

## **BOARD OF PESTICIDES CONTROL**

February 19, 2016

AMHI Complex, 90 Blossom Lane, Deering Building, Room 319, Augusta, Maine AGENDA

8:30 AM

### 1. Introductions of Board and Staff

2. <u>Minutes of the January 13, 2016 Board Meeting</u>

Presentation By: Henry Jennings Director

Action Needed: Amend and/or Approve

#### 3. Discussion of the Key Messages for Homeowner Outreach

At the last three meetings, the Board discussed public concerns about homeowner pesticide use and explored ideas for promoting Integrated Pest Management (IPM) to this audience. Before embarking on an outreach campaign the Board needs to clarify exactly which messages are to be promoted so that there is consistency between co-operators. The staff has drafted a memo for the Board's consideration.

Presentation By: Megan Patterson Pesticide Safety Educator

Action Needed: Provide Guidance to the Staff

### 4. <u>Update on Actionable Strategies Developed by Board Staff for Promoting Integrated Pest</u> <u>Management with Homeowners</u>

At the November 13, 2015 meeting, the Board discussed public concerns about homeowner pesticide use and explored ideas for promoting Integrated Pest Management (IPM) to this audience. At the December 18, 2015 meeting, the Board heard from invited recipients of pesticide registration revenues as they discussed their current activities related to homeowner IPM and whether there may be opportunities to expand their roles. At the January 13, 2016 meeting, the staff presented the actionable strategies list they created for promoting IPM to homeowners. The

Board directed the staff to begin work on these strategies, to measure participation/success and give a progress update at the next Board meeting.

Presentation By:	Megan Patterson
	Pesticide Safety Educator

Action Needed: None

# 5. <u>Consideration of a Consent Agreement with Jacob Boyington of Appleton Ridge Construction of Appleton, ME</u>

On June 3, 1998, the Board amended its Enforcement Protocol to authorize staff to work with the Attorney General and negotiate consent agreements in advance on matters not involving substantial threats to the environment or public health. This procedure was designed for cases where there is no dispute of material facts or law, and the violator admits to the violation and acknowledges a willingness to pay a fine to resolve the matter. This case involves a lab-confirmed drift of Malathion to residential property during an application made to a blueberry field in Palermo.

Presentation By:	Raymond Connors Manager of Compliance
Action Needed:	Approve/Disapprove the Consent Agreement Negotiated by Staff

# 6. <u>Consideration of a Consent Agreement with Priority Real Estate Group, LLC of Topsham, ME</u>

On June 3, 1998, the Board amended its Enforcement Protocol to authorize staff to work with the Attorney General and negotiate consent agreements in advance on matters not involving substantial threats to the environment or public health. This procedure was designed for cases where there is no dispute of material facts or law, and the violator admits to the violation and acknowledges a willingness to pay a fine to resolve the matter. This case involves an employee of Priority Real Estate Group who made an unlicensed application of Roundup Weed and Grass Killer herbicide to curbs and sidewalks of a school in Brunswick while the school was in session.

Presentation By:	Raymond Connors Manager of Compliance
Action Needed:	Approve/Disapprove the Consent Agreement Negotiated by Staff

#### 7. Consideration of a Consent Agreement with Joseph Lemar of Dresden, ME

On June 3, 1998, the Board amended its Enforcement Protocol to authorize staff to work with the Attorney General and negotiate consent agreements in advance on matters not involving substantial threats to the environment or public health. This procedure was designed for cases where there is no dispute of material facts or law, and the violator admits to the violation and acknowledges a willingness to pay a fine to resolve the matter. This case involves an unlicensed application of Roundup Herbicide made to a blueberry field.

Presentation By:	Raymond Connors Manager of Compliance
Action Needed:	Approve/Disapprove the Consent Agreement Negotiated by Staff

#### 8. <u>Other Old or New Business</u>

- a. Central Maine Power Company's Transmission Right-of-Way Drift Plan for 2016
- b. Email from Nancy Oden
- c. Email from Carol Laboissonniere
- d. Letter from Physicians for Social Responsibility Maine Chapter
- 9. <u>Schedule of Future Meetings</u>

March 25, and May 6, 2016 are tentative Board meeting dates. The Board will decide whether to change and/or add dates.

Adjustments and/or Additional Dates?

10. <u>Adjourn</u>

# NOTES

- The Board Meeting Agenda and most supporting documents are posted one week before the meeting on the Board website at <u>www.thinkfirstspraylast.org</u>.
- Any person wishing to receive notices and agendas for meetings of the Board, Medical Advisory Committee, or Environmental Risk Advisory Committee must submit a request in writing to the <u>Board's office</u>. Any person with technical expertise who would like to volunteer for service on either committee is invited to submit their resume for future consideration.
- On November 16, 2007, the Board adopted the following policy for submission and distribution of comments and information when conducting routine business (product registration, variances, enforcement actions, etc.):
  - For regular, non-rulemaking business, the Board will accept pesticide-related letters, reports, and articles. Reports and articles must be from peer-reviewed journals. E-mail, hard copy, or fax should be sent to the attention of Anne Chamberlain, at the <u>Board's</u> <u>office</u> or <u>anne.chamberlain@maine.gov</u>. In order for the Board to receive this information in time for distribution and consideration at its next meeting, all communications must be received by 8:00 AM, three days prior to the Board <u>meeting date</u> (e.g., if the meeting is on a Friday, the deadline would be Tuesday at 8:00 AM). Any information received after the deadline will be held over for the next meeting.
- During rulemaking, when proposing new or amending old regulations, the Board is subject to the requirements of the APA (<u>Administrative Procedures Act</u>), and comments must be taken according to the rules established by the Legislature.



