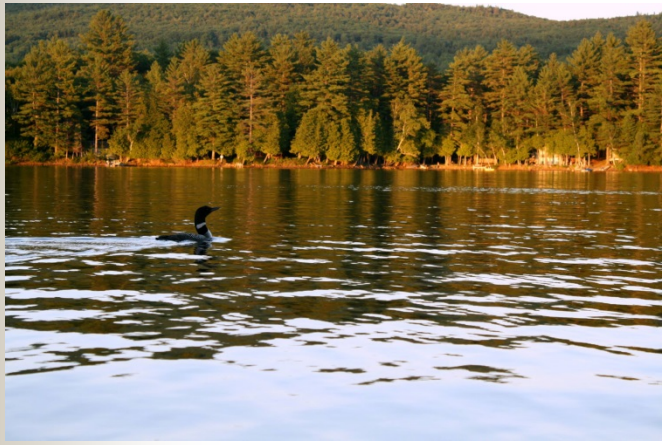
- Must obtain prior written authorization from the IPM Coordinator
  - Authorization must be specific to each application and given no more than 10 days prior to the planned non-exempt application
- Within one business day of each pesticide application the applicator must:
  - provide the IPM Coordinator with a written record of the application including the date, time, location, trade name of the product applied, EPA Registration number and the name of the licensed applicator
  - If the product has no EPA Registration number then the applicator must provide a copy of the label

Records, reports, authorization

- Must inform the IPM Coordinator about any pest monitoring activity and results
  - If it is acceptable to the IPM Coordinator, this may be achieved by recording them in the Pest Management Activity Log

Storm water sampling

- BPC took samples from storm water outflows
  - To the right are the active ingredients and number of samples with detects
  - Detects in red are potentially turf and ornamental products



2,4-D	7
Bentazon	1
Carbaryl	1
Hexazinone	6
Hydroxy Atrazine	1
Imazapyr	3
Imidacloprid	14
MCPA	4
MCPP	5
Metolachlor	2
Prometon	2
Propiconazole	1
Terbacil	3
Triclopyr	2

Pollinator Protection

- Bee kills are in the news! Legislators are asking for bans or moratoriums all over the country
- EPA is adding pollinator protection statements to labels
- Growers must be extremely careful
- If crop/weeds in the target area are flowering (or will be soon) or there are flowering plants nearby – think about what you're doing!

Portland, Oregon


PortlandTribune

Pesticide causes largest mass bumblebee death on record

Toll climbs to 50,000, affected 300 wild colonies

Tens of thousands of bumblebees and other pollinators were found dead under trees at the Target store in Wilsonville on Saturday. The discovery was

Earl Blumenauer proposes moratorium on use of pesticides harming bees

Created on Friday, 12 July 2013 15:30 | Written by Steve Law |

U.S. Rep. Earl Blumenauer, D-Portland, introduced a bill in the U.S. House of Representatives on Friday that would place a national moratorium on the use of certain pesticides suspected of harming bees.

Blumenauer's measure would restrict use of neonicotinoid pesticides, a class that includes the chemical compound suspected of causing the massive bumblebee deaths near the Target store in Wilsonville last month. An estimated 50,000 bees died on or around European Linden trees near the store that state agriculture inspectors determined had been sprayed with an insecticide known as dinotefuran, sold commercially as Safari.

by: LORI HALL - Bees were placed over European linden trees near Wilsonville Target after massive bumblebee deaths there traced to pesticide.

Oregon bans neonic use on linden trees

INDUSTRY NEWS

The Oregon Department of Agriculture has prohibited the application of neonicotinoid insecticides on the Tilia genus of trees.

MATT MCCLELLAN | March 5, 2015

The Oregon Department of Agriculture has banned the use of neonicotinoid insecticides on the *Tilia* genus of trees.
The rule prohibits the application of the four neonicotinoid insecticides, dinotefuran, imidacloprid, thiamethoxam and clothianidin, regardless of application method, on all trees in the *Tilia* genus, which includes linden and basswood trees. The ODA signed the final rule, OAR 603-057-0388, on Feb. 27.

