



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
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

BOARD OF PESTICIDES CONTROL

March 31, 2016

**Room 118
Marquardt Building
32 Blossom Lane, Augusta, Maine**

**AGENDA
9:00 AM**

1. Introductions of Board and Staff

2. Minutes of the February 17, 2017 Board Meeting

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: Amend and/or Approve

2a. Board Director Appointment

Presentation By: Ann Gibbs
Director of Animal and Plant Health

Action Needed: Discussion by the Board

3. Continuing Discussion About the Board's Budget

At the last three meetings, the Board reviewed the budget with a goal of identifying potential resources that could be allocated to Board priorities. The Department has prepared additional documents per the Board's request to help illustrate the budget process and the current status of the Pesticide Control Fund.

Presentation By: Ann Gibbs
Director of Animal and Plant Health

Action Needed: None—Informational Only

4. Review of the Annual Grant to the University of Maine Cooperative Extension for Manual Development

Public Law 1987, Chapter 723 created a fiscal year 1988-89 state budget allocation of \$22,000 for the purpose of providing a grant to Cooperative Extension to develop and revise pesticide applicator training manuals. Over the subsequent years, Extension increased its funding request until it reached the current level of \$65,000 annually. Donald Barry, the Extension employee who worked on manuals, recently retired. James Dill from the Extension has proposed revising the job duties of this position and requested an opportunity to discuss the future of the position with the Board.

Presentation By: James Dill
University of Maine Cooperative Extension

Action Needed: Approve/Disapprove/Revise Grant

5. Discussion About the Board Subsidizing Speaker Costs to Help Contain the Costs of Jointly Sponsored Pesticide Applicator Training Seminars

Each year the Board and the University of Maine Cooperative Extension jointly sponsor a series of pesticide applicator training seminars. An effort is made to identify subjects and speakers that represent the latest developments in IPM. This often results in contracting with expert speakers from other states, which adds to the cost of hosting training sessions. One way to reduce the costs to the regulated community is for the Board to pay the costs of the speakers, either by contracting with them directly or by providing an annual grant—up to \$5,000—to Extension for that purpose. Before considering those expenditures, the Department believes it's appropriate for the Board to determine whether it supports this use of funds.

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: Provide Guidance to the Department and Staff

6. Overview of Pesticide Laws that Currently Pertain the Use of Unmanned Aircraft for Pesticide Application

At the February 2017 meeting, the Board discussed the propriety of the using unmanned aircraft to apply pesticides. Following that discussion, the Board requested that the staff return to the next meeting with an overview of the current laws that would apply to the use of unmanned aircraft.

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: None—Informational Only

7. Continuing Discussion of Rulemaking Priorities

At the last two meetings, the Board discussed pending rulemaking needs and subsequently requested that the staff organize the potential rulemaking topic areas by level of complexity and to provide a brief explanation of each item.

Presentation By: Anne Chamberlain
Policy & Regulations Specialist

Action Needed: Determine Whether to Initiate Rulemaking and Schedule a Hearing

8. Consideration of Consent Agreement with Greenscapes of Maine from Kennebunk, Maine

The Board's Enforcement Protocol authorizes 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 the commercial use of a pesticide by an unlicensed applicator.

Presentation By: Raymond Connors
Manager of Compliance

Action Needed: Approve/Disapprove the Consent Agreement Negotiated by Staff

9a. Determination of whether Bt should be added to the list of biological pesticides pursuant to Chapter 29, Section 5

The Board received input from the Maine Forest Service and Stephen Nicholson at Valent Biosciences requesting that the Board consider adding Btk to the list of biologicals approved for application against browntail moth within 250 feet of the mean high water mark.

Presentation By: Lebelle Hicks
Toxicologist

Action Needed: Discussion of Policy Addition

9. Other Old or New Business

- b. Homeowner outreach update
- c. Email and article submitted by Paul Schlein
- d. Second email and article submitted by Paul Schlein
- e. Email submitted by Jody Spear
- f. LD 993 An Act To Protect Pollinators From Neonicotinoid Pesticides
- g. LD 594 An Act To Modify the Definition of "General Use Pesticide"
- h. LD 699 An Act To Enact the Toxic Chemicals in the Workplace Act
- i. LD 418 An Act To Educate the Public on the Proper Use of Pesticides and To Promote Integrated Pest management Using Existing Resources

10. Schedule of Future Meetings

May 12, 2017, June 23, 2017, and August 4, 2017 are tentative Board meeting dates. The Board will decide whether to change and/or add dates.

- The August 4, 2017 meeting will be held in Fairfield

Adjustments and/or Additional Dates?

11. Adjourn

NOTES

- The Board Meeting Agenda and most supporting documents are posted one week before the meeting on the Board website at www.thinkfirstspraylast.org.
- 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 Board's office. 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 Board's office or pesticides@maine.gov. 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 meeting date (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 (Administrative Procedures Act), and comments must be taken according to the rules established by the Legislature.



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February 17, 2016

**Room 118
Marquardt Building
32 Blossom Lane, Augusta, Maine**

DRAFT MINUTES

9:00 AM

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

1. Introductions of Board and Staff

- The Board, Staff, and Assistant Attorney General Mark Randlett introduced themselves
- Staff Present: Chamberlain, Connors, Couture, Hicks, Patterson, Tomlinson

2. Minutes of the January 11, 2017 Board Meeting

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: Amend and/or Approve

- Several minor amendments were suggested.
 - **Granger/Flewelling: Moved and seconded to adopt minutes as amended.**
 - **In Favor: Unanimous**

3. Dow AgroSciences Request for 24(c) Registration for GoalTender™ Herbicide

At the request of Maine Cooperative Extension and broccoli growers, Dow AgroSciences is requesting an extension of the Special Local Need [24(c)] Registration ME090002 to continue the use GoalTender™ herbicide (oxyfluorfen, EPA #62719-447) for post-emergent weed control on broccoli. Where the number of herbicides available to manage weeds in broccoli is limited, this product remains the only alternative for post emergence control of broadleaf weeds that escape preemergent herbicide treatment.

Presentation By: Mary Tomlinson
Pesticides Registrar/Water Quality Specialist

Action Needed: Approve/Disapprove 24(c) Registration Request

- Tomlinson stated that Emily Smith and Jim Dyer both expressed the need to continue this use because it is effective and the products available for this use in broccoli are limited.
- Jemison asked if they had discovered what the most effective rate is, and if they are direct spraying the plants or shielding them and spraying between plants. Granger inquired as to what stage of growth the plants were being sprayed at. Tomlinson replied that the supplemental label stated to apply when crop reached a minimum of four leaves for direct seeded crop.
- There was further discussion about how the product was being applied, how long it has been in use, and about whether the applications were being made according to the supplemental or regular label.
- Tomlinson said that she would send the Board's questions to Emily Smith and Jim Dyer and forward their responses to the Board members.
 - **Flewelling/Jemison: Move and seconded to approve extension of 24(c) registration for GoalTender™ herbicide.**
 - **In Favor: Unanimous**

4. Gowan Company, Inc., Request for FIFRA Section 24(c) Registration for Malathion 8 Flowable on Cane Berries

Gowan Company, Inc., is requesting a Special Local Need [24(c)] Registration to increase the number of allowable applications of Gowan Malathion 8 Flowable agricultural insecticide to control spotted wing drosophila (SWD) on cane berries. This request is supported by University of Maine Blueberry Extension Specialists David Handley and David Yarborough. Research indicates that Gowan Malathion 8 Flowable is highly effective against the SWD and the extra application will be critical to controlling this invasive pest. In addition, Gowan Malathion 8 Flowable offers growers the advantage of very short preharvest and reentry intervals. Available data indicate that residues are expected to be below the established tolerance.

Presentation By: Mary Tomlinson
Pesticides Registrar/Water Quality Specialist

Action Needed: Approve or disapprove the request

- Tomlinson stated the Board approved this 24(c) a couple years ago, but this registration and another were mailed to the EPA at the same time and for unknown reasons they did not get recorded in EPA records. The product is already in use in Maine. This request is for cane berries only.
- Flewelling asked if this increased the maximum number of applications allowed per year. Tomlinson replied it would increase the maximum number of applications allowed per year from three to four.
- Jemison asked what other means of management are being tried besides increasing the number of applications per year. He hopes this to be a short term solution, because the chance of developing resistance is greater if they are using this product four times a year. Tomlinson stated that Handley's request was to use it in rotation with other products.

- Granger commented that spotted wing drosophila (SWD) is a tough insect to control and he is in favor of supporting this request to protect their ability to grow this crop.
- Tomlinson stated that of the number of products available with a preharvest interval this short is limited. Tomlinson added that if the request is approved, the expiration date would be December 31, 2021. Morrill asked if there was an option to shorten the duration of this SLN registration. Tomlinson replied that they could do that.
- A discussion followed regarding the effect of SWD on cane berries during the last couple of growing seasons. Jemison said that it is difficult to understand numbers and impact with SWD and he would have liked Handley, Yarborough, or both, to have attended to answer some of those questions.
- Granger stated SWD has a quick life cycle and, depending on the season, a late season spray may be required. He added that hot weather makes the need for an extra application more likely.
- Bohlen stated the letters expressed a need for resistance protection methods and asked if anyone was aware how berries relate to resistance development and if the Board needs to be concerned about that or if one more application per year would not be a problem.
- Jemison located the last update the Board received from Handley about SWD, which was from November 4, 2016. Jemison read the update aloud to Board. At the time of update the number of SWD being caught per day ranged from 11 in Freeport to 11,500 in Limerick. Those numbers led them to a five to seven day spray schedule.
- Jemison said he wants to ensure there are high enough numbers to warrant spraying, and added that finding an alternative, such as a natural predator, would be ideal. Randlett responded that pest population cannot be a consideration of registering a pesticide for special local need and cited Title 7 § 607(8-A)(D) “The board may not make any lack of essentiality a criterion for denying registration of any pesticide.” Morrill stated there are five criteria in the regulations that Board members are directed to consider when registering a pesticide.
- Jemison stated he would lean towards approving for two years and waiting to see what alternative methods, besides continually increasing the number of applications, are tried. Bohlen added that he is also in favor of a shorter registration period.
- Tomlinson stated that the SLN for Gowan Malathion 8 Flowable for use on blueberries will expire on December 31, 2018. Bohlen suggested it would make sense to align the calendars so the products expire at the same time.
- Morrill announced that when SLNs come to the Board in the future it would be desirable to have someone come to represent them. Tomlinson replied that she would inform Handley and Yarborough.
- Tomlinson said that she would send the Board’s questions Yarborough and Handley and forward their responses to the Board members.

- **Morrill/Flewelling: Moved and seconded to approve the SLN registration through to December 31, 2018.**
- **In Favor: Unanimous**

5. Board Discussion about the Use of Unmanned Aircraft to Conduct Aerial Pesticide Applications

The Board’s staff has received an inquiry about the potential use of an unmanned aircraft (drone) to conduct aerial pesticide applications to control browntail moths. To date, drones have never been permitted to apply pesticides in Maine and the Federal Aviation Administration has only permitted use in a few locations nationwide. This is a completely new type of application equipment and many questions have arisen about the safety, efficacy and propriety of the use of drones. The Board will discuss the use of aerial drones to apply pesticides in Maine.

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: Provide Direction to the Staff

- Patterson asked the Board for guidance on how to respond in regards to the potential use of UAVs to make aerial pesticide applications. She added that much research is currently being conducted around drone conducted pesticide applications. The drones are commonly referred to as unmanned aerial vehicles (UAV), or an unmanned aerial system (UAS).
- Patterson stated the Board has been approached by the City of Bath about making applications with UAVs for browntail moth. Patterson consulted the Federal Aviation Administration, FAA, about federal regulations in regards to UAVs making pesticide applications. Anyone looking to make an application to apply via UAV must first apply to the FAA for permission, and there are a number of regulations they must comply with. Patterson added that vehicle weight and size of payload are also considerations.
- Patterson also consulted multiple companies that are using UAVs to scout with; none have applied pesticides with them. Water applications have been made to find out if the technology meets their needs.
- Flewelling asked if aerial applicators require a special license from us. Patterson responded that they need to be a commercial operator or master and have the aerial category. Flewelling stated that this could open the door for private applicators to be able to use drones on their own property, not just commercially.
- Morrill asked if our current regulations are adequate to govern applications made by UAVs. Patterson replied that our rules do not make the distinction between manned and unmanned aircrafts. Some other states are considering using their aerial regulations to cover this method of application, but Asplundh has a difference of opinion on the Board considering that. Bohlen added that he appreciated the Asplundh letter to put things into a solid reality.
- Bohlen stated the Board needs to take some time and figure out what kind of information they need to allow them to make some wise decisions about regulating UAVs. For example, he inquired whether applications made by drone should be considered a ground or an aerial application. Bohlen asked staff to figure out what can be done within the existing rules. Bohlen added that this method of application may be a good fit for browntail moth and allow applicators to make more targeted applications than with the current technology. Jemison stated he feels fairly comfortable with the idea of drones because the Board has a very strict drift rule and solid ground level regulations in place.
- Randlett commented that the aerial pest control category and the drift rule would apply to these types of applications, which gives it good coverage, but as to whether other issues will arise in the long run, that will have to be determined
- Jesse Gibbons, Coutts Brothers, was present for the UAV discussion. Coutts Brothers provides high-voltage asset inspections, and Gibbons told the Board the company has recently branched into mapping and surveying with drones. He explained that they create a photometric three-dimensional map using GIS and then program the drone's path. Once programmed, the DJI Agras MG-1 Agricultural Drone they are using sprays unpiloted while maintaining a height of one meter above crops and also has the ability to adjust droplet size. Gibbons added that one drawback currently is that the battery needs to be recharged every 45 minutes.
- Stevenson inquired about getting points at the tips of tree branches where browntail moth is located. Gibbons responded that they would first pilot the drone to create a three dimensional map of points and then use the points from the map to program the drones with exact flight patterns for applications. This allows the pesticide to be applied very precisely.