STATE OF MAINE MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY BOARD OF PESTICIDES CONTROL 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

# **BOARD OF PESTICIDES CONTROL**

January 13, 2016

Augusta Civic Center, 76 Community Drive, Kennebec/Penobscot Room, Augusta, Maine MINUTES 3:00 – 4:00 PM BOARD MEETING

### 4:00 - 5:00 PM OPEN FORUM

#### 5:00 - 6:00 PM BOARD MEETING CONTINUED IF NECESSARY

Present: Bohlen, Eckert, Flewelling, Granger, Jemison, Morrill, Stevenson

- 1. <u>Introductions of Board and Staff</u>
  - The Board and Staff introduced themselves
  - Staff Present: Chamberlain, Connors, Fish, Jennings, Tomlinson

#### 2. <u>Minutes of the November 13, 2015 and December, 18, 2015, Board Meetings</u>

Presentation By:	Henry Jennings
	Director

Action Needed: Amend and/or Approve

- Jemison and Morrill pointed out a couple of typos in the November minutes.
  - Flewelling/Jemison: Moved and seconded to accept the November minutes as amended and the December minutes as presented.
  - In Favor: Unanimous
- 3. <u>Request from Maine Migrant Health Program and Eastern Maine Development Corporation to</u> <u>Help Support a Worker Safety Training Program for Summer 2016</u>

Since 1995, the Board has supported a Migrant and Seasonal Farmworker Safety Education program. During 2015, 308 individuals received Worker Protection Standard training, 308 individuals received take-home exposure training, and 310 received heat stress training. The Maine Migrant Health Program and Eastern Maine Development Corporation are proposing to provide training to one health-and-safety outreach worker during the 2016 agricultural season. Funding to support this effort is being requested in the amount of \$3,675, a 5% increase over the amount requested last year. The funding has been accounted for in the Board's FY'16 budget

Presentation By: Chris Huh, Program Manager, Farmworkers Jobs Program, Eastern Maine Development Corporation Elizabeth Charles, Enabling Services Coordinator, Maine Migrant Health Program

Action Needed: Discussion and Determination if the Board Wishes to Fund this Request

Elizabeth Charles was present and she explained that Chris Huh had a conflict and was unable to attend. Charles said that 2015 was a very successful year. 308 farmworkers were trained in pesticide safety, an increase of 11%. 308 were also trained in limiting pesticide exposure to families, an increase of 22%. Heat stress training was included for the first time and given to 310 workers. In 2016 tractor training will be added. Hopefully this will allow them to reach growers that have not sought them out in the past. The person who did the job in 2015 is returning in 2016; he did a great job expanding outreach and building relationships.

- Jemison asked whether there has been any effort to correlate number of trainings, number of accidents and incidents. Charles replied that it is not possible to quantify prevention and a lack of accidents. They do an impact evaluation with farmers, using pre-and post-tests, both on the day of training and three to four weeks later. It tests whether they remember the content and whether behavior has changed based on what was taught.
- Eckert asked why they are asking for a slight increase. Charles replied that the tractor training would be included in the same program. Also, mileage rates have increased. The program has been funded at the same level for the last five or six years.
- Morrill asked whether they had been able to reach all the intended audience, or is there a larger audience that would like the services. Charles replied that several staff members were trained so if the principal trainer was busy another staff member could fill in. They have not had to turn anyone down so far.
  - Jemison/Eckert: Moved and seconded to approve a grant to Maine Migrant Health Program and Eastern Maine Development Corporation in the amount of \$3,675
  - $\circ \quad \text{In Favor: Unanimous} \\$

## 4. <u>Discuss List of Actionable Strategies Developed by Board Staff for Promoting Integrated Pest</u> <u>Management with Homeowners</u>

At the November 13, 2015 meeting, the Board discussed public concerns about homeowner pesticide use and explored ideas for promoting Integrated Pest Management (IPM) to this audience. At the December 18, 2015 meeting, the Board heard from invited recipients of pesticide registration revenues as they discussed their current activities related to homeowner IPM and whether there may be opportunities to expand their roles. The Board further directed the staff to develop actionable work items for implementation in 2016 and beyond. The staff has developed a list of ideas for the Board's consideration.

• Jennings stated that the staff reviewed the discussion at the last meeting to see which areas drew the most interest. One of the comments heard repeatedly is that it's going to require a network in order to be effective. The BPC staff does not have sufficient resources to effectively reach 1.3 million non-licensed potential applicators. There are networks already in place that have collaborated on YardScaping and the Portland Flower Show efforts, both of which promote sustainable land care practices. Participants include Soil and Water Conservation Districts, Cooperative Extension and other non-profit organizations involved in water quality efforts. The staff doesn't need to start from scratch; it simply needs to inject some energy into previous groups and look for other cooperators who are interested. Jennings

suggested the staff set up a meeting this winter and then start to get some ideas on how to promote topics.

- Jennings noted there is a lot of interest in lawn care in connection with this topic. There are graphs that everyone likes to cite related to the increase in use of lawn care products. Maine does not have a turf specialist. We rely on University of Massachusetts, University of Rhode Island and Cornell for turf recommendations. In Maine, Lois Stack has some involvement in turf, but it is not her focus. Maybe we need to consolidate all the information available which is specific to the Northeast, and tailor that information to best suit Maine. The staff could register a URL, a catchy name that would stick in peoples' minds. The staff could focus on aggregating existing information instead of starting from scratch. There is a lot of information available, but it's difficult for homeowners to find and figure out what is most applicable to Maine. Since most people have a limited amount of time to invest, making lawn care information easily accessible might increase adoption of recommendations. The staff could offer free articles about sustainable lawn care, or pay for advertising to promote available resources on the internet.
- Jennings said that there was a lot of discussion at previous meetings about training staff at various retail outlets. That has been done in the past. It is a tough group to deal with, especially the big-box stores; it's a pretty dynamic group. Training staff at retailers might be most successful with garden centers; a more static and interested group.
- Jennings noted that there was also a lot of discussion around the signs required at pesticide retailers and their placement. Often they are hard to find. The Board could look at the rule to require better placement, specify what size it has to be or encourage better placement. The signs are available on the website so generally people print in black and white. A color copy is sent with the license renewals every year but usually people post black and white copies which are not very eye catching.
- Jennings went on to discuss the idea of getting homeowner IPM and sustainable practices in the media. We tend to get a little stuck on what the message should be; there is a diversity of opinion on that. It requires a delicate balancing act and needs to be science-based. Positive messages are more readily accepted than negative messages. The staff will need to work with the Board on messaging and be sure it's something everyone can agree on. For instance, we can probably agree that the more educated people are, the better.
- Jemison noted the 700% increase and asked how much of that was weed'n feed. Fish replied almost 90%. Jemison said that seems to be the low hanging fruit. Provide information about how bad it is. It would be interesting to know how many homeowners mow their own lawns, how many buy their own supplies versus hiring professionals. Try to hone down to what that group is, and then have a message: would you rather be mowing your lawn or doing something else? If you use these products you have to mow at least once a week. If you don't fertilize you can go longer between mowing. Appeal to them about air pollution; lawnmowers are worse than automobiles; it's inefficient; it's a waste of your time. Reduce the desire to have a perfect lawn. Appeal to using less fuel.
- Stephenson agreed, saying it helps to spin your position. People are proud of their lawns; that's why they put so much into it. People are even more proud if they are doing it right; they can eliminate mowing six times this year.
- Referring again to the 700% increase in homeowner pesticide use, Fish clarified that 90% of the products were lawn care products, a lot of it was weed'n feed. It includes commercial applicators as well as homeowners applying pesticides themselves.
- Bohlen remarked that the items on the list have very different staff work requirements; some are getting something set up and let run, others are giving talks over and over for many months. Does the staff have the time to do this?