Reducing impacts from neonics applied to turf

- If flowering weeds such as dandelion or white clover are present and flowering at noticeable levels:
  1. Avoid treating these areas with neonicotinoids
  2. Remove weeds with an herbicide
  3. Mow the turf immediately before spraying any insecticide and mow frequently enough to keep the blooms from returning

Doug Richmond, Purdue Univ. GCM Magazine Oct. 2014

Reducing impacts from neonics applied to turf

- Leave a buffer strip of 2-3 feet between the treated turf and the margin of the landscape bed to minimize the potential for flowering plants to take up the insecticide through their roots
- Wait until flower petals fall before applying neonics or other systemic pesticides to ornamentals

Doug Richmond, Purdue Univ. GCM Magazine Oct. 2014

Relative neonic toxicity

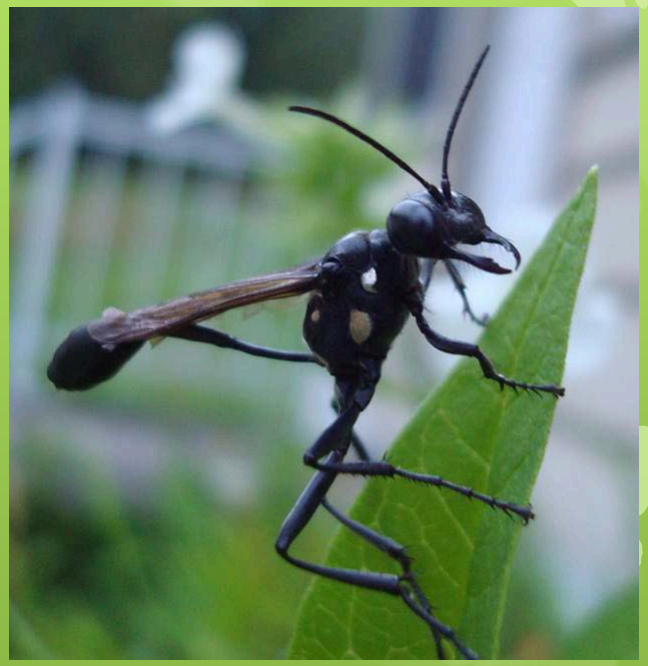
Ecotoxicology of several neonicotinoid insecticides

Insecticide (trade name/ company)	Toxicity†			
	Mammal LD_{50} (mg/kg)‡	Bird LD_{50} (mg/kg)‡	Fish LC_{50} (mg/liter)§	Honey bee LD_{50} (µg/bee)¶
Clothianidin (Aloft/ArystaLifeScience; Arena/Nufarm)	>500	430	104	0.004
Dinotefuran (Zylam/PBI-Gordon)	>2,000	>2,000	>100	>0.023
Imidacloprid (Merit/Bayer; others)	424	152	211	0.0037
Thiamethoxam (Meridian/Syngenta)	>1,563	576	>125	0.005

https://www.gcsaa.org/gcm-magazine/2014/october/neonicotinoid-insecticides-and-pollinators-what-s-all-the-buzz-about

Systemics can be harmful to beneficial predators and parasites

- Spider mite outbreaks have been observed after imidacloprid applications
  - May be the result of secondary poisoning of predators
  - May act as a fertility drug to the mites
  - Improves the health of the plant which feeds the mites
- Hemipteran predators like pirate bugs or big-eyed bugs may be eliminated
  - This may cause outbreaks of chinch bugs in turf
  - These “true bugs” may also feed on plant sap directly