- Jemison asked Gibbons if he considered UAV applications to be aerial applications. Gibbons answered that Coutts Brothers treats them as aerial applications and they hire pilots to fly their drones. The FAA requires and issues Remote Pilot Certificates to commercial UAV operators.
- Heather Spalding, MOFGA, asked if this was something Coutts Brothers could work with the Board on to do reconnaissance of drift damage and to determine where drift is happening. Gibbons stated that those could be great applications, as could many others they have not worked on yet because of the newness of the platform.
- Tim Hobbs, Maine Potato Board, stated that UAVs are becoming more frequently used in agriculture, performing multiple tasks, and are inevitably going to become mainstream. He added that the Board needs to get rules in place so when the time comes they are not playing catch-up, or hindering the use of the new technology because rules are not in place.
- Bohlen added that it would be good to learn about how this tech is evolving to avoid putting rules in place that make it impossible to use. Bohlen also suggested an interim approach of applying applicable aerial and drift rules for now while the Board gathers information needed to make educated decisions.
- Patterson added that there are many individuals who would like to share their perspective on this issue and possibly it would be advantageous to hold a public information meeting. Morrill agreed and said in addition to that he would like staff to submit a chart showing what current regulations would apply and if they are sufficient or if there are gaps that will not work with unmanned aircraft. Morrill asked staff to add that to the agenda for next meeting
- Morrill suggested pushing the public information meeting to the May Board meeting to give the Board some time to educate themselves on the topic at the next meeting. The Board agreed. Morrill stated the Board should see if current regulations can be applied before coming up with new ones.
- Bohlen added that it would be great to have a couple speakers at the public meeting with specific expertise, such as how drones are being used in agriculture right now. Patterson asked the Board if they would like someone from the FAA if possible. Morrill replied that would be good if someone could attend.

6. Review of the BPC Budget

At the January 11, 2017 the Board discussed the annual operating budget. Several questions were raised that required further clarification. The staff will present information pertaining to those questions.

Presentation By: Ann Gibbs
Director, Division of Animal and Plant Health

Action Needed: None—Informational Only

- Gibbs stated she has done some research to get answers to the Board's questions from last meeting. The pest control fund runs on the calendar year, as opposed to the state fiscal year, which runs from July 1 to June 30. This difference affects how they need to run the budget, because most of the money comes in in November, December and January, but it has to sustain the program for the rest of the year. Currently it looks like the account has a lot of money, but that needs to last until next October, and dedicated accounts like this cannot run at a negative balance. They are supposed to have a 10% reserve to cover ongoing expenses.
- Gibbs told the Board that the total budget is a little over 2 million per year. About \$138,000 is generated from licensing application fees and \$1.9 million from product registration fees annually. The EPA also grants the Board \$300,000 per year.

- Gibbs explained that DICAP takes up about \$200,000 per year, and goes toward department administration fees, technology, and other expenses that benefit programs in the department. That funding is administered through the Commissioner's office and we have no say over it.
- Expenditures exceeded revenue by \$700,000 in 2016 because of Pega.
- The line for Personnel Service funds 10 permanent full time positions and four full time seasonal positions. It also funds five full time positions in the Plant Health division. All funded positions are currently filled except for the Director's position. The non-dedicated BPC funds line item covers Plant Health costs. Gibbs detailed other budget line items for the Board and what they represented.
- Gibbs reminded the Board that there is currently \$900,000 on hand, but that it needs to last until next October and there is now the additional expense associated with maintenance for Pega, which will be about \$82,000 per year.
- Gibbs informed the Board that the current forecast predicts a remaining cash balance of approximately \$200,000 next November after paying all the bills. That amount would have to be kept in the account because it is approximately the required 10% out of the two million dollar budget.
- Morrill asked Gibbs to provide, in written format, what she just explained to the Board, so they can see the numbers in front of them. Stevenson stated that a flow chart showing the positions and where the money goes would be good. He added that they would like to use some of the money to promote education and to make sure current monies are being used effectively.
- Morrill stated the Board should consider which line items are required by statute and requested info at next meeting showing what is and what is not in statute.
- Granger asked what the role of the Board is, if any, in providing guidance on how the money should be distributed, and how is that done. He also stated that in past years the Chair of the Board would be with Henry at ACF committee hearings, and that it seems like someone should be presenting the Board's position on how they should proceed. Gibbs stated she is not sure but will find out, and that there is some flexibility in the budget, but not much. Morrill stated that Granger's question encompasses the entire discussion—they want to know what their role as a Board is in the budget, who prepares it, and what say do they have in it. Bohlen commented that if they are going to be successful as a Board they need to know their budget well enough to make informed decisions as a Board.
- Bohlen commented that learning about the difference of the budget in regard to the calendar and fiscal years was very helpful and he wondered if it may influence how the Legislature interprets their budget. Morrill agreed and told Gibbs that at the next meeting the Board would like to see fiscal year, calendar year, projections, and the previous rolling 12 months. He added the Board definitely wants to meet with the commissioner next budget season.
- Granger asked for an update on the vacant BPC Director position. Gibbs replied that the application acceptance period closed on February 15 and she has received applications, but has not reviewed them yet. Morrill asked for a timetable on hiring. Gibbs responded she would review applications and conduct interviews in early March. If all goes well hiring will take place at the end of April.
- Flewelling asked about filling the empty Board member position. Gibbs replied that the Commissioner has forwarded a request to the Governor's office and they are waiting for a response.

7. Rulemaking Timeline and Potential Rulemaking Topics

At the December 16, 2017 meeting the Board expressed interest in initiating rulemaking around Chapter 29, Section 5 regarding browntail moth. Since rulemaking is expensive and time-

consuming the Board generally tries to group rulemaking initiatives. The staff will present a timetable of possible hearing dates and a list of rulemaking idea which the Board or staff has previously identified.

Presentation By: Anne Chamberlain
Policy & Regulations Specialist

Action Needed: Determine Whether to Initiate Rulemaking and Schedule a Hearing

- Chamberlain stated she does not recommend holding a public hearing at the next meeting, but one does need to be held by September to allow for a meeting in November to review comments and a meeting in December to adopt amendments. Much of the rulemaking to be done involves clarifications and incorporating policies.
- Regarding Chapter 29 Section 6, Chamberlain noted that currently the Board issues variances for control of invasives and control of plants with dermal toxicity. If the requirement for a variance is removed the Board will no longer receive the information it currently receives unless they add a requirement for notification. Stevenson suggested the Board go through the proposed changes and rate what they would like to discuss in order of importance rather than going through the entire list in one meeting.
- Bohlen asked staff to group together ones that are simple housekeeping and put ones the Board needs to discuss into another group. Morrill agreed. Chamberlain stated she could group them and that there are a total of eight chapters.

8. Consideration of Consent Agreement with Alfred Fugazzi, Stone Wall Farms of Lincoln, Maine

The Board's Enforcement Protocol authorizes 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 the use of a pesticide to kill crows in a manner inconsistent with the label.

Presentation By: Raymond Connors
Manager of Compliance

Action Needed: Approve/Disapprove the Consent Agreement Negotiated by Staff

- Connors stated that this is a continuation of a discussion from a previous meeting, and that this consent agreement stemmed from a misuse of Lannate. Connors added that the consent agreement was for \$1500, which Fugazzi has paid.
 - **Flewelling/Morrill: Moved and seconded to approve consent agreement.**
 - **In Favor: Unanimous**

9. Other Old or New Business

- a. Policy—Definition of Biological Pesticide as it Relates to Chapter 29 Section 5
- b. Policy on Allowable Pesticides for the Control of Browntail Moth Within 250 feet of Marine Waters
- c. Variance for control of invasive plants on the Maine Audubon East Point Sanctuary property in Biddeford Pool.
- d. LD 174 An Act To Limit the Use of Pesticides on School Grounds

- e. LD 418 An Act To Educate the Public on the Proper Use of Pesticides and To Promote Integrated Pest Management Using Existing Resources
 - Flewelling stated he did not see any radical changes in the two bills. Chamberlain replied that our department and the Department of Education are opposed to the proposed school bill and Kathy Murray spoke on behalf of the Board at committee for that it.
 - Jemison asked for an explanation of a concept bill. Chamberlain replied that it basically means they are going to write the bill in committee. They take comment at a public hearing and then go into a work session and draft the language. She added she has not seen one go through.
- f. Email from Jody Spear
- g. Letter from Wendell Caler

10. Schedule of Future Meetings

March 31, 2017, May 12, 2017, June 23, 2017, and August 4, 2017 are tentative Board meeting dates. The Board will decide whether to change and/or add dates.

- The March 31, 2017 meeting will be at the Portland Flower Show
- The Board moved the August 4, 2017 meeting to Fairfield because Room 118 in Marquardt is not available on that day.

Adjustments and/or Additional Dates?

11. Adjourn

- **Granger/Stevenson: Moved and seconded to approve consent agreement.**
- **In Favor: Unanimous**

Response to Budget Questions from the January 11, 2017 Board meeting*

Information included is for the calendar year 2016 (1/1/16 to 12/31/16)

Revenues for 2016 = \$1,705,155

Revenues are generated from the EPA grant (\$446K), applicator licenses (\$143K) and product registrations (\$1,566K)

Legislative transfer of \$135K is annually given to the University of Maine for IPM education

Dicap Transfer (Dept. Wide Indirect Cost Allocation Plan) (\$337K)– Percentage of what we spend each month is used to pay for Dept. administrative staff (accountants, human resources etc.), technology needs (computers etc.) and other expenses that benefit all programs within the Dept. The funding is administered through the Commissioner's office.

Expenses for 2016 = \$2,721,655 (a major chunk of these expenses was to pay for the new licensing and data collection system (PEGA)). Expenses are divided into 2 categories: Personal Services & All Other.

Personal Services

BPC funds 10 permanent full time positions and 4 full time seasonal positions that work in the BPC program and 5 permanent full time positions in the Plant Health Program. The only position currently unfilled is the BPC Director. Non-dedicated BPC funds cover the salaries and some other expenses for the Plant Health positions.

BPC Positions

(full time permanent)

2 Office Associate II

1 Env. Specialist II

3 Env. Specialist III

2 Env. Specialist IV

1 Toxicologist

1 PCB Director

(full time seasonal)

4 Env. Specialist II

Plant Health Positions

2 Asst. Horticulturist

1 State Horticulturist

2 Entomologist III

All Other

Prof Services not by State (line 40) – Contracts with consultants and speakers including (Toxicology Excellence for Risk Assessment \$34K, Temp Agency \$44K (hiring temp workers)
Grants & Publications & Private Organizations (line 64) – CDC for Mosquito Survey \$80K, Maine Migrant Health \$7K, UMaine \$65K

Statewide Cost Allocation Plan (STACAP) (line 85) - The State of Maine provides un-billed central services to State Programs that operate with Federal and/or special revenue funds. In order to recover the costs of providing these services, the State must prepare a Statewide Indirect Cost Allocation Plan or STACAP also known as SWCAP.

*This information was presented by Ann Gibbs, MACF to the BPC board at their 2/17/17 meeting.

**Board of Pesticides Control - 014-01A-0287-01
Calendar Year 2016**

REVENUES:

Row	Lab RSRC_NM	January	February	March	April	May	June	July	August	September	October	November	December	Grand Total
1407	REG INSECT & FUNGICIDES	-609,290.00	-28,800.00	-25,280.00	-18,240.00	-43,520.00	-15,530.00	-11,190.00	-13,120.00	-32,480.00	-19,040.00	-6,080.00	-758,880.00	-1,581,450.00
1448	SPECIAL LICENSES & LEASES	-48,555.00	-16,710.00	-3,270.00	-9,315.00	-10,680.00	-5,665.00	-2,950.00	-2,730.00	-5,120.00	-5,125.00	-1,340.00	-32,435.00	-143,895.00
2631	REGISTRATION FEES	-140.00	40.00	-20.00								-40.00	-280.00	-440.00
2637	MISC SERVICES & FEES			0.00					-3,149.23		0.00	-8,600.80		-11,750.03
2689	CASH OVER SHORT FOREIGN EX							0.00						0.00
2952	ADJ TO PRIOR YEAR BAL/UNALLOCT							0.00						0.00
2953	ADJ OF ALL OTHER BALANCE FWD					36.59		0.00	-386.64					-350.05
2978	DICAP TRANSFER	33,644.34	20,725.03	18,218.79	11,888.94	23,550.16	39,011.55	22,898.55	12,794.43	24,882.90	12,155.96	35,664.88	28,319.57	283,755.10
2981	LEGIS TRANSFER OF REVENUE					135,000.00								135,000.00
Grand Total		-624,340.66	-24,744.97	-10,351.21	-15,666.06	104,386.75	17,816.55	8,758.55	-6,591.44	-12,717.10	-12,009.04	19,604.08	-763,275.43	-1,319,129.98

EXPENDITURES:

Row Label	OBJ_GRP_NM	January	February	March	April	May	June	July	August	September	October	November	December	Grand Total
32	SALARIES AND WAGES	47,137.86	46,568.00	46,121.00	48,072.57	71,258.43	48,242.49	49,302.19	46,087.91	46,371.76	43,900.53	68,638.31	49,222.25	610,923.30
33	SALARIES AND WAGES			4,825.20	6,433.60	9,617.69	6,433.60	6,291.12	6,497.60	6,776.30	6,497.60	8,940.10	1,624.40	63,937.21
36	SALARIES AND WAGES	698.32	893.82	690.82	716.82	1,283.70	863.12	872.49	1,083.65	813.29	3,478.05	1,742.44	619.08	13,755.60
38	SALARIES AND WAGES		385.00	330.00	3,687.61		715.00	1,092.10	330.00	330.00	55.00	220.00	330.00	7,474.71
39	FRINGE BENEFITS	29,002.62	28,827.60	32,305.95	34,060.58	50,453.73	26,509.16	35,798.72	34,302.08	33,959.17	34,018.57	42,974.86	32,035.59	414,248.63
40	PROF. SERVICES, NOT BY STATE	2,009.34	3,165.02	4,033.20	2,124.96	4,656.48	8,732.70	3,410.06	6,128.02	2,530.48	3,527.84	11,116.82	6,230.98	57,665.90
42	TRAVEL EXPENSES, IN STATE	358.84	178.00	55.00	52.23	14.40	440.17	19.93	474.02	65.74	422.57	14.80	11.40	2,107.10
43	TRAVEL EXPENSES, OUT OF STATE		2,940.08	1,121.77	1,186.20	472.90	562.67	-1,900.58	524.20	467.20	1,017.59	23.90	1,074.77	7,490.70
46	RENTS	306.36	758.98	768.92		1,497.29	681.78	732.43	2,808.65	836.17	1,256.17	572.81	995.32	11,214.88
47	REPAIRS							42.66						42.66
48	INSURANCE							1,658.32		58.56	175.00			1,891.88
49	GENERAL OPERATIONS	1,179.38	6,058.28	1,053.95	777.18	1,291.27	1,416.51	308.85	892.35	670.83	540.82	8,013.98	1,774.73	23,978.13
51	COMMODITIES - FOOD	18.14		15.89	124.76		17.39		18.27	37.99	24.98	17.39	132.85	407.66
53	TECHNOLOGY	78,508.58	48,353.26		83,886.61	159,205.83	80,486.00		91,974.13	14.92	178,970.26	74,732.79	79,178.69	875,311.07
55	EQUIPMENT	49.37	142.00					79.95		298.68				570.00
56	OFFICE & OTHER SUPPLIES	154.54	1,874.54	131.72	31.98	337.15	1,042.17	710.50	285.99	276.30	460.28	834.64	295.59	6,435.40
63	GRANTS TO CITIES AND TOWNS						50,000.00							50,000.00
64	GRANTS TO PUB AND PRIV ORGNS		3,675.00				65,000.00							68,675.00
82	ADMINISTRATIVE CHARGES AND FEE	0.00	0.00											0.00
85	TRANSFERS	7,633.20	6,710.13	4,378.82	8,673.70	14,368.23	8,433.69	3,706.46	7,208.39	3,521.50	10,331.84	8,203.98	6,534.99	89,704.93
Grand Total		167,056.55	150,529.71	95,832.24	189,828.80	314,457.10	299,576.45	102,125.20	198,615.26	97,028.89	284,677.10	226,046.82	180,060.64	2,305,834.76
NET CASH		457,284.11	(125,784.74)	(85,481.03)	(174,162.74)	(418,843.85)	(317,393.00)	(110,883.75)	(192,023.82)	(84,311.79)	(272,668.06)	(245,650.90)	583,214.79	(986,704.78)