- Jennings replied that that would depend on the current IT project which is taking up significant amounts of time. It also depends on what level of priority the Board wants to assign this. It will take staff time away from other things, but the Board has a talented staff.
- Bohlen asked how to stack them as potential value vs potential staff time. A lot of people will eventually find our websites, how effective is that? Presentations are very effective but to a small audience and are very time consuming.
- Jennings said that the Board used to write a lot of articles and send them to the media and hope they got coverage. The first two items on the list could be worked on before the growing season starts. The third, content to media, could be planned out and under develop before the season begins. Kathy Murray is a great resource. The Maine CDC has data on ticks, vector-borne-diseases, and information on prevention. Other items on list not nearly as time consuming. One thing you don't see on the list that people in the audience talked a lot about, is measurement. In the past, the staff put a lot of effort into measurement and got nothing useful out of it. The data was not particularly useful. It's very hard to measure. When most of what you're doing is prevention, it's really hard to measure the impact.
- Flewelling asked if the use of chemicals has gone up. Fish replied that the trend is up. Flewelling said that people are making choices, they want nice lawns. So the question is: do we like their choices? The goal should be to not eliminate peoples' choices. Flewelling understands there are ordinances going in down south that eliminate choices. Obviously we want people to use products correctly.
- Morrill agreed that people should have choices, but they should be educated about the choices. Fifteen percent of the national insecticide use is home and garden use. Do homeowners really know what they're using? Maybe some education is our job, maybe some is the manufacturers.
- Granger stated that it is difficult to reach people in the marketplace. Training sales staff is difficult in any setting. We might want to think about training a single person to handle questions. If we could interest retailers in having one person be trained, a central person to go to with questions, similar to the IPM Coordinator in schools. They don't have to be licensed. It might be a way to get a higher level of education by using designated individuals.
- Eckert said that the message is to use fewer pesticides to protect air and water and people. She was impressed by the number of potential collaborators that came to the last meeting. The BPC staff doesn't have to do everything; other people and groups could be helpful in sharing the message.
- Morrill said that he liked the first suggestion. Look at the messages we have, expand them and direct them toward homeowners. The knee-jerk reaction is to create a new website, but there's so much information already out there, we don't want to reinvent things. Can we consolidate what's already on the website so homeowners can get to it and get the message out so they know it's there?
- Jennings replied that creating a URL is easy and doesn't cost much; it could just go to our existing site. Needs to be a snappy catchphrase that will stick in peoples' minds. The staff could use information that already exists and links to other sites.
- Stevenson suggested that it should be used as a resource for collaborators so that everyone is delivering the same message.
- Jennings noted that the IPM Council might be the logical place to house that. Associating with them might have some value.
- Flewelling asked if there are BMPs for lawns. Jennings replied that there is a set for schools and a set for commercial applicators. Fish remarked that there is homeowner stuff on the YardScaping site.
- Morrill said the staff has already done good work, but nobody knows about it. The question is how to get homeowners engaged in the process so we can educate them on what they're doing on their property. He agrees with Granger that it's hard to train retail staff, but that doesn't

mean we shouldn't do it. The staff could provide educational opportunities at garden centers; similar to tick talks, open to the general public.

- Bohlen noted that retail outlets that provide do-it-yourself workshops might work with the Board, such as Lowes, Skillins and Longfellows, etc.
- Fish said that we could train someone at each of those places so they could do the talks.
- Jennings noted that getting involved in municipal ordinances is tricky. The staff doesn't want to get caught up in situation where we have to say this is or isn't a good ordinance. Even if we want to give a presentation on what already exists in pesticide law, we still have to be careful. If the staff answers questions it could be portrayed that the Board endorses their ordinance.
- Eckert stated that it seems like you have to get involved early, when they're thinking about writing it, not when they've already written it and have advocates and detractors. She suggested sending information to all municipalities saying that we have a talk about pesticide laws.
- Jennings replied that it is a balancing act in terms of message. At a minimum we will put up a web page specific to municipalities. We have tried working with the Maine Municipal Association, but pesticides are not a priority topic for them. Unless a town is in the middle of writing an ordinance, they generally aren't interested in pesticide law.
- Bohlen opined that the interest in ordinances is directly related to why we want to get information out to homeowners. There is increased usage and people are scared by that. By the time the municipality is paying attention, there is already an advocacy group. These issues are very closely tied together. This is a marketing opportunity for the Board about what it is doing to address these issues and to make that information available to people. Here are ways to minimize pesticide use and here's what we're doing. It's more evidence that people aren't finding the website.
- Morrill noted that when we talk about soil samples and calibration of spreaders—things like that—we talk at a high level and take it for granted that people will comprehend the information. But we all had to learn the basic science at some point.
- Jennings reiterated that we have the resources to work on the list of educational effort or work on measurement, but we can't do both. The Board would need at least one full-time person to try to quantify use.
- Katy Green said she understands the hesitation to commit to measurement, but how will you know if you've moved the dial at all with your efforts?
- Morrill replied that this is a topic that isn't going to go away.
- Jennings said the easiest thing to measure is hits to a website.
- Morrill said we should measure participation. Do more presentations, reach more homeowners, which are all measurable.
- Eckert asked if we could measure the amount of weed 'n feed sold. Fish replied that you can continue to see a trend, but you can't consider them absolute numbers because of how it's reported. It's calculated based on what's shipped into the state, not what sold, and sometimes there's double reporting.

The meeting suspended during the Public Forum, during which time some suggestions around the current topic were given by audience members.