Impacts of neonics used on trees and woody ornamentals

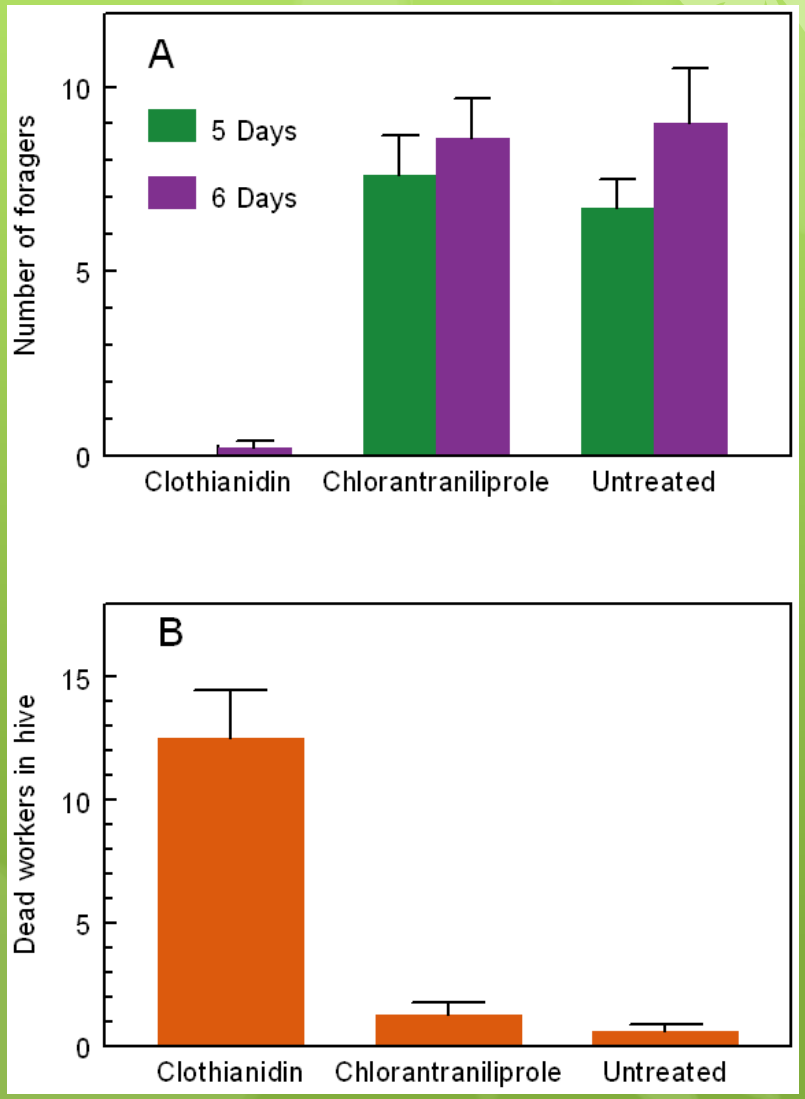
- Imidacloprid and dinotefuran are both highly toxic to bees.
- Low doses of these neonics can cause bees to behave in ways that lead to death or colony weakening
- Imidacloprid changes to its olefin stage in trees and the olefin stage is 10 – 16 times more toxic to insects
- Peak concentrations may occur 18 months after a soil treatment

Impacts of neonics used on trees and woody ornamentals

- Use in woody plants tends to concentrate neonics
  - 32-inch tree treatment is equivalent to treating one acre of agricultural crops
  - Higher rates can be more risky to pollinators
  - Must not treat trees or shrubs that produce flowers that are highly attractive to pollinators unless they have finished flowering for that season
  - Best to use dinotefuran over imidacloprid on trees that provide bee attractive blooms
    - Imidacloprid can persist for as long as 8 years
    - Dinotefuran usually breaks down over one growing season

Risk of systemic insecticide application to turf with flowering weeds

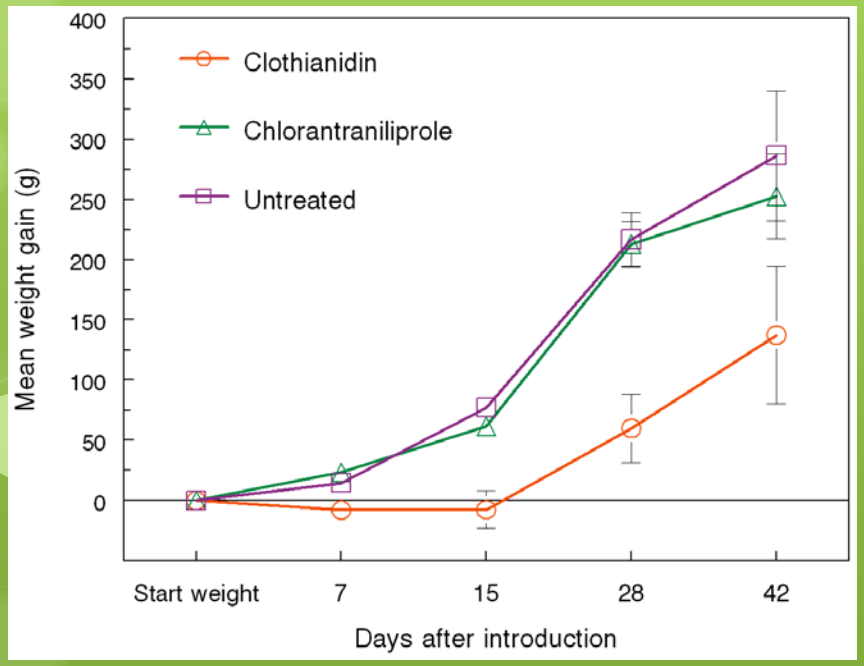
- Clothianidin & chlorantraniliprole were applied to turf with white clover flowers and bumble bees were confined to the treatment plots for 6 days
- Clothianidin caused
  - reduce weight gain
  - stopped queen production in bumble bees, and
  - also resulted in over a 10-fold increase in worker deaths
- Chlorantraniliprole had no statistically significant effects compared to the untreated check