BOARD OF PESTICIDES CONTROL - 014-01A-0287-01

Fiscal Year 2016

		FISCAL YEAR 2016 (BY MONTH)											TOTAL	
		Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16		Jun-16
Revenues:														
1407	REG INSECT & FUNGICIDES	21,040.00	11,050.00	16,780.00	10,880.00	129,910.00	1,026,240.00	609,290.00	28,800.00	25,280.00	18,240.00	43,520.00	15,530.00	1,956,560.00
1448	SPECIAL LICENSES & LEASES	3,405.00	2,355.00	2,790.00	5,080.00	1,955.00	25,565.00	48,555.00	16,710.00	3,270.00	9,315.00	10,680.00	5,665.00	135,345.00
2631	REGISTRATION FEES	-	-	-	20.00	220.00	180.00	140.00	(40.00)	20.00	-	-	-	540.00
2637	MISC SERVICES & FEES	-	-	-	-	875.15	-	-	-	-	-	-	-	875.15
2686	MISC-INCOME	-	-	23.36	-	-	-	-	-	-	-	-	-	23.36
2953	ADJ OF ALL OTHER BALANCE FWD	-	-	-	-	-	-	-	-	-	-	(36.59)	-	(36.59)
2978	DICAP TRANSFER	(13,136.13)	(18,639.66)	(12,245.07)	(13,282.87)	(12,286.00)	(11,566.24)	(33,644.34)	(20,725.03)	(18,218.79)	(11,888.94)	(23,550.16)	(39,011.55)	(228,194.78)
2981	LEGIS TRANSFER OF REVENUE	-	-	-	-	-	-	-	-	-	-	(135,000.00)	-	(135,000.00)
TOTAL REVENUES		11,308.87	(5,234.66)	7,348.29	2,697.13	120,674.15	1,040,418.76	624,340.66	24,744.97	10,351.21	15,666.06	(104,386.75)	(17,816.55)	1,730,112.14
Expenditures:														
31	SALARIES AND WAGES	-	-	-	1,566.40	-	-	-	-	-	-	-	-	1,566.40
32	SALARIES AND WAGES	76,987.94	49,980.40	49,826.56	46,954.76	45,298.05	69,372.91	47,137.86	46,568.00	46,121.00	48,072.57	71,258.43	48,242.49	645,820.97
33	SALARIES AND WAGES	9,189.60	6,126.40	6,126.40	6,142.00	5,700.78	4,825.20	-	-	4,825.20	6,433.60	9,617.69	6,433.60	65,420.47
34	SALARIES AND WAGES	-	-	-	-	-	-	-	-	-	-	-	-	-
36	SALARIES AND WAGES	1,244.20	1,056.86	773.19	987.97	1,536.77	1,408.64	698.32	893.82	690.82	716.82	1,283.70	863.12	12,154.23
38	SALARIES AND WAGES	1,566.51	-	440.00	-	314.20	330.00	-	385.00	330.00	3,687.61	-	715.00	7,768.32
39	FRINGE BENEFITS	45,870.21	35,321.34	35,108.65	34,376.66	32,452.75	40,560.23	29,002.62	28,827.60	32,305.95	34,060.58	50,453.73	26,509.16	424,849.48
40	PROF. SERVICES, NOT BY STATE	3,814.55	1,205.50	3,780.89	1,878.60	1,536.88	1,658.96	2,009.34	3,165.02	4,033.20	2,124.96	4,656.48	8,732.70	38,597.08
41	PROF. SERVICES, BY STATE	-	-	-	-	-	-	-	-	-	-	-	-	-
42	TRAVEL EXPENSES, IN STATE	84.55	23.57	1,004.49	56.97	122.45	182.33	358.84	178.00	55.00	52.23	14.40	440.17	2,573.00
43	TRAVEL EXPENSES, OUT OF STATE	8.00	-	1,410.85	(494.15)	119.00	754.21	-	2,940.08	1,121.77	1,186.20	472.90	562.67	8,081.53
44	STATE VEHICLES OPERATION	-	-	-	35.72	-	-	-	-	-	-	-	-	35.72
45	UTILITY SERVICES	-	-	-	-	-	-	-	-	-	-	-	-	-
46	RENTS	1,767.22	-	951.69	1,957.41	732.61	-	306.36	758.98	768.92	-	1,497.29	681.78	9,422.26
47	REPAIRS	-	-	-	-	-	-	-	-	-	-	-	-	-
48	INSURANCE	-	38.77	1,544.94	-	-	-	-	-	-	-	-	-	1,583.71
49	GENERAL OPERATIONS	2,404.74	307.48	1,127.71	586.85	1,116.87	13,341.61	1,179.38	6,058.28	1,053.95	777.18	1,291.27	1,416.51	30,661.83
50	EMPLOYEE TRAINING	-	-	-	-	-	-	-	-	-	-	-	-	-
51	COMMODITIES - FOOD	15.75	-	59.64	-	18.88	72.02	18.14	-	15.89	124.76	-	17.39	342.47
53	TECHNOLOGY	-	-	-	-	-	126,020.92	78,508.58	48,353.26	-	83,886.61	159,205.83	80,486.00	576,461.20
54	CLOTHING	-	-	-	-	-	-	-	-	-	-	-	-	-
55	EQUIPMENT	159.99	-	-	-	-	-	49.37	142.00	-	-	-	-	351.36
56	OFFICE & OTHER SUPPLIES	268.70	132.48	20.95	458.49	21.79	275.59	154.54	1,874.54	131.72	31.98	337.15	1,042.17	4,750.10
58	HIGHWAY MATERIALS	-	-	-	-	-	-	-	-	-	-	-	-	-
63	GRANTS TO CITIES AND TOWNS	-	-	-	-	-	-	-	-	-	-	-	50,000.00	50,000.00
64	GRANTS TO PUB AND PRIV ORGNS	-	-	65,000.00	-	-	-	-	3,675.00	-	-	-	65,000.00	133,675.00
67	ASSISTANCE AND RELIEF GRANT	-	-	-	-	-	-	-	-	-	-	-	-	-
72	EQUIPMENT	-	-	-	-	-	-	-	-	-	-	-	-	-
82	ADMINISTRATIVE CHARGES AND FEE	(20.00)	-	-	-	20.00	-	-	-	-	-	-	-	-
85	TRANSFERS	6,865.11	4,509.96	4,892.22	4,525.04	4,259.94	12,391.50	7,633.20	6,710.13	4,378.82	8,673.70	14,368.23	8,433.69	87,641.54
90	CHARGES TO ASSETS AND LIAB.	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES		150,227.07	98,702.76	172,068.18	99,032.72	93,250.97	271,194.12	167,056.55	150,529.71	95,832.24	189,828.80	314,457.10	299,576.45	2,101,756.67
NET CASH		(138,918.20)	(103,937.42)	(164,719.89)	(96,335.59)	27,423.18	769,224.64	457,284.11	(125,784.74)	(85,481.03)	(174,162.74)	(418,843.85)	(317,393.00)	(371,644.53)

Board of Pesticides Control																		
Account # 014-01A-0287-01																		
Summary of Cash Position																		
Projection through November 2017																		
Projected amounts for February 2017 through November 2017 based on historic amounts for prior 2 fiscal years																		
	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Total	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
Balance Forward	1,227,036.65	1,116,152.90	924,129.08	839,817.29	567,149.23	321,498.33	904,713.12	1,226,469.84	1,542,206.33	1,449,561.16	1,156,915.99	1,048,402.72	1,227,036.65	811,884.33	699,159.84	586,201.82	473,477.33	360,519.31
Reg Insect. & Fungicides (1407)	11,190.00	13,120.00	32,480.00	19,040.00	6,080.00	758,880.00	475,520.00	500,000.00	25,000.00	25,000.00	50,000.00	25,000.00	1,941,310.00	15,000.00	15,000.00	15,000.00	15,000.00	20,000.00
Special Licenses & Leases (1448)	2,950.00	2,730.00	5,120.00	5,125.00	1,340.00	32,435.00	52,240.00	15,000.00	5,000.00	5,000.00	5,000.00	5,000.00	136,940.00					
Misc. Revenue (2637,2686, 2685)	-	3,149.23	-	-	8,640.80	280.00	20.00						12,090.03					
Sale of labels cartons (2651)													-					
Leg transfer of revenue (2981)										(135,000.00)			(135,000.00)					
Indirect Transfers (2978)	(22,898.55)	(12,794.43)	(24,882.90)	(12,155.96)	(35,664.88)	(28,319.57)	(22,558.33)	(22,184.76)	(13,654.55)	(13,654.55)	(18,204.55)	(29,672.50)	(256,645.53)	(14,220.05)	(14,246.05)	(14,220.05)	(14,246.05)	(19,030.05)
reg transfer unallocated (2968)													-					
Adj prio year (2953)	-	386.64	-	-	-	-	251.50						638.14					
Total Cash	-8,758.55	6,591.44	12,717.10	12,009.04	-19,604.08	763,275.43	505,473.17	492,815.24	16,345.45	-118,654.55	36,795.45	327.50	1,699,332.64	779.95	753.95	779.95	753.95	969.95
Personal Services (31 thru 38)	57,557.90	53,999.16	54,291.35	53,931.18	79,540.85	51,795.73	51,646.43	55,000.00	55,000.00	55,000.00	80,000.00	55,000.00	702,762.60	58,000.00	58,000.00	58,000.00	58,000.00	85,000.00
Fringe Benefits (39)	35,798.72	34,302.08	33,959.17	34,018.57	42,974.86	32,035.59	33,235.84	34,000.00	34,000.00	34,000.00	43,000.00	34,000.00	425,324.83	35,000.00	35,000.00	35,000.00	35,000.00	45,000.00
Professional Fees (40, 41)	3,410.06	6,128.02	2,530.48	3,527.84	11,116.82	6,230.98	3,368.66	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	56,312.86	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Travel (42, 43)	(1,880.65)	998.22	532.94	1,440.16	38.70	1,086.17	297.40	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	7,512.94	750.00	1,000.00	750.00	1,000.00	750.00
Auto Expense (44)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utilities (45)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent (46)	732.43	2,808.65	836.17	1,256.17	572.81	995.32	816.05	800.00	800.00	800.00	800.00	800.00	12,017.60	800.00	800.00	800.00	800.00	800.00
Repairs (47)	42.66	-	-	-	-	-	-	-	-	-	-	-	42.66	-	-	-	-	-
Insurance (48)	1,658.32	-	58.56	175.00	-	-	-	-	-	-	-	-	1,891.88	-	-	-	-	-
General Operating (49)	308.85	892.35	670.83	540.82	8,013.98	1,774.73	1,716.52	3,000.00	3,000.00	3,000.00	4,000.00	4,000.00	30,918.08	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00
Training (50)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food (51)	-	18.27	37.99	24.98	17.39	132.85	-	50.00	-	50.00	-	50.00	381.48	50.00	-	50.00	-	50.00
Fuel (52)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Technology (53)	-	91,974.13	14.92	178,970.26	74,732.79	79,178.69	85,751.98	72,502.00	6,885.00	6,885.00	6,885.00	129,050.00	732,829.77	6,885.00	6,885.00	6,885.00	6,885.00	6,885.00
Clothing (54)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Supplies (55, 56, 58)	790.45	285.99	574.98	460.28	834.64	295.59	235.18	300.00	350.00	300.00	350.00	350.00	5,127.11	400.00	400.00	400.00	400.00	400.00
Medical Supplies (57)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grants (63, 64)	-	-	-	-	-	-	-	-	-	65,000.00	-	-	65,000.00	-	-	-	-	-
Late Fees (80)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sta-Cap (8511)	3,706.46	7,208.39	3,521.50	10,331.84	8,203.98	6,534.99	6,668.39	6,426.75	3,955.62	3,955.62	5,273.72	8,595.90	74,383.15	4,119.44	4,126.97	4,119.44	4,126.97	5,512.86
NSF (82)	-	-	-	-	-	-	(20.00)	-	-	-	-	-	(20.00)	-	-	-	-	-
Total Expenditures	102,125.20	198,615.26	97,028.89	284,677.10	226,046.82	180,060.64	183,716.45	177,078.75	108,990.62	173,990.62	145,308.72	236,845.90	2,114,484.96	113,504.44	113,711.97	113,504.44	113,711.97	151,897.86
Cash balance	1,116,152.90	924,129.08	839,817.29	567,149.23	321,498.33	904,713.12	1,226,469.84	1,542,206.33	1,449,561.16	1,156,915.99	1,048,402.72	811,884.33	811,884.33	699,159.84	586,201.82	473,477.33	360,519.31	209,591.40

01 DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY

026 BOARD OF PESTICIDES CONTROL

Chapter 10: DEFINITIONS AND TERMS

SUMMARY: These definitions and terms are defined as they specifically relate to the use of pesticides, the certification and licensing of pesticide applicators and dealers, and other areas as regulated by the Board in succeeding chapters.

Section 1. Consistent with Statute

All terms used in these Chapters shall be defined as indicated in Title 22 M.R.S.A., Chapter 258-A unless specifically provided herein.