# • Consensus was reached to revisit the topic at the next meeting and the staff should be prepared to give an update.

## 5. <u>Other Old or New Business</u>

a. Email from Cynthia Ladderbush

- Eckert noted that the Board is not who gets to decide how farming is done in the state. If they want something done they need to go to the Legislature.
- b. Other
  - Eckert said that she had been asked about GMO labeling and wondered if there is a new GMO labeling bill in the Legislature. Jim Dill replied that there are currently two bills in front of the ACF Committee. The one that passed two years ago required contiguous states to pass similar laws; if Maine went alone, many companies wouldn't bother. Vermont was sued and has spent a million dollars defending their GMO law. There was a federal bill; we waited to see how that would fare before considering ours. The federal bill, if passed, would have prevented states from requiring labeling. The new bill basically says if there are any GMO ingredients, it must be labeled, no exemptions. The committee hasn't taken it up yet.

#### 6. <u>Schedule of Future Meetings</u>

February 19, March 25, and May 6, 2016 are tentative Board meeting dates. The Board will decide whether to change and/or add dates.

Adjustments and/or Additional Dates?

- No future dates were added
- 7. <u>Adjourn</u>
  - Jemison/Stevenson: Moved and seconded to adjourn at 4:28 pm
  - In Favor: Unanimous



PAUL R. LEPAGE GOVERNOR

## STATE OF MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY BOARD OF PESTICIDES CONTROL 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

WALTER E. WHITCOMB COMMISSIONER

HENRY S. JENNINGS DIRECTOR

# MEMORANDUM

Date:February 9, 2016To:Board MembersFrom:StaffSubject:Staff Proposed Messages for Homeowner IPM and Outreach

At the January 13, 2016 meeting, the Board reviewed a list of staff proposed actionable outreach projects related to homeowner Integrated Pest Management (IPM). The Board determined that the proposed list of actionable items was ambitious, but should be pursued.

Staff determined that the selection of messages of focus is a major stepping stone toward developing a cohesive outreach program. Board staff developed a list of topics that seem pertainant to homeowner IPM and that list is provided below. Board staff hope this list will assist the Board in clarifying which messages to promote.

- Is it a pest and does it warrant control efforts?
- Proper identification of pests
- Threshold for action—acceptable levels of control versus complete elimination
- Read control recommendations from reputable sources
- Use the most effective combination of mechanical, cultural and pesticide strategies
- What is a pesticide?
- Product choice and use
  - Read the label carefully
  - Understand the label
  - Follow all label directions
  - Ensure proper measurement and distribution of chosen products
- Minimize pesticide exposure
- How to minimize risks
  - Risks from mechanical control
  - Risks of not controlling the pest
  - Risks of using pesticides

# Proposed Administrative Consent Agreement Background Summary

Subject: Jacob Boyington Appleton Ridge Construction 1108 Appleton Ridge Road Appleton, Maine 04862

Date of Incident(s): August 18, 2015

**Background Narrative:** Board staff responded to a drift complaint in Palermo alleging that drift occurred to a residential property when a pesticide application was made to an abutting blueberry field. The owner / commercial applicator of Appleton Ridge Construction, Jacob Boyington applied malathion insecticide to the blueberry field. Two separate foliage samples collected from turf near the house on the abutting property tested positive for malathion.

# **Summary of Violation(s):**

CMR 01-026 Chapter 22 section 4(B)I Standards for Unconsented, Off-Target Drift of Pesticides

> I. General Standard. Pesticide applications shall be undertaken in a manner which minimizes pesticide drift to the maximum extent practicable, having due regard for prevailing weather conditions, toxicity and propensity to drift of the pesticide, presence of Sensitive Areas in the vicinity, type of application equipment and other pertinent factors.

CMR 01-026 Chapter 22 section 4(B)II

II. Prima Facie Evidence. Pesticide residues in or on any off-target Sensitive Area Likely to Be Occupied resulting from off-target drift of pesticides from a nearby application that are 1% or greater of the residue in the target area are considered prima facie evidence that the application was not conducted in a manner to minimize drift to the maximum extent practicable.

**Rationale for Settlement:** The staff took into consideration the levels of residue detected, the precautions the applicator took, and the conditions on site at the time of the application.

Attachments: Proposed Consent Agreement

#### STATE OF MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY BOARD OF PESTICIDES CONTROL

In the Matter of:	)	
Jacob Boyington	)	ADMINISTRATIVE CONSENT AGREEMENT
Appleton Ridge Construction	)	AND
1108 Appleton Ridge Road	)	FINDINGS OF FACT
Appleton, Maine 04862	)	

This Agreement by and between Jacob Boyington (hereinafter called the "Applicator") and the State of Maine Board of Pesticides Control (hereinafter called the "Board") is entered into pursuant to 22 M.R.S. §1471-M (2)(D) and in accordance with the Enforcement Protocol amended by the Board on June 3, 1998.

The parties to this Agreement agree as follows:

- 1. That the applicator operates Appleton Ridge Construction and provides commercial pesticide application services including applying pesticides to commercial blueberry fields.
- 2. That on August 20, 2015, the Board received a call alleging pesticide drift to a residential property when a blueberry field across the Level Hill Road in Palermo managed by RT Allen & Sons Inc., blueberry company was sprayed on August 18<sup>th</sup>.
- 3. That in response to the call in paragraph two, a Board inspector conducted a follow up inspection with the caller the same day the call was received. The inspector also called RT Allen & Sons Inc. and was granted permission to sample the field. The inspector was informed by the blueberry company that Jacob Boyington from the Appleton Ridge Construction company was contracted to make the pesticide application to the field. Three foliage samples were collected from the residential property described in paragraph two. One foliage sample was collected from the treated blueberry field and one foliage sample was collected from the untreated buffer left by the applicator. The applicator was called at this time but was not available to meet the inspector until August 27<sup>th</sup>.
- 4. That on August 27, 2015, the inspector conducted a follow up inspection with the applicator for the application described in paragraphs two and three.
- 5. That from the inspection described in paragraph four, it was determined that the applicator applied malathion insecticide to the blueberry field on the Level Hill Road in Palermo on August 18, 2015. The applicator stated he left an approximately fifty- foot unsprayed buffer between where he was spraying and the Level Hill Road.
- 6. That two foliage samples collected from the caller's property and the foliage samples from the treated blueberry field and untreated buffer were sent to a lab for analyses.
- 7. That the lab results for both foliage samples collected from the lawn of the residential property were positive for malathion. The sample near the house had 0.19 ppm. The sample twenty-eight feet from the house towards the Level Hill Road had 0.10 ppm. The lab result from the treated field was positive for malathion at 2.0 ppm. The sample forty feet in from the Level Hill Road in the untreated buffer was positive for malathion at 0.081 ppm.
- 8. That the caller's property described in paragraph two is a Sensitive Area Likely to be Occupied as that term is defined in CMR 01-026 Chapter 10 section 2(CCC)8.
- 9. That CMR 01-026 Chapter 22 section 4(B)I requires applicators to undertake applications in a manner that minimizes pesticide drift to the maximum extent practicable.