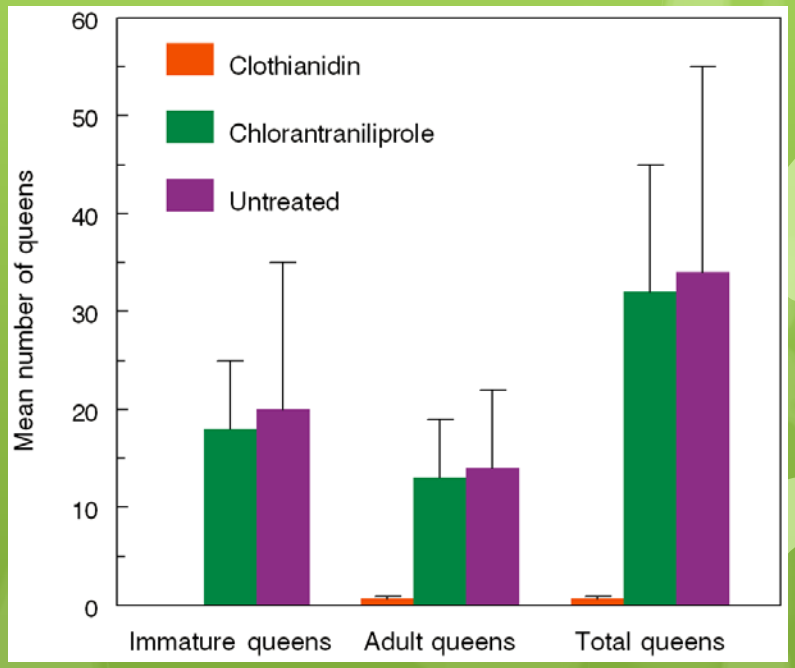


Potter , Redmond & Larson, PLOS ONE June 2013

Risk of systemic insecticide application to turf with flowering weeds

Impacts of clothianidin on bumble bee weight and queen production





Risk of systemic insecticide application to turf with flowering weeds

- Unfortunately bumble bees are not repelled by application of either insecticide
- Mowing treatment plots and removing the clover blossoms just before treatment prevented the impact on bumble bees

Table 3. Absence of acute adverse effects on *Bombus impatiens* colonies after 2 weeks' exposure to turf with flowering white clover that had bloomed after the sward was mown to remove flowers present at the time of treatment.

	Adult workers per hive[a]		Immature bees per hive[b]				
Treatment	Live	Dead	Live	Dead	Honey pots	Total weight (g) of live adults[c]	Hive weight (g)
Clothianidin	93±9	11±4	12±8	6±1	52±6	13.0±1.3	585±11
Chlorantraniliprole	130±12*	7±2	8±4	6±2	69±6	16.7±1.6	621±16
Untreated	81±8	7±2	0	3±1	56±3	11.3±0.9	588±8

Home & Garden (Homeowner) Use of Pesticides

8% of Conventional Pesticide Use, but 15% of the Insecticide Use

National Data

* 67% herbicides
* 22% insecticides
* 11% fungicides

Qualitative Estimate of Insecticides Sold *

Active Ingredient	Number of Units Sold
Bifenthrin	18,000
Cypermethrin	12,000
Carbaryl	10,000
Chlorantraniliprole	7,500
Imidacloprid	2,500
Pyrethrins	2,100