Section 2. Definitions

- A. "Aerial applicator" means all persons who dispense pesticides by means of any machine or device used or designed for navigation of or flight in the air. All aerial applicators shall be considered commercial applicators and shall be individually certified.
- B. "Agricultural pesticide application" means any application of a pesticide upon an agricultural commodity which is performed by or for a commercial agricultural producer.
- C. "Air-carrier application equipment" means any application equipment that utilizes a mechanically generated airstream to propel the spray droplets.
- D. "Applicant" means a person or persons who apply for a certification, license or permit authorized in 22 M.R.S.A. §1471-D or §1471-N.
- E. "Branch office" means:
 - 1. any home, store or other business location where an employee of a spray contracting firm directly accepts requests for pest control services from clients through mail, telephone or walk-in inquiries, and
 - 2. any government or university office where employees receive regular direction to apply pesticides in connection with their duties.
 - 3. It does not include the home of an employee who receives work assignments and directions from a branch office with a master applicator.
- F. "Calibration of equipment" means measurement of dispersal or output of application equipment and adjustment of such equipment to control the rate of dispersal, and droplet or particle size of a pesticide dispersed by the equipment.

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- G. "Certification" means the recognition by the Board that an applicant has successfully fulfilled all the appropriate competency criteria as set forth in these Chapters.
- H. "Commercial agricultural producer" means, for the purposes of Chapter 50, any person who produces an agricultural commodity for commercial purposes.
- I. "Commercial applicator" means any person, unless exempted in I(4) hereunder, whether or not the person is a private applicator with respect to some uses, who:
1. Uses or supervises the use of any limited or restricted use pesticide other than as a private applicator; or
 2. Makes or supervises a custom application of a general use pesticide; or
 3. Applies a pesticide in connection with their duties as an official or an employee of federal, state, county, university or local government.
 4. The following classes of applicators are exempt from commercial certification/licensing requirements. Applications not listed below must be performed under the direct on-site supervision of a licensed commercial applicator Master and/or Operator.
 - a. Persons applying ready-to-use general use pesticides by hand or with non-powered equipment:
 - i. to control stinging insects when there is an urgent need to mitigate or eliminate a pest that is a threat to health or safety; or
 - ii. to repel biting insects on patients and other persons under their care or supervision who are unable to apply the material to themselves; or
 - iii. to repel biting insects on minors, such as students and campers, provided that a parent or legal guardian has authorized the application of insect repellents.
 - b. Persons applying general use antimicrobial products by hand or with non-powered equipment to interior or exterior surfaces and furnishings of buildings during the course of routine cleaning procedures.
 - c. Persons applying general use paints, stains or wood preservatives, except for the treatment of standing utility poles.
 - d. Persons installing hardware such as doorknobs and pushplates.
- J. "Commercial applicator/Master" means a commercial applicator who, unless exempted in Chapter 31, Section 1(Company/Agency Licensing Requirements), is responsible for the major pest control decisions including, but not limited to, identifying unusual pests and choosing the appropriate pest control strategies and techniques. This person is also

responsible for establishing policies relating to the operating practices of others applying pesticides within the company or agency. Such practices may include equipment maintenance and calibration, employee training, safety and hygiene, pesticide and container disposal, accident mitigation and ensuring that applications are conducted in compliance with all state and federal laws and regulations.

- K. "Commercial applicator/Operator" means a commercial applicator who:
1. applies or directs the application of a pesticide according to the instructions of the master when a master is required according to Chapter 31, Section 1 (Company /Agency Licensing Requirements); or
 2. applies or directs the application of a pesticide and performs the function of the master applicator when a separate master is not required according to Chapter 31, Section 1(Company/Agency Licensing Requirements).
- L. "Compact urban line" means that delineation made by the Maine Department of Transportation which denotes a section of the highway where structures are nearer than 200 feet apart for a distance of one-quarter of a mile.
- M. "Compatibility" means that property of a pesticide that permits its use with other chemicals without undesirable results being caused by the combination.
- N. "Competent" means properly qualified to perform functions associated with pesticide application, the degree of capability required being directly related to the nature of the activity and the associated responsibility.
- O. "Common exposure route" means a likely way (oral, dermal, respiratory) by which a pesticide may reach and/or enter an organism.
- P. "Custom application" means an application of a pesticide:
1. Under contract or for which compensation is received;
 - a. For the purposes of this definition, "under contract" includes: verbal or written agreements to provide services which include the use of any pesticide; i.e., private or commercial rental agreements, pest control service agreements, landscape maintenance agreements, etc.
 - b. For purposes of this definition, compensation is deemed to have been received for a pesticide application where any form of remuneration has been or will be exchanged, including payment of cash, rent, or other financial consideration, or by the exchange of goods and/or services. This also includes any agreements where crops grown on rented land will be sold to the landowner or are otherwise grown for the benefit of the land owner.

2. To a property open to use by the public;
 - a. For purposes of this definition, property is deemed to be open to use by the public where its owner, lessee or other lawful occupant operates, maintains or holds the property open or allows access for routine use by members of the public. Persons are considered to be members of the public even though they may pay a fee or other compensation in order to make use of the property or may visit the property for a commercial purpose.
 - b. Property open to use by the public includes but is not limited to: shopping centers, office and store space routinely open to the public (i.e. rest rooms, self-service areas and display aisles), common areas of apartment buildings, occupied apartments, public pools and water parks, schools and other institutional buildings, public roads, organized recreational facilities, golf courses, campgrounds, parks, parking lots, ornamental and turf areas around condominiums, apartment buildings, stores malls and retail areas of greenhouses and nurseries if the public is allowed access before the pesticide restricted-entry or re-entry interval elapses.
 - c. Examples of property not open to use by the public include without limitation: farms, forest lands, and private residential or commercial property which is not routinely operated or maintained for use by the public or otherwise held open to public use.
 - d. Notwithstanding this definition, property shall not be deemed to be open for use by the public in the following cases:
 - i. where the property is devoted primarily to agricultural, forest, ornamental tree or plant production, but this exception shall not apply to campgrounds, leased inholdings or roads within such property which are open for use by the public;
 - ii. where the public has not been permitted upon the property at any time within seven days of when the property received a pesticide application;
 - iii. forestry rights of way where the property has been closed during the time of spraying or during the label restricted entry interval or re-entry period, whichever is greater.
3. In a food establishment licensed under M.R.S. 22, Chapter 551, or an eating establishment licensed under M.R.S. 22, Chapter 562, except that “custom application” does not include a pesticide application at a licensed food or eating establishment when:
 - a. The establishment is ancillary to the production of an agricultural commodity;
 - b. The owner or an employee of that establishment is certified as a private applicator under section 1471-C, subsection 2; and

- c. The property is not open to the public.
4. A pesticide application shall not be deemed a custom application where it is undertaken by a licensed private applicator on property owned or rented by him or his employer or in trade for personal agricultural services between producers of agricultural commodities.
- Q. "Distribute" means to offer for sale, hold for sale, sell, barter, ship, deliver for shipment or receive and, having so received, deliver or offer to deliver pesticides in this state. This also means giving free samples of unregistered products to any person. Sales of hardware, such as doorknobs and pushplates, shall not be considered distribution for the purposes of this definition.
- R. "Environment" means water, air, land, and all plants and man and other animals living therein, and the interrelationships that exist among them.
- S. "Forest" means a concentration of trees and related vegetation managed primarily for the production of forest agricultural commodities such as timber, fiber or other wood products, including other similar areas managed for recreation or resource conservation.
- T. For the purposes of 22 M.R.S. §1471-D (9), "Government Employee" means a person who is employed full- or part-time as a regular employee of any governmental or quasi-governmental organization including federal, state, county and municipal governments and public universities.
- U. "Hazard" means a probability that a given pesticide will have an adverse effect on man or the environment in a given situation, the relative likelihood of danger or ill effect being dependent on a number of interrelated factors present at any given time.
- V. "Host" means any plant or animal on or in which another lives for nourishment, development, or protection.
- W. "Integrated Pest Management" (IPM) means the selection, integration and implementation of pest damage prevention and control based on predicted socioeconomic and ecological consequences, including: (1) understanding the system in which the pest exists, (2) establishing dynamic economic or aesthetic injury thresholds and determining whether the organism or organism complex warrants control, (3) monitoring pests and natural enemies, (4) when needed, selecting the appropriate system of cultural, mechanical, genetic, including resistant cultivars, biological or chemical prevention techniques or controls for desired suppression, and (5) systematically evaluating the pest management approaches utilized.
- X. "Integrated Pest Management Coordinator" means the lead person in a school system or school who is knowledgeable about integrated pest management and is designated by each school to implement the school pest management policy.

- Y. "License" means a commercial applicator license, a private applicator certification, a dealer license, a permit to chemically control vertebrate animals, or a permit to apply limited use pesticides.
- Z. "Licensing" means the issuance by the Board of a document signifying that the applicant has been certified and has met all applicable employee, fee, insurance and reporting requirements.
- AA. "Major application project" means any pesticide application contract that requires the applicator to apply pesticides to more than 1000 acres in the aggregate within a given year. This does not include repeat applications to the same site.
- BB. "Major pesticide storage facility" means any fixed-site, totally enclosed building or portion of such building owned and/or operated by a pesticide distributor where pesticides are held in storage and which meets one of the following criteria:
1. contains at any one time an amount greater than or equal to 6,000 pounds of dry pesticide product, other than dry formulations of products listed in Chapter 24, Section 2, "Exempted Products," or
 2. contains at any one time an amount greater than or equal to 600 gallons of liquid pesticide product, other than liquid formulations of products listed in Chapter 24, Section 2, "Exempted Products," or
 3. contains liquid pesticides in containers that are thirty (30) gallons or greater in size, other than liquid formulations of products listed in Chapter 24, Section 2, "Exempted Products."
- CC. "Minor pesticide storage facility" means any fixed-site, totally enclosed building or portion of such building owned and/or operated by a pesticide distributor where pesticides are held in storage and which meets one of the following criteria:
1. contains at any one time an amount greater than 100 pounds but less than 6,000 pounds of dry pesticide product, other than dry formulations of products listed in Chapter 24, Section 2, "Exempted Products," or
 2. contains at any one time an amount greater than 50 gallons but less than 600 gallons of liquid pesticide, other than liquid formulations of products listed in Chapter 24, Section 2, "Exempted Products," or
 3. contains liquid pesticides in containers greater than three (3) gallons but less than thirty (30) gallons in size, other than liquid formulations of products listed in Chapter 24, Section 2, "Exempted Products."
- DD. "Non-agricultural pesticide application" means any application of a pesticide that is not an agricultural pesticide application.
- EE. "Non-powered equipment" means pesticide spray equipment which pumps and disperses pesticides without utilization of an electric, gasoline, wind-driven or other motorized power source. By way of example, non-powered equipment includes manual pump spray

equipment and self-contained aerosol spray cans or bottles but does not include equipment which employs a motor, except one powered only by hand.

- FF. “Non-target organism” means a plant or animal other than the one against which the pesticide is applied.
- GG. "Off-target direct discharge of pesticides" means the direct application of pesticides onto property beyond the boundaries of the target area intended to be treated. Presence of off-target direct discharge of pesticides may be determined by any evidence, through observation, residue samples or other techniques, that an off-target area has received substantially the same dose of pesticide as a target area.
- HH. "Off-target drift of pesticides" means the drifting of pesticides by air currents or diffusion with resulting deposition of pesticides onto property beyond the boundaries of the target area intended to be treated. The detection of pesticides beyond the boundaries of the target area intended to be treated shall be presumed to be as a result of off-target drift unless there is evidence of off-target direct discharge of pesticides.
- II. "Ornamental plant" means shrubs, trees and related vegetation in and around habitation generally, but not necessarily, located in urban and suburban areas, including residences, parks, streets, retail outlets, and industrial and institutional buildings.
- JJ. "Other forest pests" means forest pests, other than insects and include, but are not limited to, weeds, mites, nematodes, fungi, bacteria, and viruses.
- KK. "Owner" means sole proprietor, partner or stockholder.
- LL. "Person" means any individual, partnership, fiduciary, corporation, governmental entity, association or public or private organization of any character, other than the Board.
- MM. "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest; any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant; and any nitrogen stabilizer. It does not include multicellular biological controls such as mites, nematodes, parasitic wasps, snails or other biological agents not regulated as pesticides by the U.S. Environmental Protection Agency.
- NN. "Pesticide dealer" means any person who distributes limited or restricted-use pesticides, including but not limited to sales personnel in an outlet, field salesmen, and manufacturers' representatives selling pesticides directly to the consumer or who accept orders for pesticides.
- OO. "Pesticide distributor" means any person required to be licensed to distribute general, restricted or limited use pesticides.
- PP. "Pesticide storage facility" means any fixed-site, totally enclosed building or portion of such building where pesticides are held for storage.
- QQ. “Practical knowledge” means the possession of pertinent facts and comprehension together with the ability to use them in dealing with specific problems and situations.

- RR. "Principal place of business" means the principal location, either residence or office, in the State in which an individual, partnership, or corporation applies pesticides.
- SS. "Private Applicator" means any person who uses or supervises the use of any pesticide which is classified for restricted or limited use for purposes of producing any agricultural commodity on property owned or rented by him or his employer or, if applied without compensation other than the trading of personal services between producers of agricultural commodities, on the property of another person. In situations where the applicator is applying pesticides to crops on rented land, there must be a written contract showing that the grower/applicator retains control over the property as well as the disposition or sale of the harvested crop.
- TT. "Private domestic well" means any well used for drinking water other than one which serves a public water system.
- UU. "Project" means, for the purposes of Chapter 51, the aerial application of pesticides to control an individual forest insect pest complex provided by:
1. Any number of applicator businesses for a single person, or
 2. One applicator business on contiguous parcels of land.
- VV. "Public precautions" means those statements which appear on the pesticide label directed towards the non-applicator public. Public precautions may include, but are not limited to, re-entry intervals.
- WW. "Public water system" means any water supply system that provides water to at least 15 service connections or serves water to at least 25 individuals daily for at least 30 days a year.
- XX. "Regulated pest" means a specific organism considered by a State or Federal agency to be a pest requiring regulatory restrictions, regulations, or control procedures in order to protect the host, man and/or his environment.
- YY. "School" means any public or private elementary or secondary school, kindergarten or nursery school that is part of an elementary or secondary school or a tribally funded school.
- ZZ. "School Building" means any structure used or occupied by students or staff of any school.
- AAA. "School Grounds" means:
1. land associated with a school building including playgrounds, athletic fields and agricultural fields used by students or staff of a school, and
 2. any other outdoor area used by students or staff that is under the control of a school.
- BBB. "Self-service sales area" means any area within or immediately outside a retail or wholesale business in which members of the public have direct access to pesticide products. For the purposes of this chapter, self-service sales areas shall be limited to

those pesticide products which require a pesticide dealer to be licensed under 22 M.R.S.A. §1471-W, "General Use Pesticide Dealers."