- 10. That CMR 01-026 Chapter 22 section 4(B)II provides that pesticide residues in or on any off-target Sensitive Area Likely to be Occupied resulting from off-target drift of pesticides from a nearby application that are 1% or greater of the residue in the target area are considered prima facie evidence that the application was not conducted in a manner to minimize drift to the maximum extent practicable.
- 11. That during the inspection described in paragraph four, the applicator stated the wind was 7-10 mph and blowing from the blueberry field towards the residential property at the time of the application and an airblast sprayer was used to make the application.
- 12. That the circumstances described in paragraphs one through eleven establish that sufficient precautions were not taken to minimize drift to the maximum extent practicable.
- 13. That the circumstances described in paragraphs one through twelve constitute violations of CMR 01-026 Chapter 22 section 4(B)I and CMR 01-026 Chapter 22 section 4(B)II.
- 14. That the Board has regulatory authority over the activities described herein.
- 15. That the Applicator expressly waives:
  - a. Notice of or opportunity for hearing;
  - b. Any and all further procedural steps before the Board; and
  - c. The making of any further findings of fact before the Board.
- 16. That this Agreement shall not become effective unless and until the Board accepts it.
- 17. That, in consideration for the release by the Board of the causes of action which the Board has against the Applicator resulting from the violations referred to in paragraph thirteen, the Applicator agrees to pay to the State of Maine the sum of \$500. (Please make checks payable to Treasurer, State of Maine.)

IN WITNESS WHEREOF, the parties have executed this Agreement of two pages.

	Date:
JACOB BOYINGTON	
BOARD OF PESTICIDES CONTROL	
By:	Date:
Henry Jennings, Director	
APPROVED:	
By:	Date:
Mark Randlett, Assistant Attorney General	

# Proposed Administrative Consent Agreement Background Summary

Subject: James Howard Priority Real Estate Group 2 Main Street Topsham, Maine 04086

# Date of Incident(s): August 28, 2014

**Background Narrative:** An employee of the company made an unlicensed Roundup Weed and Grass Killer herbicide application to curbs and sidewalks of a school in Brunswick. The school was in session at the time of the application. The school was not aware the application was going to be made and the applicator did not obtain written authorization for the application from the school IPM Coordinator prior to making the application.

# **Summary of Violation(s):**

Any person making a pesticide application that is a custom application, as defined under 22 M.R.S. § 1471-C(5-A), must be a certified commercial applicator or under the direct supervision of a certified applicator in accordance with 22 M.R.S. § 1471-D(1)(A) and CMR 01-026 Chapter 31 Section 1(A) III.

CMR 01-026 Chapter 31 Section 1(D) requires that any company required to have personnel licensed commercially under state pesticide law shall have in its employment at least one master applicator. The master applicator must actively supervise persons applying pesticides.

CMR 01-026 Chapter 27 Section 5(D) requires that, when a pesticide application is deemed necessary at a school, the applicator must comply with all the requirements of CMR 01-026 Chapter 31–Certification and Licensing Provisions/Commercial Applicator.

CMR 01-026 Chapter 27 Section 6(A) requires that prior to conducting a non-exempted pesticide application in a school building, or on school grounds, commercial pesticide applicators must obtain written authorization from the IPM Coordinator. Authorization must be specific to each application and given no more than 10 days prior to the planned application.

**Rationale for Settlement:** The staff compared the violations to similar cases settled by the Board.

Attachments: Proposed Consent Agreement

#### STATE OF MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION, AND FORESTRY BOARD OF PESTICIDES CONTROL

Priority Real Estate Group, LLC	)	ADMINISTRATIVE CONSENT AGREEMENT
2 Main Street	)	AND
Topsham, Maine 04086	)	FINDINGS OF FACT

This Agreement, by and between Priority Real Estate Group, LLC (hereinafter called the "Company") and the State of Maine Board of Pesticides Control (hereinafter called the "Board"), is entered into pursuant to 22 M.R.S. §1471-M (2)(D) and in accordance with the Enforcement Protocol amended by the Board on June 3, 1998.

The parties to this Agreement agree as follows:

- 1. That the Company is a commercial real estate investment and development company which offers commercial property for rent in the Topsham area.
- 2. That on August 28, 2014, the Board received an email from a staff member at the Providence Merrymeeting and Achieve Program School in Brunswick. The email alleged that a person identified as Jay Lemont applied Roundup Weed and Grass Killer to curbs and sidewalks in front of the school to kill weeds and grass.
- 3. That in response to the call in paragraph two, a Board inspector conducted a follow up inspection with Lemont on September 2, 2014.
- 4. That from the inspection described in paragraph three, it was determined that Lemont was employed by the Company as their Facilities and Maintenance Supervisor at the time of the application described in paragraph two. In that capacity, Lemont acknowledged that he applied Roundup Weed and Grass Killer on the Company's behalf to curbs and sidewalks at the Providence Merrymeeting and Achieve Program School in Brunswick on August 28, 2014. The school was leasing the building and site from the Company at that time.
- 5. That the facility is a school as defined in CMR 01-026 Chapter 27 Section 1(B), and was in session at the time of the application described in paragraph two.
- 6. That CMR 01-026 Chapter 27 Section 5(D) requires that, when a pesticide application is deemed necessary at a school, the applicator must comply with all the requirements of CMR 01-026 Chapter 31–Certification and Licensing Provisions/Commercial Applicator.
- 7. That any person making a pesticide application that is a custom application, as defined under 22 M.R.S. § 1471-C(5-A), must be a certified commercial applicator or under the direct supervision of a certified applicator in accordance with 22 M.R.S. 1471-D (1) (A) and CMR 01-026 Chapter 31 Section 1(A) III.
- 8. That a custom application is defined in 22 M.R.S. § 1471-C(5-A) as any application of any pesticide under contract or for which compensation is received or any application of a pesticide to a property open to use by the public. Applications made to rented properties are considered applications for which compensation is received, and applications made to sidewalks and curbs around buildings are considered as applications made to areas that are open to the public.
- 9. That the application described in paragraphs two and four constitutes a custom application of pesticides in accordance with 22 M.R.S. § 1471-C (5-A).
- 10. That CMR 01-026 Chapter 31 Section 1(D) requires that any company required to have personnel licensed commercially under state pesticide law shall have in its employment at least one master applicator. The master applicator must actively supervise persons applying pesticides.