*** 2013 Maine Sales Reports**

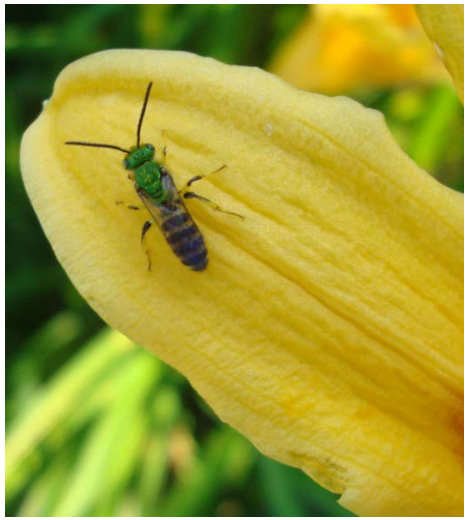
Greenhouses & Nursery

* These businesses involve – among other things – flowering plants, shrubs and trees
* Consumers don't want infested plants
* We know neonics are used some in this industry
* Some growers are focusing on the use of beneficial insects
* The BPC doesn't have very good data on this industry

So Where Do We Focus Our Efforts?

Insecticide Use by Professional Applicators

* 15% of insecticide use is by professional applicators
  * A significant percentage is applied in, on, and around structures
  * A significant percentage is used on turf – should be low risk as long as clovers are mowed off
  * Part is used for mosquito and tick control – watch out for flowering plants
  * A relatively small part is used on trees and shrubs – but it's worth giving some additional thought



Home & Garden Insecticide Use

15% of the insecticide use

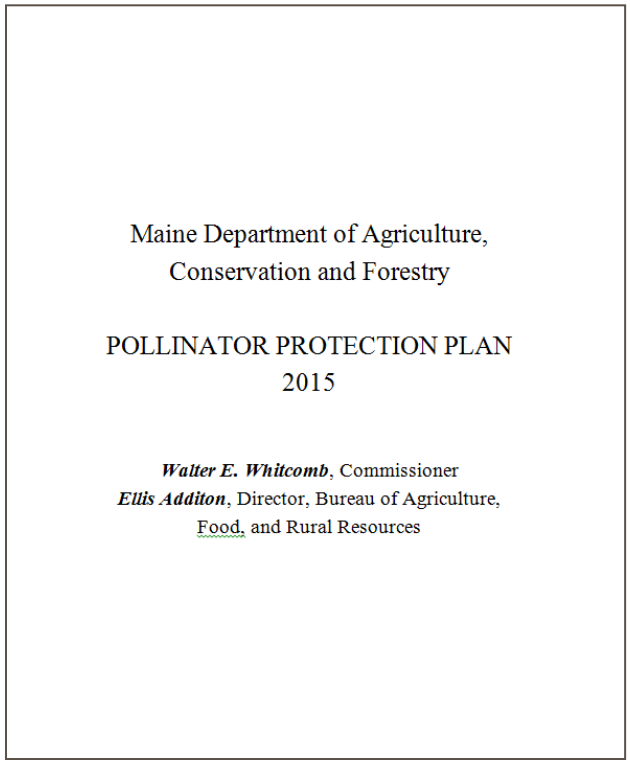
* Based on the products purchased in Maine, we think:
  * The bifenthrin is used primarily as an ant control around structures
  * The imidacloprid is probably used for turf grub control
  * Carbaryl would be used on gardens
  * This is a good sector to do some work on

A Big Picture Look
Where to focus our efforts

* We need more research because the precise role of pesticides in bee decline is still quite unclear
* We need better communication between beekeepers and pesticide applicators
* We should continue with education & promotion of best management practices with:
  * Agricultural producers
  * Tick & mosquito applicators
  * Ornamental applicators
  * **Homeowners! (15% of the insecticide use in Maine)**

Pollinator protection plan

- The DACF developed a pollinator plan
- It is based on the North Dakota plan
- It stresses voluntary measures such as education, BMPs and communication
- It does not contain any new regulatory requirements



Maine Department of Agriculture,
Conservation and Forestry

POLLINATOR PROTECTION PLAN
2015

Walter E. Whitcomb, Commissioner
Ellis Additon, Director, Bureau of Agriculture,
Food, and Rural Resources

That’s All Folks

- Questions