- CCC. "Sensitive area" means any of the following, except where the area involved is the intended target of the pesticide application:
1. Apiaries, the location of which is registered with the Department of Agriculture, Conservation and Forestry pursuant to 7 M.R.S.A. §2701;
 2. Critical areas designated by the Board pursuant to 22 M.R.S.A. §1471-M(2);
 3. Public wells, drinking water springs used by the public, and public water supply intake points, provided the location of the same is known or should reasonably be known to the pesticide applicator;
 4. Private sources of drinking water, where the owner or legal user thereof has given prior notice of the location of such source to the landowner or lessee of the area which will be subject to a pesticide application;
 5. Water bodies, including streams, brooks, rivers, ponds, lakes, estuaries and marine waters, provided that any such water body contains water at the time of the pesticide application and is known to the spray applicator or is reasonably detectable from visual observation, reasonably available maps or reasonable inquiry. This term shall not include: (a) in the case of forest aerial spray programs, streams and brooks that are neither shown on reasonably available maps nor visible from an aircraft operating at 1000 feet in elevation above ground level; and (b) waters that are confined and retained completely upon the property of the person conducting or contracting for spray services, and that do not drain into or connect with any other water body;
 6. Wetlands of Special Significance.
 7. Cleared areas where livestock are contained or pastured, cultivated land, cropland or gardens.
 8. A "Sensitive Area Likely to Be Occupied" is an area where humans are likely to be present including the following:
 - a. Residential buildings, together with any associated maintained areas likely to be occupied by humans, such as lawns, gardens, recreational areas and livestock management and housing areas;
 - b. School buildings, together with any associated maintained areas that are areas likely to be occupied by humans, such as playgrounds, athletic fields or courts;
 - c. Commercial, institutional, or other structures likely to be occupied by humans, together with any associated maintained areas such as lawns, gardens, parking and recreational areas;

- d. Maintained recreational areas likely to be occupied by humans including campgrounds, picnic areas, marked roadside rest areas, marked hiking trails, park and recreation facilities, athletic fields, and other areas for organized sports or recreation. This definition does not include trails located on privately owned lands which are used by permission of the landowner.
- DDD. "Spray application" means, for the purposes of Chapter 51, the dispensing of pesticides in any manner from an aircraft.
- EEE. "Spray contracting firm" means any person, including a corporation, employed or contracted to conduct a public or private custom application of one or more pesticides. This term does not include:
1. the owner or lessee of land to be sprayed and employees of that landowner or lessee,
 2. the Division of Forestry and the employees of the Division of Forestry,
 3. individuals who are certified as commercial applicators providing that individual does not have in his/her employment one or more others to undertake pesticide applications; or
 4. persons who perform custom applications of pesticides solely on or within a premises which they own or lease.
 5. persons and corporations that subcontract for pesticide applications, but do not maintain any control over the pesticide application including which pesticides are applied, when they are applied or how they are applied.
- FFF. "Spray period report" means a written description of the spray activity certifying the date and time, the area usually sprayed, the pesticide used, and including a description of the weather conditions during spray activity. The report must also include a map showing where spray booms were turned on and off, with notation of any non-target areas that were sprayed.
- GGG. "Standard" means the measure of knowledge and ability that must be demonstrated as a requirement for certification.
- HHH. "Storage" means holding pesticides for distribution in locations other than self-service sales areas.
- III. "Susceptibility" means the degree to which an organism is affected by a pesticide at a particular level of exposure.
- JJJ. "Toxicity" means the property of a pesticide to cause any adverse physiological effects.
- KKK. "Uncertified person" means any person who is not holding a currently valid certification document indicating that he is certified under section 4 of FIFRA in the category of the restricted use pesticide made available for use.

- LLL. "Wetlands of Special Significance" means all coastal wetlands and great ponds. In addition, certain freshwater wetlands are considered wetlands of special significance if they have one or more of the following characteristics.
1. **Critically imperiled or imperiled community.** The freshwater wetland contains a natural community that is critically imperiled (S1) or imperiled (S2) as defined by the Natural Areas Program.
 2. **Significant wildlife habitat.** The freshwater wetland contains significant wildlife habitat as defined by 38 M.R.S.A. §480-B(10).
 3. **Location near coastal wetland.** The freshwater wetland area is located within 250 feet of a coastal wetland.
 4. **Location near GPA great pond.** The freshwater wetland area is located within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. §465-A.
 5. **Aquatic vegetation, emergent marsh vegetation or open water.** The freshwater wetland contains under normal circumstances at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, unless the 20,000 or more square foot area is the result of an artificial ponds or impoundment.
 6. **Wetlands subject to flooding.** The freshwater wetland area is inundated with floodwater during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Management Agency or other site-specific information.
 7. **Peatlands.** The freshwater wetland is or contains peatlands, except that the Department of Environmental Protection may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance.
 8. **River, stream or brook.** The freshwater wetland area is located within 25 feet of a river, stream or brook.
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STATUTORY AUTHORITY: 22 M.R.S.A., Chapter 258-A

EFFECTIVE DATE:

July 6, 1979

AMENDED:

April 27, 1988

May 21, 1996

August 17, 1996

October 2, 1996

EFFECTIVE DATE (ELECTRONIC CONVERSION):

March 1, 1997

AMENDED:

April 14, 1998 - inserted definitions for "Agricultural pesticide application" and "Non-agricultural pesticide application"; renumbered; converted to MS Word.

March 5, 2003

NON-SUBSTANTIVE CORRECTION:

February 17, 2004 - cross reference in Section 2.H

AMENDED:

January 4, 2005 – filing 2004-602

March 4, 2007 – Section 2(I)(4)(c), filing 2007-64

July 16, 2009 – filing 2009-251 (major substantive final adoption)

January 29, 2013 – filing 2013-014

CORRECTIONS:

February, 2014 – agency names, formatting

01 DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY

026 BOARD OF PESTICIDES CONTROL

Chapter 22: STANDARDS FOR OUTDOOR APPLICATION OF PESTICIDES BY POWERED EQUIPMENT IN ORDER TO MINIMIZE OFF-TARGET DEPOSITION

SUMMARY: These regulations establish procedures and standards for the outdoor application of pesticides by powered equipment in order to minimize spray drift and other unconsented exposure to pesticides. The primary purpose of these regulations is to implement the legislative mandate of the Board, as expressed by 7 M.R.S.A. §606(2)(G), to design rules which “minimize pesticide drift to the maximum extent practicable under currently available technology.”

SECTION 1. EXEMPTIONS

The regulations established by this chapter shall not apply to pesticide applications in any of the following categories:

- A. Applications of pesticides confined entirely to the interior of a building;
- B. Applications of pesticides by non-powered equipment;
- C. Applications of pesticides exclusively in granular or pelletized form;
- D. Applications of pesticides injected underground or otherwise injected directly into the target medium. Such applications must involve no spraying of pesticides whatsoever.

SECTION 2. STANDARDS OF CONDUCT FOR PESTICIDE APPLICATIONS

All pesticide applications subject to these regulations shall be undertaken in compliance with the following standards of conduct:

- A. **Equipment**
 - I. Pesticide spray equipment shall be used in accordance with its manufacturer’s recommendations and instructions, and shall be in sound mechanical condition, free of leaks and other defects or malfunctions which might cause pesticides to be deposited off-target.
 - II. Pesticide spray equipment shall be properly calibrated consistent with Board or University published guidance. Sufficient records to demonstrate proper calibration must be maintained and made available to representatives of the Board upon request.

- III. Pesticide application equipment shall have properly functioning shut-off valves or other mechanisms which enable the operator to prevent direct discharge and minimize drift to non-target areas. Spray equipment designed to draw water must also have a properly functioning antisiphoning device.

B. Weather Conditions

- I. Spray applications shall not be undertaken when weather conditions favor pesticide drift onto Sensitive Areas or otherwise prevent proper deposition of pesticides on target.
- II. Pesticide application must cease immediately when visual observation reveals or should reveal that spray is not being deposited on target.
- III. Without limitation of the other requirements herein, under no circumstances shall pesticide application occur when wind speed in the area is in excess of 15 miles per hour.

C. Identifying and Recording Sensitive Areas

- I. Prior to spraying a pesticide, the applicator must become familiar with the area to be sprayed and must identify and record the existence, type and location of any Sensitive Area located within 500 feet of the target area. Applicators shall prepare a site map or other record, depicting the target area and adjacent Sensitive Areas. The map or other record shall be updated annually. The site map or other record shall be retained by the applicator for a period of two years following the date of applications and shall be made available to representatives of the Board upon request.
- II. This requirement shall not apply to commercial applications conducted under categories 3A (outdoor ornamental), 3B (turf), 6A (rights-of-way vegetation management), 6B (industrial/commercial/municipal vegetation management), 7A (structural general pest control applications), or 7E (biting fly & other arthropod vectors [ticks]).

D. Presence of Humans, Animals

Pesticide applications shall be undertaken in a manner which minimizes exposure to humans, livestock and domestic animals.

The applicator shall cease spray activities at once upon finding evidence showing the likely presence of unprotected persons in the target area or in such proximity as to result in unconsented exposure to pesticides.

E. Other Requirements

These regulations are intended to be minimum standards. Other factors may require the applicator to take special precautions, beyond those set forth in these regulations, in

order to avoid adverse impacts on off-target areas and to protect public health and the environment.

SECTION 3. STANDARDS FOR AERIAL APPLICATION OF PESTICIDES

A. Positive Identification of the Target Site

The person contracting for an aerial pesticide application shall ensure that the application site (i.e., target area) is positively identified prior to application, using a unique and verifiable method, including;

- I. An onboard, geo-referenced electronic mapping and navigation system (e.g., GPS); or
- II. Effective site markings visible to the applicator; or
- III. Other method(s) approved by the Board.

B. Site Plans Required

Prior to spraying by aerial application within 1,000 feet of a Sensitive Area Likely to Be Occupied, the person contracting for the application shall provide to the applicator a site plan that includes:

- I. a site map drawn to scale that:
 - (i) delineates the boundaries of the target area and the property lines;
 - (ii) depicts significant landmarks and flight hazards;
 - (iii) depicts the type and location of any Sensitive Area Likely to Be Occupied within 1,000 feet of the target area; and
 - (iv) depicts other Sensitive Areas within 500 feet of the target area.
- II. If applicable, a school bus schedule shall accompany the site map.
- III. The site plan and site map with identified sensitive areas required under Section 3(B) shall be retained by the applicator for a period of two years following the date of applications and shall be made available to representatives of the Board upon request.
- IV. Compliance with this section satisfies the requirements of Section 2(C).

C. Site-Specific Application Checklist

Prior to conducting an aerial pesticide application within 1,000 feet of a Sensitive Area Likely to Be Occupied, the applicator shall complete a Board-approved pre-application

checklist for each distinct field or target site. The checklist shall be maintained by the applicator for a period of two years and shall be available for inspection by representatives of the Board at reasonable times, upon request. The checklist shall include, at a minimum, the following elements:

- I. The date, time, description of the target site and name of the applicator;
- II. Confirmation that the notification requirements contained in CMR 01-026, Chapters 28 and 51, have been carried out;
- III. Confirmation that the target site has been positively identified;
- IV. The location of where weather conditions are measured and a description of the equipment used to measure the wind speed and direction;
- V. Confirmation that conditions are acceptable to treat the proposed target site, considering the location of any Sensitive Area Likely to Be Occupied and current weather conditions;
- VI. Wind speed and direction;
- VII. The measures used to protect all Sensitive Areas;
- VIII. Confirmation that there are no humans visible in or near the target area.

D. Buffer Zones for any Sensitive Area Likely to Be Occupied

Aerial applicators shall employ site-specific buffer zones adjacent to any Sensitive Area Likely to Be Occupied sufficient to prevent unlawful pesticide drift, unless consent has been granted by the landowner, lessee and occupant (when applicable), consistent with the provisions of Section 4(C) of this rule.

E. Wind Speeds for Aerial Applications

Unless otherwise specified by the product label, an applicator may not conduct an aerial application of pesticides within 1,000 feet of a Sensitive Area Likely to Be Occupied unless the wind speed is between 2 and 10 miles per hour.

SECTION 4. GENERAL STANDARDS FOR OFF-TARGET PESTICIDE DISCHARGE AND RESIDUE

A. Prohibition of Unconsented, Off-Target Direct Discharge of Pesticides

Pesticide applications shall be undertaken in a manner which does not result in off-target direct discharge of pesticides, unless prior authorization and consent is obtained from the owner or lessee of the land onto which such discharge may occur in a manner consistent with the pesticide label.

B. 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.
- 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. The Board shall review the site-specific application checklist completed by the applicator and other relevant information to determine if a violation has occurred. For purposes of this standard, the residue in the target area, and the residue in the Sensitive Area Likely to Be Occupied, may be adequately determined by evaluation of one or more soil, foliage or other samples, or by extrapolation or other appropriate techniques.
- III. **Standard of Harm.** An applicator may not apply a pesticide in a manner that results in:
 - (i) Off-target pesticide residue detected in or on any nearby crop which violates EPA tolerances for that crop, as established under 40 CFR, Part 180.
 - (ii) Off-target pesticide residue detected in or on any nearby organic farm or garden which causes the agricultural products thereof to be excluded from organic sale in accordance with 7 CFR, Part 205, Section 205.671.
 - (iii) Off-target pesticide residue detected on any nearby persons or vehicles using public roads.
 - (iv) Documented human illness. For this standard to be met, the Board must receive verification from two physicians that an individual has experienced a negative health effect from exposure to an applied pesticide and that the effect is consistent with epidemiological documentation of human sensitivity to the applied pesticide.
 - (v) Off-target damage or injury to any organism.
- IV. **Enforcement Considerations.** The Board shall consider the particular circumstances of violations arising from Subsections 4(B)(I) and (III) in determining an appropriate response, including, but not limited to:
 - (i) The standard of care exercised by the applicator;
 - (ii) The degree of harm or potential harm that resulted from or could have resulted from off-target drift from the application;

- (iii) The risk (toxicity and exposure) of adverse effects from the pesticide applied.