- 11. That the Company did not employ a master applicator, and no one from the Company had a commercial pesticide applicator's license at the time of the application described in paragraphs two and four.
- 12. That the circumstances described in paragraphs one through eleven constitute violations of 22 M.R.S. § 1471-D(1)(A), CMR 01-026 Chapter 31 Section 1(A) III, CMR 01-026 Chapter 31 Section 1(D), and CMR 01-026 Chapter 27 Section 5(D).
- 13. That CMR 01-026 Chapter 27 Section 6(A) requires that prior to conducting a non-exempted pesticide application in a school building, or on school grounds, commercial pesticide applicators must obtain written authorization from the IPM Coordinator. Authorization must be specific to each application and given no more than 10 days prior to the planned application.
- 14. That the company did not obtain written authorization from the IPM Coordinator at the school prior to making the nonexempted pesticide application described in paragraphs two and four.
- 15. That the circumstances described in paragraphs two, four, thirteen and fourteen constitute a violation of CMR 01-026 Chapter 27 Section 6(A)
- 16. That the Board has regulatory authority over the activities described herein.
- 17. That the Company expressly waives:
  - a. Notice of or opportunity for hearing;
  - b. Any and all further procedural steps before the Board; and
  - c. The making of any further findings of fact before the Board.
- 18. That this Agreement shall not become effective unless and until the Board accepts it.
- 19. That, in consideration for the release by the Board of the causes of action which the Board has against the Company resulting from the violations referred to in paragraphs twelve and fifteen, the Company agrees to pay to the State of Maine the sum of \$500. (Please make checks payable to Treasurer, State of Maine).

IN WITNESS WHEREOF, the parties have executed this Agreement of two pages.

PRIORITY REAL ESTATE GROUP, LLC

By:	Date:
Type or Print Name:	
BOARD OF PESTICIDES CONTROL	
By: Henry Jennings, Director	Date:
APPROVED	
By: Mark Randlett, Assistant Attorney General	Date:

# Proposed Administrative Consent Agreement Background Summary

Subject: Joseph Lemar 20 Calls Hill Road Dresden, Maine 04342

Date of Incident(s): One application sometime between 4-12-12 and 2013 growing season.

**Background Narrative:** On October, 2, 2014, the Board received an email from a landowner in Dresden. The landowner raised concerns over an itemized invoice she received from Lemar for work done on her blueberry land that included a line item for "poison". Lemar later confirmed to a Board inspector that he made an application of Roundup Herbicide to the landowner's blueberry land in Dresden. Lemar was not licensed as a commercial applicator to apply pesticides.

# **Summary of Violation(s):**

Any person making a pesticide application that is a custom application, as defined under 22 M.R.S. § 1471-C(5-A), must be a certified commercial applicator or under the direct supervision of a certified applicator in accordance with 22 M.R.S. § 1471-D(1)(A) and CMR 01-026 Chapter 31 Section 1(A) III.

**Rationale for Settlement:** The staff compared the violations to similar cases settled by the Board.

Attachments: Proposed Consent Agreement

#### STATE OF MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION, AND FORESTRY BOARD OF PESTICIDES CONTROL

Joseph Lemar	)	ADMINISTRATIVE CONSENT AGREEMENT
20 Calls Hill Road	)	
Dresden, Maine 04342	Ś	AND
Diesuen, Manie 04342	)	FINDINGS OF FACT

This Agreement, by and between Joseph Lemar and the State of Maine Board of Pesticides Control (hereinafter called the "Board"), is entered into pursuant to 22 M.R.S. §1471-M (2)(D) and in accordance with the Enforcement Protocol amended by the Board on June 3, 1998.

The parties to this Agreement agree as follows:

- 1. That on October 2, 2014, the Board received an email from Mary Fabus who owns land in Dresden. Fabus stated she asked the original landowner she bought her land from, Joseph Lemar, to manage the blueberries on her land while he was managing his own blueberry land. She later received an invoice from Lemar listing work done on her land from 4-12-12 through 2013. The invoice included a line item listing "poison". Fabus included the invoice as an attachment to her email.
- 2. That on December 2, 2014, a Board Inspector spoke with Lemar by telephone. In that phone conversation Lemar acknowledged that the "poison" referenced on his invoice to Fabus was for a Roundup Herbicide application he made to Fabus's property in Dresden.
- 3. That any person making a pesticide application that is a custom application, as defined under 22 M.R.S. § 1471-C(5-A), must be a certified commercial applicator or under the direct supervision of a certified applicator in accordance with 22 M.R.S. § 1471-D(1)(A) and CMR 01-026 Chapter 31 Section 1(A)III.
- 4. That a custom application is defined in 22 M.R.S. § 1471-C(5-A) and includes any application of any pesticide under contract or for which compensation is received.
- 5. That the pesticide application to Fabus's property as described in paragraphs one and two constitute a custom application under 22 M.R.S. § 1471-C(5-A) and, therefore, a commercial applicator's license was required for the application.
- 6. That Lemar did not have a commercial pesticide applicator's license at the time of the pesticide application described in paragraph two.
- 7. That the circumstances described in paragraphs one through six constitute violations of 22 M.R.S. § 1471-D(1)(A) and CMR 01-026 Chapter 31 Section 1(A)III.
- 8. That the Board has regulatory authority over the activities described herein.
- 9. That the Company expressly waives:
  - a. Notice of or opportunity for hearing;
  - b. Any and all further procedural steps before the Board; and
  - c. The making of any further findings of fact before the Board.

#### Page 1 of 2

- 10. That this Agreement shall not become effective unless and until the Board accepts it.
- 11. That, in consideration for the release by the Board of the causes of action which the Board has against the Company resulting from the violations referred to in paragraph seven, the Company agrees to pay to the State of Maine the sum of \$300. (Please make checks payable to Treasurer, State of Maine.)

IN WITNESS WHEREOF, the parties have executed this Agreement of two pages.