C. **Consent**

- I. **Consent, How Given.** Authorization and consent by the owner or lessee and occupant (when applicable) of land receiving a pesticide discharge or drift in a manner consistent with the pesticide label may be given in any manner, provided that the consent is reasonably informed and is given prior to the onset of the spray activity in question. The burden of proof shall be upon the applicator to demonstrate that requisite authorization and consent has been given. For this reason, applicators are encouraged to obtain such consent in writing and to maintain records thereof.
- II. The residue and harm standards in Sections 4(B)(II) and (III) for off-target drift do not apply where the owner, lessee and occupant (when applicable) of the off-target area receiving the pesticide drift have given authorization and consent as prescribed in Section 4(C).
- III. Except with the prior written approval of the Board, no authorization or consent may be given with regard to off-target direct discharge or off-target drift of pesticides upon any bodies of water or critical areas as defined in CMR 01-026, Chapter 10, "Definitions; Sensitive Area."

SECTION 5. **VARIANCES FROM STANDARDS**

A. **Variance Permit Application**

An applicator may vary from any of the standards imposed under this chapter by obtaining a permit to do so from the Board. Permit applications shall be made on such forms as the Board provides and shall include at least the following information:

- I. The name, address, and telephone number of the applicant;
- II. The area(s) where pesticides will be applied;
- III. The type(s) of pesticides to be applied;
- IV. The purpose for which the pesticide application(s) will be made;
- V. The approximate date(s) of anticipated spray activities;
- VI. The type(s) of spray equipment to be employed;
- VII. The particular standards from which the applicant seeks a variance;

- VIII. The particular reasons why the applicant seeks a variance from such standards, including a detailed description of the techniques to be employed to assure a reasonably equivalent degree of protection and of the monitoring efforts to be made to assure such protection;
- IX. The names and addresses of all owners or lessees of land within 500 feet of the proposed spray activity, and evidence that such persons have been notified of the application. The Board may waive this requirement where compliance would be unduly burdensome and the applicant attempts to notify affected persons in the community by another means which the Board finds reasonable.

B. Board Review; Legal Effect of Permit, Delegation of Authority to Staff

- I. Within 60 days after a complete application is submitted, the Board shall issue a permit if it finds that the applicant will achieve a substantially equivalent degree of protection as adherence to the requirements of this chapter would provide and will conduct spray activities in a manner which protects human health and the environment. Such permit shall authorize a variance only from those particular standards for which variance is expressly requested in the application and is expressly granted in the permit. The Board may place conditions on any such permit, and the applicant shall comply with such conditions. Except as conditioned in the permit, the applicant shall undertake spray activities in accordance with all of the procedures described in the application and all other applicable legal standards. Permits issued by the Board under this section shall not be transferable or assignable except with further written approval of the Board and shall be valid only for the period specified in the permit.
- II. The Board may delegate authority to review applications and issue permits to the staff as it feels appropriate. All conditions and limitations as described in Section 5(B) I shall remain in effect for permits issued by the staff. If the staff does not grant the variance permit, the applicator may petition the Board for exemption following the requirements set forth in 22 M.R.S.A. §1471-T, "Exemptions."

SECTION 6. EMERGENCIES

- A. In the event that severe pest or weather conditions threaten to cause a significant natural resource and/or economic loss, as determined by the Commissioner of the Maine Department of Agriculture, Conservation and Forestry, the requirements contained in Section 3 of this Chapter shall be waived, subject to the following conditions:
 - I. The severe pest and/or weather conditions must necessitate immediate wide-scale aerial application of pesticides.
 - II. The immediate need for aerial pesticide application does not provide sufficient time to complete the requirements of Section 3 of this Chapter,
 - III. Prior to any aerial application, the Commissioner shall issue a press release notifying residents of affected regions about the emergency, the likelihood of

aerial application in the affected regions and the approximate dates that the emergency may continue.

- IV. The Commissioner, in consultation with the Board's staff, shall specify the requirements in Section 3 that will be waived.
- V. Land managers and aerial applicators shall make good faith efforts to comply with the intent of Section 3 and minimize off-target drift to Sensitive Areas.

- B. When the Maine Center for Disease Control and Prevention (CDC) recommends control of disease vectors, government sponsored vector control programs are exempt from Sections 2C, 2D, 3B, 3C, 3D, 3E and 4 of this chapter, provided that reasonable efforts are made to avoid spraying non-target areas.

June 12, 2009 amendments become effective on January 1, 2010.

STATUTORY AUTHORITY: 7 M.R.S.A. §606(2)(G):
22 M.R.S.A. §1471-M(2)(D)

EFFECTIVE DATE:
January 1, 1988

AMENDED:
October 2, 1996

EFFECTIVE DATE (ELECTRONIC CONVERSION):
March 1, 1997

AMENDED:
September 22, 1998 - also converted to MS Word
January 4, 2005 – filing 2004-603 affecting Section 3.B.II.(iii)
January 1, 2010 by request of agency in filing 2009-252
June 12, 2013 – filing 2013-135 (Emergency major substantive)

CORRECTIONS:
February, 2014 - formatting

AMENDED:
September 11, 2014 – Section 6, filing 2014-164
May 24, 2015 – filing 2015-075 (Final adoption, major substantive)

01 DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY

026 BOARD OF PESTICIDES CONTROL

Chapter 29: STANDARDS FOR WATER QUALITY PROTECTION

SUMMARY: These regulations establish standards for protecting surface water. This chapter establishes a fifty-foot setback from surface water for mixing and loading of pesticides, sets forth requirements for securing containers on sprayers and cleaning up spills occurring within the setback zone, establishes restrictions on pesticide applications to control browntail moths near marine waters and requires an untreated 25-foot buffer zone for outdoor terrestrial broadcast pesticide applications near waters of the State.

Section 1. Protecting Waters of the State during Pesticide Mixing and Loading Operations

- A. No person shall mix or load any pesticides or fill a sprayer or mix tank within fifty (50) feet from the high water mark of any surface waters of the State as defined in 38 M.R.S.A. §361-A(7).
- B. No person shall use a pump that pumps pesticide concentrate or formulation or any hose that has been in contact with pesticide solution to draw liquid from any surface waters.
- C. All pesticide pumping systems that come in contact with any surface waters shall be equipped with an anti-siphoning device.

Section 2. Securing Pesticide Product Containers and Mix Tanks on Sprayers, Nurse Vehicles and Other Support Vehicles during Transportation

No person shall transport any pesticide unless it is secured so as to prevent release of pesticides onto the vehicle or from the vehicle. All tanks, liquid containers, cartons and bags must be securely held so they may not shift and become punctured or spilled.

Section 3. Cleaning up Pesticide Spills within Setback Zone in Section 1

Any person who spills a pesticide within fifty (50) feet from the high water mark of any surface water shall take immediate steps to recover the pesticide by the most efficient means available and remove all contaminated soil to prevent water contamination.

Section 4. Exemptions

The following persons are exempt from Section 1(A) regarding mixing and loading within fifty (50) feet of the high water mark of any surface water:

- A. Applicators with a variance approved by staff for an impervious mixing/loading pad with containment features. Applications for a variance must be submitted to the Board on or before December 31, 1999;
- B. Applicators using chemigation equipment specified on labels to draw water from their tail-water ponds;
- C. Commercial applicators using small individually packaged concentrates to mix no more than five (5) gallons for use in non powered equipment; and
- D. Commercial applicators making aquatic applications from boats and barges.

Section 5. Restrictions on Pesticide Applications to Control Browntail Moths Near Marine Waters

Pesticide applications for control of browntail moths within 250 feet of the mean high tide mark adjacent to coastal waters and extending upriver or upstream to the first bridge are subject to the requirements of this section:

A. 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.

B. Prohibitions and Restrictions

- I. A person may not apply a pesticide to control browntail moths on shade or ornamental trees within 50 feet of the mean high water mark.
- II. A person may not apply a pesticide to control browntail moths on shade or ornamental trees in coastal areas located between 50 and 250 feet from the mean high water mark except in accordance with this subsection.
 - a. Only products with active ingredients specifically approved by the Board for this purpose may be applied.
 - b. Applications may be performed only with a hydraulic hand-held spray gun or air-assisted sprayers.
 - c. Applications may be performed only in a manner in which the applicator directs the spray away from marine waters.
 - d. Applications may not be made when the wind is blowing toward marine waters.
 - e. Applications may be performed only when the wind is equal to or greater than 2 miles per hour and blowing away from marine waters.

Section 6. Buffer Requirement

- A. No person shall make an outdoor terrestrial broadcast application of pesticides, except for applications made to control arthropod vectors of human disease or stinging insects, within twenty-five (25) feet from the mean high water mark of:
- I. Any lake or pond, except ponds that are confined and retained completely upon the property of one person and do not drain into or have a surficial connection with any other waters of the State;
 - II. Rivers
 - III. Any stream depicted as a solid or broken blue line on the most recent edition of the U.S. Geological 7.5-minute series topographic map or, if not available, a 15-minute series topographic map;
 - IV. Estuarine and marine waters as defined under 38 M.R.S.A. §361-A (5); or
 - V. Wetlands, except man-made wetlands that are designed and managed for agricultural purposes, which are:
 - a. connected to great ponds at any time of the year; or
 - b. characterized by visible surface water; or
 - c. dominated by emergent or aquatic plants.
- B. An applicator may vary from the standards imposed under Chapter 29, Section 6 (A) by obtaining a permit to do so from the Board. Permit applications shall be made on such forms as the Board provides and shall include at least the following information:
- I. The name, address and telephone number of the applicant;
 - II. The area(s) where pesticides will be applied;
 - III. The type(s) of pesticides to be applied;
 - IV. The purpose for which the pesticide application(s) will be made;
 - V. The approximate application date(s);
 - VI. The type(s) of application equipment to be employed; and
 - VII. The particular reasons why the applicant seeks a variance from the requirements of this section, including a detailed description of the techniques to be employed to assure that a reasonably equivalent degree of protection of the water body will be obtained.
- C. Within 30 days after a complete application is submitted, the Board or its staff shall issue a permit if it finds that the applicant will:

- I. Achieve a substantially equivalent degree of protection as adherence to the requirements of this section would provide; or
- II. Demonstrate an appropriate balance of risk and benefit; and
- III. Will conduct the application in a manner which protects surface waters as defined in Chapter 29, section 6 (A).

The Board may place conditions on any such permit, and the applicant shall comply with such conditions. Except as required by the permit, the applicant shall undertake the application in accordance with all of the procedures described in his variance request and all other applicable legal standards. Permits issued by the Board under this section shall not be transferable or assignable except with further written approval of the Board and shall be valid only for the period specified in the permit.

STATUTORY AUTHORITY: 7 M.R.S.A. §§ 601-625 and 22 M.R.S.A. §§ 1471-A-X.

EFFECTIVE DATE:

April 14, 1999

AMENDED:

February 3, 2008 – filing 2008-35 (except that the major substantive language of Section 6, which was undergoing legislative review)

May 1, 2008 - filing 2008-154, including Section 6's final adoption

CORRECTIONS:

February, 2014 – agency names, formatting

01 DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY

026 BOARD OF PESTICIDES CONTROL

Chapter 51: NOTICE OF AERIAL PESTICIDE APPLICATIONS

SUMMARY: These regulations describe the notification requirements for persons contracting aerial pesticide applications to control forest, ornamental plant, right-of-way, biting fly and public health pests.

Section I. Content of All Newspaper Articles/Advertisements, Written Notices to Property Owners and Posters

- A. All newspaper articles/advertisements and written notices to property owners required by this chapter shall contain the following:
1. Description of the target area sufficient to inform people who may be in the vicinity.
 2. Name of the person who contracts for the application or her/his representative or the applicator and the address and telephone number to contact for more specific information about the intended application.
 3. Intended purpose of the pesticide application.
 4. Pesticide(s) to be used.
 5. Date or reasonable range of dates on which application(s) are proposed to take place.
 6. Telephone number of the Maine Board of Pesticides Control.
 7. Telephone number of the Maine Poison Control Center.
 8. Public precautions which appear on the pesticide label.
- B. All newspaper articles/advertisements must be printed in a minimum of 10 point types and at least 2 inches wide.
- C. All posters required by this chapter shall contain the following:
1. Name of the person who contracts for the application or her/his representative or the applicator and the address and telephone number to contact for more specific information about the intended application.
 2. Intended purpose of the pesticide application.
 3. Pesticide(s) to be used.

4. Telephone number of the Maine Board of Pesticides Control
5. Telephone number of the Maine Poison Control Center.
6. Public precautions which appear on the pesticide label.

Section II. Forest Insect Applications

A. Responsible Parties

1. In the event of a forest insect spray program administered pursuant to Title 12, Chapter 801, the Maine Department of Conservation, Bureau of Forestry, is responsible for notices.
2. In the case of any other forest insect aerial spray activity, responsibility for notices lies with the landowner, her/his representative or the lessee if the land is leased.

B. Newspaper Articles/Advertisements and Written Notices to Property Owners

1. An article about/advertisement of a major forest insect aerial spray application shall be published in a newspaper of general circulation in the affected area at least 14 days but not more than 30 days prior to commencement of planned spray activity.
2. An article about/advertisement of a minor forest insect aerial spray application shall be published in a newspaper of general circulation in the affected area at least 4 days but not more than 10 days prior to commencement of planned spray activity.
3. An addition of spray areas not specified in the original newspaper article/advertisement and any change from the insecticides specified in the original article/advertisement shall be published in the same newspaper at least 24 hours before the change is effected.
4. A written notice of all forest insect aerial pesticide applications shall be provided to the person(s) owning property or using residential rental, commercial or institutional buildings within 500 feet of the intended target site at least 3 days but not more than 60 days before the commencement of the intended spray applications. The notice shall contain the information required in Section I(A). For absentee property owners who are difficult to locate, certified or equivalent mailing of the notice to the address listed in the Town tax record shall be considered sufficient notice.

C. **Posting of Areas Subject to Major and Minor Forest Insect Aerial Spray Applications**

1. A poster shall be posed conspicuously just prior to the planned spray activity and shall not be removed by the landowner or landowner's agent for at least 2 days (48 hours) after spray activity ceases. Areas that shall be posed include each major point of ingress and egress of the public into the area to be sprayed. Major points of ingress and egress include federal, state, municipal and private roads open to the public and known to be used by the public that lead into the area to be sprayed; utility crossings of these roads; known boat launching sites on rivers leading through spray areas and within the boundaries of the land owned by the person authorizing the spray activity; and marked points of access to foot trails known to be used by the public.
2. Posters shall be constructed of brightly colored, weather resistant stock and shall be at least 11 x 14 inches in size. They shall contain the information required in Section I(C). The information shall be printed in both English and French.

D. **Written Notice to the Board and the Maine Poison Control Center**

1. A written notice shall be given to the Board and to the Maine Poison Control Center according to the following schedule:
 - a. Written notice of major forest insect aerial spray applications shall be given to the Board and the Maine Poison Control Center at least 15 days but not more than 30 days prior to the commencement of planned spray activity.
 - b. Written notice of minor forest insect spray application shall be given to the Board and the Maine Poison Control Center at least 5 days prior to the commencement of planned spray activity.
 - c. Any addition of spray blocks not specified in the original notice to the Board and any change in pesticide assignments to particular blocks shall be given to the Board as soon as practicable, and in any case every reasonable effort shall be made to give notice of change to the Board prior to initiation of pesticide application. Notice under this subsection may be accomplished by telephone communication with the Board's office.
2. **Notice to the Board.** These notices shall be prepared on forms provided by the Board and shall consist of:
 - a. A description of the proposed spray activity including detailed spray application maps showing sensitive areas and major public routes of ingress and egress. Use of *The Maine Atlas and Gazetteer*, by DeLorme Mapping Company or some other similar atlas is the suggested format for the base map.
 - b. The date or dates on which spraying is proposed to take place.

- c. The name, address, telephone number and license number of the spray contracting firm which will carry out the spray activity.
 - d. Pesticide(s) to be used, dilution agent(s), ratio(s) and notation of any experimental applications.
 - e. A listing of precautions taken to insure notice to the public, including copies of the newspaper notice and the poster to be used.
 - f. The name, address and telephone number of a contact person who will be reasonably accessible by telephone and who will make reasonably current and detailed information about the project available to the Board promptly upon request.
3. **Notice to the Maine Poison Control Center.** These notices shall be prepared on forms provided by the Board and shall consist of:
- a. A description of the general area the proposed application activity will take place.
 - b. The date or dates on which spraying is proposed to take place.
 - c. Pesticide(s) to be used, dilution agent(s), ratio(s) and notation of any experimental applications.
 - d. The name, address and telephone number of a contact person who will be reasonably accessible by telephone and who will make reasonably current and detailed information about the project available to the Maine Poison Control Center promptly upon request.

Section III. Ornamental Plant Applications

A. Responsible Parties

The licensed applicator must provide the person contracting for services with the proper materials to provide notification according to the provisions described in this chapter. The licensed applicator must not commence spray activities until the person contracting for the services provides written proof that the notification procedures contained Section III(B) and (C) have been completed. The person who provides the notification and certifies that the requirements have been fulfilled is responsible for that notification.

B. Newspaper Articles/Advertisements and Written Notices to Property Owners

1. An article about/advertisement of ornamental plant aerial pesticide applications shall be published in a paper of general circulation in the affected area at least 3 days but not more than 60 days prior to the commencement of the intended spray activity. The article/ advertisement shall contain the information required in section I(A) and (B) and shall not be limited to a legal notice.

2. A written notice of ornamental plant aerial pesticide applications shall be provided to the person(s) owning property or using residential rental, commercial or institutional buildings within 500 feet of the intended target site at least 3 days but not more than 60 days before the commencement of the intended spray applications. The notice shall contain the information required in Section I(A). For absentee property owners who are difficult to locate, certified or equivalent mailing of the notice to the address listed in the Town tax record shall be considered sufficient notice.

C. Written Notice to the Board and the Maine Poison Control Center

Written notices to the Board and the Maine Poison Control Center must be given according to Section VI of this rule (Notices to the Board and the Maine Poison Control Center for Other Than Aerial Forest Insect Applications).

Section IV. Rights-Of-Way, Forest Vegetation Management and Other Forest Pest Applications

A. Responsible Parties

The licensed applicator must provide the person contracting for services with the proper materials to provide notification according to the provisions described in this chapter. The licensed applicator must not commence spray activities until the person contracting for the services provides written proof that the notification procedures contained Section IV(B) and (C) have been completed. The person who provides the notification and certifies that the requirements have been fulfilled is responsible for that notification.

B. Newspaper Articles/Advertisements or Written Notices to Property Owners

1. An article about/advertisement of rights-of-way, forest vegetation management or other forest pest aerial pesticide applications shall be published in a paper of general circulation in the affected area at least 3 days but not more than 60 days prior to the commencement of the intended spray activity. The article/advertisement shall contain the information required in Section I(A) and (B) and shall not be limited to a legal notice or;
2. In areas where there is no regular newspaper circulation, the person contracting for services may substitute individual notice to all landowners within 500 feet of the target site. This individual notice shall be provided to the person(s) owning property or using residential rental, commercial or institutional buildings within 500 feet of the intended target site at least 3 days but not more than 60 days before the commencement of the intended spray applications. The notice shall contain the information required in Section I(A). For absentee property owners who are difficult to locate, certified or equivalent mailing of the notice to the address listed in the Town tax record shall be considered sufficient notice.

C. Posting Requirements for Rights-of-Way, Forest Vegetation Management and Other Forest Pest Aerial Applications

1. A poster shall be posed conspicuously just prior to the planned spray activity and shall not be removed by the landowner or landowner's agent for at least 2 days (48 hours) after spray activity ceases. The poster shall contain the information required in Section I(C). Areas that shall be posed include each major point of ingress and egress of the public into the area to be sprayed. Major points of ingress and egress include federal, state, municipal and private roads open to the public and known to be used by the public that lead into the area to be sprayed; utility crossings of these roads and any place a maintained public trail enters the application site.
2. Poster shall be constructed of brightly colored, weather resistant stock and shall be at least 11 x 14 inches in size. The information shall be printed in both English and French.

D. Written Notice to the Board and the Maine Poison Control Center

Written notices to the Board and the Maine Poison Control Center must be given according to Section VI of this rule (Notices to the Board and the Maine Poison Control Center for Other Than Aerial Forest Insect Applications).

Section V. Biting Fly and Public Health Pest Applications

A. Responsible Parties

The licensed applicator must provide the person contracting for services with the proper materials to provide notification according to the provisions described in this chapter. The licensed applicator must not commence spray activities until the person contracting for the services provides written proof that the notification procedures contained Section V(B) and (C) have been completed. The person who provides the notification and certifies that the requirements have been fulfilled is responsible for that notification.

B. Newspaper Articles/Advertisements and Written Notice to Property Owners

1. An article about/advertisement of biting fly and public health pest aerial pesticide applications shall be published in a paper of general circulation in the affected area at least 3 days but not more than 60 days prior to the commencement of the intended spray activity. The article/advertisement shall contain the information required in Section I(A) and (B) and shall not be limited to a legal notice.
2. A written notice shall be provided to the person(s) owning property or using residential rental, commercial or institutional buildings within 500 feet of the intended target site at least 3 days but not more than 60 days before the commencement of the intended spray applications. The notice shall contain the information required in Section I(A). For absentee property owners who are

difficult to locate, certified or equivalent mailing of the notice to the address listed in the Town tax record shall be considered sufficient notice.

C. Written Notice to the Board and the Maine Poison Control Center

Written notices to the Board and the Maine Poison Control Center must be given according to Section VI of this rule (Notices to the Board and the Maine Poison Control Center for Other Than Aerial Forest Insect Applications).

Section VI. Notices to the Board and the Maine Poison Control Center for Other Than Aerial Forest Insect Applications

A. A written notice shall be given to the Board and the Maine Poison Control Center at least 7 days but not more than 30 days prior to the commencement of planned spray activity.

B. These notices shall be prepared on forms provided by the Board and shall consist of:

1. Written notice to the Board

- a. A description of the proposed spray activity including detailed spray application maps showing sensitive areas and major public routes of ingress and egress. Use of *The Maine Atlas and Gazetteer*, by DeLorme Mapping Company or some other similar atlas is the suggested format for the base map.
- b. The date or dates on which spraying is proposed to take place.
- c. A description of the delivery mechanism which shall include the name, address, telephone number and license number of the spray contracting firm which will carry out the spray activity.
- d. Pesticide(s) to be used, dilution agent(s), ratio(s) and notation of any experimental applications.
- e. A listing of precautions taken to insure notice to the public, including copies of the newspaper notice or the notice given to person(s) owning property or using residential rental, commercial or institutional buildings within 500 feet of the intended target site.
- f. The name, address and telephone number of a contact person who will be reasonably accessible by telephone and who will make reasonably current and detailed information about the project available to the Board promptly upon request.

2. Written notice to the Maine Poison Control Center

- a. A description of the general area the proposed application activity will take place.

- b. The date or dates on which spraying is proposed to take place.
 - c. Pesticide(s) to be used, dilution agent(s), ratio(s) and notation of any experimental applications.
 - d. The name, address and telephone number of a contact person who will be reasonably accessible by telephone and who will make reasonably current and detailed information about the project available to the Maine Poison Control Center promptly upon request.
- C. Any addition of spray blocks not specified in the original notice to the Board and any change in pesticide assignments to particular blocks shall be given to the Board as soon as practicable, and in any case every reasonable effort shall be made to give notice of change to the Board prior to initiation of pesticide application. Notice under this subsection may be accomplished by telephone communication with the Board's staff.

Section VII. Emergencies

A. Disease Vectors

When the Maine Center for Disease Control and Prevention (CDC) recommends control of disease vectors, government sponsored vector control programs are exempt from this chapter provided that the responsible governmental entity submits the written notice to Board and the written notice to the Maine Poison Control Center as described in this chapter.

B. Other Emergencies

The Board's staff may grant an emergency variance from the notice requirements set forth in Sections III, IV, V and VI of this chapter if the notice requirements prevent efficacious application of pesticide(s) and the staff determines that an emergency situation exists.

- 1. An emergency situation:
 - a. Involves the introduction or dissemination of a pest new to or not theretofore known to be widely prevalent or distributed within or throughout the United States and its territories; or
 - b. Will present significant risks to human health; or
 - c. Will present significant risks to threatened or endangered species, beneficial organisms, unique ecosystems or the environment; or
 - d. Will cause significant economic loss due to:
 - i. an outbreak or an expected outbreak of a pest; or

- ii. a change in plant growth or development caused by unusual environmental conditions where such change can be rectified by the use of a pesticide(s).
 2. Any emergency variance granted by the staff under this section shall include provisions demonstrating the applicant will furnish substantially equivalent notification as provided by this chapter and shall include:
 - a. Documented notification of person(s) owning property or using commercial or institutional buildings within 500 feet of the intended target site prior to the pesticide application and where appropriate;
 - b. Radio or television announcements or,
 - c. Prominently positioned poster.
 3. No variance may be granted if the emergency situation is the result of an unjustifiable delay created by the person seeking the variance or the person requesting the pesticide application.
 4. If the staff does not grant the variance, the applicator or the person requesting the pesticide application may petition the Board for exemption following the requirements set forth in 22 M.R.S.A. §1471-T, "Exemption".
-

STATUTORY AUTHORITY: 22 M.R.S.A. §1471-G, M, R and T

EFFECTIVE DATE:

August 12, 1985

AMENDED:

May 19, 1991
April 8, 1992
April 19, 1994
October 2, 1996

EFFECTIVE DATE (ELECTRONIC CONVERSION):

March 1, 1997

AMENDED:

April 14, 1998 - inserted “residential rental,” in II(B)(4), III(B)(2), IV(B)(2), V(B)(2), VI(B)(1)(e); conversion to MS Word 2.0.
March 5, 2003 - VI(A), filing 2003-62
July 11, 2012 - spelling correction in Section II(B)(3)
February 14, 2013 - spelling correction in Sections II(C)(1) and IV(C)(1)
June 12, 2013 – filing 2013-136 (Emergency major substantive)

CORRECTIONS:

February, 2014 – agency names, formatting

AMENDED:

September 11, 2014 – Section VII, filing 2014-165



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

To: Board Members
 From: Staff
 Re: Rulemaking
 Date: March 21, 2017

Based on your request at the February 17, 2017 meeting, we have grouped the potential rulemaking items by the following criteria:

- Housekeeping—Fairly minor and should require very little discussion.
- Incorporating Policies—Will require some discussion on whether and how to incorporate the policy in rule but the objective is already written in policy.
- Requires Discussion—Questions have been raised and a decision needs to be made on whether the rule needs to be amended. These will probably take the most time.

It's very difficult to understand these without all the background information so the after the table, each item is listed along with the relevant section of rule, the policy if applicable and the issue.

Chapter		
27 Section 2(B)(4)ii	Change wording “a list of pesticide applications conducted on school grounds” to clarify that all pesticide applications must be included in log	housekeeping
27 Section 2(B)(5)	Change wording from “made in school buildings and on school grounds” to clarify that it includes the exterior of buildings	housekeeping
27 Section 3(A)	Add insect repellents to the list of exemptions	housekeeping
27 Section 3(C)	Change wording “When the Maine Center for Disease Control has identified arbovirus positive animals (including mosquitoes and ticks) in the area, powered applications for mosquito control are exempt...” to clarify that all applications are exempt not just mosquito control applications.	housekeeping

HENRY JENNINGS, DIRECTOR
 90 BLOSSOM LANE, DEERING BUILDING



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

28 Section 3(B)(2)(d)v	Clarify that the telephone number on the sign must be a working number	housekeeping
31 Section 2(A)(II) Section 3(B)(VII)c	Change Forest Pest Control to Forest Pest Management Change Disinfectant and Biocide Treatments to 1 Disinfectant and Biocide Treatments 2 Swimming Pool & Spa 3 Mod Remediation & Water Damage Restoration To align with exams	housekeeping
36	Certification and Licensing Provisions/Monitors and Spotters for Forest Insect Aerial Spray Program. Requirements were repealed in statute. Repeal entire chapter	housekeeping
50 Section 1(C)	Definition of “spray period” was repealed in Title 22 so Spray Period Records should not be required. Also if Chapter 36 is repealed there will be no monitors During discussion of removing the requirements for monitors and spotters, the Legislature suggested that the spray application maps should be provided to the BPC after application.	housekeeping Requires discussion
10 Section 2(P)(2)(d)ii	Incorporate Policy Concerning Denying Access to the Public for Seven Days to Areas “Open to Use by the Public”	Incorporate policy
26 Section 1(E)	Incorporate Interim Interpretative Policy on the Applicability of CMR 01-026 Chapter 26 (Clarify the definition of “occupied buildings” to mean fully enclosed indoor spaces inside building and that open air structures are not buildings for the purpose of the rule)	Incorporate policy
29 Section 6	Incorporate Interim Policy to Delegate Authority to the Staff to Approve Requests for Variance from CMR 01-026 Chapter 29 for Control of Plants that Pose a Dermal Toxicity Hazard	Incorporate policy
29 Section 6	Incorporate Interim Policy to Delegate Authority to the Staff to Approve Requests for Variance from CMR 01-026 Chapter 29 for Control of Invasive Plants	Incorporate policy Requires discussion
29 Section 5	Restrictions on Pesticide Applications to Control Browntail Moths Near Marine Waters	Requires discussion
31 Section 1	Do unlicensed applicators have to be employees of the same company as the Master or Operator? Question has arisen around employees of temp agencies and volunteers. Clarify	Requires discussion
41	Refuge in a bag.	Requires discussion

HOUSEKEEPING

1) Chapter 36

Suggested Change

Repeal Chapter

Discussion

Requirements for monitors and spotters for forest insect aerial spray programs were repealed in statute because they are no longer necessary with the GPS equipment used by aircraft.