JOSEPH LEMAR By:	Date:
Type or Print Name:	
BOARD OF PESTICIDES CONTROL	
By: Henry Jennings, Director	Date:
APPROVED	
By: Mark Randlett, Assistant Attorney General	Date:

January 30, 2016

Henry Jennings, Director Maine Board of Pesticide Control 28 State House Station Augusta, ME 04333

Dear Mr. Jennings:

Enclosed is a copy of Central Maine Power Company's Transmission Right-of-Way Drift Plan for 2016. If you have any questions, I can be reached at 621-3942.

Sincerely,

Nicholas Hahn Vegetation Management

# DRIFT MANAGEMENT PLAN FOR CENTRAL MAINE POWER TRANSMISSION LINE RIGHTS-OF-WAY

During the 2016 calendar year, Central Maine Power Company (CMP) will be treating approximately 10,000 acres as part of our regular vegetation management program. Some of this acreage is comprised of agricultural and industrial uses, and only needs to be patrolled. Integrated vegetation management techniques are employed on the remaining acreage to minimize the use of herbicides.

The first phase of the program requires that a contract crew patrol each right-ofway cutting all hardwood species over 8 feet tall and most of the softwood species. The stumps of trees capable of resprouting are treated with a herbicide. This reduces the amount of foliage that must be treated each cycle. Areas not suitable for foliar herbicide application during the summer are to be entirely cut at this time, and stump treatment to be used where appropriate.

The second phase of this year's program requires that the contract crew patrol each transmission line a second time, treating all remaining tree species capable of growing into the conductors or that block access to the right-of-way. The herbicides are applied with a backpack, hand pressurized spray tank. The tank pressure is low, so the potential for off target movement of the mix is minimized. A contract crew composed of 5 to 8 people will selectively treat the capable species.

A no spray zone is maintained around wells, municipal water supplies or any open water. The buffer zone will vary depending on the topography, a minimum of 25 feet is maintained on all water and a minimum 100-foot buffer is maintained on drinking water supplies. These buffers provide an additional margin of safety.

A low-pressure foliar application technique will be used on the majority of rightof-way scheduled this year. The herbicides and adjuvants, including a drift control agent, are mixed in water at rates of 1/8% - 5%. A hand-pressurized backpack sprayer is used to selectively apply the mix directly to the leaves of the undesirable species. The large droplet size, low tank pressure, and drift control agents, combined with the selective application technique, reduces the potential for drift to a very minimal level. The following is a list of herbicides CMP may use depending on species composition, density and environmental factors:

Garlon 4 Ultra EPA Reg. No. 62719-527 Arsenal Powerline EPA Reg. No. 241-431 Milestone VM EPA Reg. No. 62719-537 Rodeo EPA Reg. No. 62719-324 Stalker EPA Reg. No. 241-398 Aqufact (adjuvant) HY-Grade I (carrier) Liberate (adjuvant) Penetron (adjuvant) Propolene Glycol (carrier) - used in winter cst mix Before a treatment technique or herbicide is selected, a review of the right-of-way is conducted including a list of landowner maintenance agreements, known municipal water supplies, and brush densities. This information helps CMP personnel select the herbicides and determine the mix rates.

A form is given to each crew foreman before the job starts listing all special arrangements, herbicides, and mix rates. All the work is performed by licensed contract crews. The contract crews will post a sign on the first structure on each side of all public roads stating the date and herbicide used. If herbicides are not applied near the road crossing structure, the first structure where herbicides are used will be posted.

Each town that has a transmission right-of-way scheduled for herbicide work in 2016 will be notified in advance. A landowner maintenance agreement is available to any landowner or municipality objecting to the use of herbicides. The landowner agrees to keep brush to a height less than 10 feet and a CMP inspector looks over each area annually. CMP personnel will notify the staff of the Board of Pesticide Control at the start of the season of general work locations. Daily locations are available at CMP's General Office.

The following list identifies the CMP transmission section numbers and general locations for 2016 scheduled work. Plan and profile maps for each right-of-way are on file at the General Office in Augusta.

#### 2016 CMP TRANSMISSION VEGETATION MANAGEMENT SCHEDULE

Line	Line Name
2	Bowman Street to Capital Street
9	Shawmut to Weston Hydro
13	Fort Halifax to Jct. L. 38
15	Lakewood 34.5KV to Anson
23	Edgecomb to Boothbay Harbor
24	Belfast 115KV to Benton Switch
24A	Jct. L. 24 to Beaver Ridge
25	Mason to Edgecomb
25A	Jct. L. 25 to Sheepscot
28	Damariscotta Mills to Bristol
29	Guilford to Monson
34	Guilford to Dover
35	Jct. L. 5 to Carmel
36	McCoy's to South China

39	Puddledock Rd. to Augusta E. Side
39A	Jct. L. 39 to Capital Street
39B	Jct. L. 39 to Bond Brook
39C	Jct. L. 39 to Augusta K-5
48	Park Street to Thomaston Creek
51	Park Street to Waldoboro
51A	Highland to Jct. L. 51
53	Hotel Road to Norway
53A	Mechanic Falls to Mech. Falls Hydro
57	Norway to Kimball Road
61	Larrabee Rd. to Norway
61A	Jct. L. 61 to Hotel Road
65	Bucksport to Orrington
71	Winslow 34KV to Scott Paper Co.
71A	Jct. L. 71 to Hydro-Kennebec
73	Weston Hydro to Lakewood
79	Weston Hydro to Lakewood
80	Coopers Mills to Highland
87	Norway to Kimball Road
89	Livermore Falls to Riley
91	Bridgton to Hiram Hydro
94	Kimball Road to Bridgton
95	Bonny Eagle to Limerick
95A	Jct. L. 95 to Perrier
100	Moshers to Spring Street
101	Spring Street to Sewall Street
101A	Jct. L. 101 to Reg. Waste Systems
104	Elm Street to Freeport
112	Sanford to Sanford Switch
112A	Jct. L. 112 to High & Allen Stations
114	Sanford to Sanford Switch
114A	Jct. L. 114 to High St.
145	W. Buxton 115 to Perrier
160	Cape S/S to Pleasant Hill
161	Moshers to Sewall Street
171	Bidd. Ind. Park to Branch Brook
171A	Jct. L. 171 to Kennebunkport
174	Louden to Factory Island
175	Louden to Bidd. Ind. Park
176	Bolt Hill to Portsmouth Navy Yd
176A	Jct. L. 176 to Eliot
177	Bolt Hill to Airco
183	West Buxton to Bonny Eagle
186	Bishop St. to Prides Corner
188	Spring Street to Bishop St.
190	Moshers to Prides Corner
190	Moshers to Sewall Street
191	Factory Island to MERC
199	T ACIONY ISIANU IU WIENC

200	Livermore Falls to Larrabee Rd.
200A	Jct. L 200 to AEI
202	Crowley's to Lewston Lower
204	Mason to Newcastle
205	Bucksport to Orrington
208	Surowiec to Raymond
210	Kimball Road to Woodstock
214	Kimball Road to NH Border
215	Wyman Hydro to Bigelow
217	Kimball Road to Rumford I. P.
218	Rumford to Meade
221	Woodstock to Rumford I.P.
226	Newcastle to Highland
227	Riley to A.E.L.L.C.
228	Rumford to Rumford I.P.
229	Rumford I. P. to Ludden Lane
230	Riley to Jay I.P.
251	Livermore Falls to Larrabee Rd.
268	Gulf Island 115 to Larrabee Rd.
280	Riley To Ludden Lane
378	Mason to Maine Yankee
385	NH to Pole 80 (Lebanon) cut only
391	NH to pole 82 (Lebanon) cut only
3024	Cooper Mills to Albion Rd.
3025	Coopers Mills to Larrabee Rd.

MEPCO		
Line	Line Name	
392	Maine Yankee to Coopers Mills	

From: <u>cleanearth@tds.net</u> [<u>mailto:cleanearth@tds.net</u>] Sent: Friday, January 08, 2016 10:30 AM To: Jennings, Henry Subject: neonics found to kill bees

Henry – Do you put information I send into Board members' packets? I've seen no action on neonicotinoids.....

Here's yet another reason for the Board to ban neonicotinoids in Maine – the Environmental Protection Agency has finally found that neonics kill bees.....after much of the civilized world has done so for years.

<u>http://www.motherjones.com/tom-philpott/2016/01/epa-finds-major-pesticide-toxic-bees</u> – please print out this article and put into Board members' folders.

From: Carol Laboissonniere [mailto:info@cldesignlandscape.com]
Sent: Thursday, January 28, 2016 7:21 PM
To: Fish, Gary
Cc: Sarah Lachance; Deborah Bauman; <u>alandpals@yahoo.com</u>; Patricia Keller
Subject: FW: Roundup Resistant Grass - Attachment now attached!!

Gary,

This is a follow up to our recent telephone conversation on the Kennebunkport Conservation Commission's effort to reduce pesticide use. The attached article was in Turf Magazine, an industry publication to promote the lawn care business. The article also includes a section on low mow grass which was left in to be able to include the author's information at the end of the article.

We are concerned that the use of this grass will create more indiscriminate use of chemicals on lawns. We would appreciate the Board of Pesticide's thoughts on this issue.

Thank you for your attention to this matter,

Carol Laboissonniere (207-475-7870)

On behalf of the Kennebunkport Conservation Commission members who are copied on this message.



PO Box 4744 Portland ME 04112

207.210.0084

www.psrmaine.org

<u>Staff</u>

Karen D'Andrea Executive Director

**Board of Directors** 

Daniel Oppenheim, MD President

James Maier, MD Vice President

Doug Dransfield, MD Clerk

Sydney Sewall, MD Treasurer

Lani Graham, MD, MPH

Paul Liebow, MD

Peter Millard, MD

Paul Perkins, MD

Peter Wilk, MD

Maine Board of Pesticides Control Department of Agriculture, Conservation and Forestry 28 State House Station Augusta ME 04333-0028

February 8, 2016

Dear Members of Maine's Board of Pesticides Control,

Physicians for Social Responsibility Maine Chapter (PSR Maine) is a statewide organization comprised of medical and healthcare professionals and advocates. We are writing today to endorse the Maine Organic Farmers and Gardeners Association (MOFGA) work to reduce pesticide reliance and use in Maine.

As we are all aware, pesticides are designed to kill living organisms, and today more scientific studies are finding connections between the use of pesticides, especially organophosphates, and certain diseases.

A urinary biomonitoring study completed in 2006<sup>1</sup> found that an organic diet immediately reduced the exposure to organophosphate pesticides in school-aged children. Another study in 2011, indicated a 50% increase in childhood leukemia risk following routine maternal pesticide use in the home or garden.<sup>2</sup> The American Academy of Pediatrics recommends reducing children's exposure to pesticides at home including the use of pesticides indoors and outdoors where a 2015 AAP study found an association to leukemia and brain tumors.<sup>3</sup> Children are most vulnerable from pesticide exposures because their bodies are still developing, however; adults' health is also at risk.

Pesticides can damage the male reproductive system in a number of ways. Some chemicals can kill or damage cells resulting in infertility. Others may alter DNA structure, causing gene mutations that may result in birth defects or an inability to conceive, while still others can change the way genes are expressed.<sup>4</sup> And in 2015, the International Agency for Research on Cancer, a research arm of the World Health Organization, said that glyphosate is a "probable" cancer-causing substance, or carcinogen.

Over two dozen municipalities in Maine currently ban or restrict the use of pesticides in a number of ways that protect their citizens and natural resources. The number is growing with Portland and South Portland

currently working on ordinances. The importance of education and public health policy cannot be understated. PSR Maine supports policy restrictions as well as education that would reduce exposures to all Maine families and children and prevent disease.

Thank you.

Karen A D'Andrea Executive Director

<sup>1</sup> Lu C, Toepel K, Irish R, Fenske RA, Barr DB, Bravo R, EHP. 2006, http://www.ncbi.nlm.nih.gov/pubmed/16451864

<sup>2</sup>inson F, Merhi M, Baldi I, Raynal H, Gamet-Payrastre L. Exposure to pesticides and risk of childhood cancer: a meta-analysis of recent epidemiological studies. Occupational and environmental medicine. Sep 2011;68(9):694-702

<sup>3</sup> Mei Chen, Chi-Hsuan Chang, Lin Tao, Chensheng Lu, 2015, American Academy of Pediatrics, Residential Exposure to Pesticide During Childhood and Childhood Cancers: A Meta-Analysis, http://bit.ly/1L0d3a4

<sup>4</sup> Collatta, M. et al "Epigenetics and pesticides," Toxicology 307 (2013) 35-41