2) Chapter 31 Section 2(A)(II) and 3(B)(VII)(c)

Suggested Change

Change Forest Pest Control to Forest Pest Management

Change Category 7c Disinfectant and Biocide Treatments to

7c1 Disinfectant and Biocide Treatments

7c2 Swimming Pool & Spa

7c3 Mod Remediation & Water Damage Restoration

To align with exams

3) Chapter 27 Section 2(B)(4)(ii)

Section 2. Requirements for All Schools

B. Each school shall appoint an IPM Coordinator who shall act as the lead person in implementing the school's Integrated Pest Management policy. The IPM Coordinator shall be responsible for coordinating pest monitoring and pesticide applications, and making sure all notice requirements as set forth in this rule are met. In addition, the IPM Coordinator shall:

(4) maintain and make available to parents, guardians and staff upon request:

- ii. a list of pesticide applications conducted on school grounds, including the date, time, location, trade name of the product applied, EPA Registration number, company name (if applicable) and the name and license number of the applicator. If the product has no EPA Registration number, then a copy of the label must be included.

Discussion

Is it unclear that applications made in and to school buildings are included in 2(B)(4)(ii)?

4) Chapter 27 Section 2(B)(5)

Section 2. Requirements for All Schools

- B. Each school shall appoint an IPM Coordinator who shall act as the lead person in implementing the school's Integrated Pest Management policy. The IPM Coordinator shall be responsible for coordinating pest monitoring and pesticide applications, and making sure all notice requirements as set forth in this rule are met. In addition, the IPM Coordinator shall:
- 5) authorize any pesticide application not exempted under Sections 3A(2), 3A(3), 3B, 3C, or 3D made in school buildings or on school grounds and so indicate by completing and signing an entry on the Pest Management Activity Log prior to, or on the date on which the minimum notification requirements must be implemented; and

Discussion

Is it clear that applications made to the exterior of school buildings are included in Section 2(B)(5)?

5) Chapter 27 Section 3(A)

Section 3. Exemptions

A. The following pesticide uses are exempt from the requirements of Sections 4 and 5 of this rule:

- (1) application of ready-to-use general use pesticides by hand or with non-powered equipment to control or repel stinging or biting insects when there is an urgent need to mitigate or eliminate a pest that threatens the health or safety of a student, staff member or visitor,
- (2) application of general use antimicrobial products by hand or with non-powered equipment to interior or exterior surfaces and furnishings during the course of routine cleaning procedures, and
- (3) application of paints, stains or wood preservatives that are classified as general use pesticides.

Section 4. Notification

Section 5. Integrated Pest Management Techniques

Discussion

Should insect repellents be added to the list of exemptions?

6) Chapter 27 Section 3(C)

Section 3. Exemptions

- C. When the Maine Center for Disease Control has identified arbovirus positive animals (including mosquitoes and ticks) in the area, powered applications for mosquito control are exempt from Section 4B(1) and 5C. Applicators should post the treated area as soon as practical, in a manner consistent with Section 4B(2).

Section 4. Notification

- B. When school is in session, schools shall provide notice of pesticide applications in accordance with Sections 4B(1) and 4B(2). When school is not in session, notice shall be accomplished by posting of signs as described in Section 4B(2) of this rule.
 - (1) The school shall provide notification of each application not exempted by Section 3 performed inside a school building or on school grounds to all school staff and parents or guardians of students. Notices given shall state, at a minimum: (a) the trade name and EPA Registration number of the pesticide to be applied; (b) the approximate date and time of the application; (c) the location of the application; (d) the reasons for the application; and (e) the name and phone number of the person to whom further inquiry regarding the application may be made. These notices must be sent at least five days prior to the planned application.

Section 5. Integrated Pest Management Techniques

- C. Prior to any pesticide application the following steps must be taken and recorded:
 - (1) monitor for pest presence or conditions conducive to a pest outbreak,
 - (2) identify the pest specifically,
 - (3) determine that the pest population exceeds acceptable safety, economic or aesthetic threshold levels, and
 - (4) utilize non-pesticide control measures that have been demonstrated to be practicable, effective and affordable.

Discussion

Should Section 3(C) be amended to say that powered applications for control of the identified arthropod vector are exempt, rather than powered applications for mosquito control are exempt.

7) Chapter 28 Section 3(B)(2)(d)(v)

Section 3. Public Notice and Posting Requirements for Certain Pesticide Applications

B. Posting

2. Posting Requirements

- d. The sign must bear:
 - i. the word CAUTION in 72 point type;
 - ii. the words PESTICIDE APPLICATION in 30 point type or larger;
 - iii. the Board designated symbol;
 - iv. any reentry precautions from the pesticide labeling;
 - v. the name of the company making the pesticide application and its telephone number;
 - vi. the date and time of the application; and
 - vii. a date and/or time to remove the sign.

Discussion

Include language to indicate that the number in Section 3(B)(2)(d)(v) must be a working number, ie not where someone is going to get caught in a phone tree. It was also suggested that the person answering that phone should have knowledge of the application and can answer questions about it.

INCORPORATING POLICIES

1) Chapter 10 Section 2(P)(2)b

Section 2. Definitions

P. "Custom application" means an application of a pesticide:

2. To a property open to use by the public;
 - b. Property open to use by the public includes but is not limited to: shopping centers, office and store space routinely open to the public (i.e. rest rooms, self-service areas and display aisles), common areas of apartment buildings, occupied apartments, public pools and water parks, schools and other institutional buildings, public roads, organized recreational facilities, golf courses, campgrounds, parks, parking lots, ornamental and turf areas around condominiums, apartment buildings, stores malls and retail areas of greenhouses and nurseries if the public is allowed access before the pesticide restricted-entry or re-entry interval elapses.

Policy:

The Board determined that because indoor applications pose greater risks to building occupants, lodging places and apartment buildings should not be included as exemptions to areas open to the public. Therefore all pesticide applications to lodging places or apartment buildings must be made under the direct supervision of a licensed commercial applicator unless the public is excluded from the entire building for the full seven days.

Further Discussion based on Board meeting minutes:

Amending the language in Section 2(P)(2)b would make it clear that applications are "Custom applications" and subject to rule. There was mention of whether seven days is sufficient for indoor applications. Would necessitate amending section 2(P)(2)(d)ii. See next.

2) Chapter 10 Section 2(P)(2)(d)ii

Section 2. Definitions

P. "Custom application" means an application of a pesticide:

2. To a property open to use by the public;

d. Notwithstanding this definition, property shall not be deemed to be open for use by the public in the following cases:

ii. where the public has not been permitted upon the property at any time within seven days of when the property received a pesticide application;

Policy

The Board determined that because pesticide applications to recreational areas, trails and parks pose minimal risks, the exemption from consideration as a "property open to use by the public" is appropriate when the public is excluded from treated areas for seven days. Therefore pesticide applications under those circumstances will not require supervision by a licensed commercial applicator.

3) Chapter 26 Section 1(E)

Section 1. Definitions

E. Occupied Building. For the purposes of this regulation, Occupied Building means any public, private, commercial or institutional structure used or occupied by persons on a regular, long-term basis as a residence or for occupations. These include but are not limited to rented residential buildings, condominiums, licensed childcare facilities and nursery schools, and governmental, commercial and institutional buildings.

Policy

The Board determined that its intent in promulgating Chapter 26 was to regulate the use of pesticides in enclosed buildings in which reduced airflow affects dissipation of airborne pesticides. Consequently, the Board adopted an interim interpretation of the term "occupied buildings" to mean fully enclosed indoor spaces inside buildings.

4 and 5) Chapter 29 Section 6

Section 6. Buffer Requirement

A. No person shall make an outdoor terrestrial broadcast application of pesticides, except for applications made to control arthropod vectors of human disease or stinging insects, within twenty-five (25) feet from the mean high water mark of:

I. Any lake or pond, except ponds that are confined and retained completely upon the property of one person and do not drain into or have a surficial connection with any other waters of the State;

II. Rivers

III. Any stream depicted as a solid or broken blue line on the most recent edition of the U.S. Geological 7.5-minute series topographic map or, if not available, a 15 minute series topographic map;

- IV. Estuarine and marine waters as defined under 38 M.R.S.A. §361-A (5); or
 - V. Wetlands, except man-made wetlands that are designed and managed for agricultural purposes, which are:
 - a. connected to great ponds at any time of the year; or
 - b. characterized by visible surface water; or
 - c. dominated by emergent or aquatic plants.
- B. An applicator may vary from the standards imposed under Chapter 29, Section 6 (A) by obtaining a permit to do so from the Board. Permit applications shall be made on such forms as the Board provides and shall include at least the following information:
- I. The name, address and telephone number of the applicant;
 - II. The area(s) where pesticides will be applied;
 - III. The type(s) of pesticides to be applied;
 - IV. The purpose for which the pesticide application(s) will be made;
 - V. The approximate application date(s);
 - VI. The type(s) of application equipment to be employed; and
 - VII. The particular reasons why the applicant seeks a variance from the requirements of this section, including a detailed description of the techniques to be employed to assure that a reasonably equivalent degree of protection of the water body will be obtained.
- C. Within 30 days after a complete application is submitted, the Board or its staff shall issue a permit if it finds that the applicant will:
- I. Achieve a substantially equivalent degree of protection as adherence to the requirements of this section would provide; or
 - II. Demonstrate an appropriate balance of risk and benefit; and
 - III. Will conduct the application in a manner which protects surface waters as defined in Chapter 29, section 6 (A).

The Board may place conditions on any such permit, and the applicant shall comply with such conditions. Except as required by the permit, the applicant shall undertake the application in accordance with all of the procedures described in his variance request and all other applicable legal standards. Permits issued by the Board under this section shall not be transferable or assignable except with further written approval of the Board and shall be valid only for the period specified in the permit.

Policy 1

The Board delegates the authority to the staff to approve requests for variance from CMR 01-026 Chapter 29, Section 6, for the control of invasive plants. "Invasive plants" may include, but are not limited to: plants listed by the Invasive Plants Atlas of New England website, http://www.eddmaps.org/ipane/ipanespecies/current_inv.htm.

The request for a variance must include a detailed description of the area, photographs showing the area and relation to water, an agreement to use low-pressure, handheld application equipment, and the spray must be directed away from the water with no drift or direct discharge to the water body or wetland. The variance must also include a multi-year control strategy, a plan for re-vegetation of the site, and

demonstrate knowledge of efficacy and appropriate practices. The variance may be granted for up to a three year period, conditional upon compliance with all variance requirements.

Policy 2

The Board delegates the authority to approve requests for variance from CMR 01-026 Chapter 29, Section 6, for the control of plants that pose a dermal toxicity hazard. Those plants may include, but are not limited to:

- Wild Parsnip (*Pastinaca sativa*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Poison Ivy (*Toxicodendron radicans*)
- Poison Oak (*Toxicodendron toxicarium*)
- Poison Sumac (*Toxicodendron vernix*)
- Poison Hemlock (*Conium maculatum*)

The variance must include agreement to use low-pressure, handheld application equipment, and the spray must be directed away from the water with no drift or direct discharge to the water body or wetland.

Discussion

Unless the rule requires it, Board will not receive any kind of notice/plan.

REQUIRES DISCUSSION

1) Chapter 50 Section 1(C)

Section 1. Records

- C. Spray Period Records for Major Forest Insect Aerial Spray Programs
 - I. Each monitor employed on a major public or private forest insect aerial spray application program shall prepare written spray period records describing each spray period.
 - II. The spray period records shall include the following information: Date and time of the spray period; Area actually sprayed; Pesticide used; Weather conditions before, during and immediately after spraying; Spray behavior, including visible drift to nontarget areas; and Notation of any reason why a spray period was terminated prior to completion of area. The records shall also include a map showing any nontarget areas that were sprayed.
 - III. The spray period records shall be made available for inspection by representatives of the Board as soon as practicable following the close of each spray period and, in any event, before the next spray period and before the end of the day. The spray records shall be maintained on file and available for inspection by representatives of the Board for a period of at least two years.

Discussion

- 1) Definition of “spray period” was repealed in Title 22 so it needs to be defined elsewhere or the requirement for reports should be removed.
- 2) If Chapter 36 is repealed, there is no definition of “monitor” (Section (C)(I)).
- 3) During the discussion of removing the requirement for monitors and spotters the Legislature suggested that the spray application maps should be provided to the BPC after application.

2) Chapter 31 Section 1

1. Individual Certification and Company/Agency Licensing Requirements

- A. Any commercial applicator must be either:
 - I. licensed as a commercial applicator/master; or
 - II. licensed as a commercial applicator/operator; or
 - III. supervised on-site by either a licensed commercial applicator/master or a commercial applicator/operator who is physically present on the property of the client the entire time it takes to complete an application conducted by an unlicensed applicator. This supervision must include visual and voice contact. Visual contact must be continuous except when topography obstructs visual observation for less than five minutes. Video contact does not constitute visual observation. The voice contact requirement may be satisfied by real time radio or telephone contact. In lawn care and other situations where both the licensed and unlicensed applicator are operating off the same application equipment, the licensed applicator may move to an adjoining property on the same side of the street and start another application so long as he or she is able to maintain continuous visual and voice contact with the unlicensed applicator.
- B. All commercial applicator licenses shall be affiliated with a company/agency and shall terminate when the employee leaves the employment of that company or agency.
- C. Individuals certified as commercial applicators are eligible to license with one or more companies/agencies upon submission of the application and fee as described in Section 6 of this regulation. The individual’s certification remains in force for the duration of the certification period as described in Section 5 of this regulation.
- D. Each branch office of any company, agency, organization or self-employed individual ("employing entity") required to have personnel licensed commercially under state pesticide law shall have in its employment at least one master applicator. This Master must be licensed in all categories which the branch office of the company or agency performs applications and any Operators must also be licensed in the categories in which they perform or supervise pesticide applications. This master applicator must actively supervise persons applying pesticides within such employing entity and have the ability to be on site to assist such persons within six (6) hours driving time. Whenever an out-of-state employing entity is conducting a major application project they must have a master applicator within the state.
- E. Exemptions
 - I. Employing entities only performing post harvest treatments to agricultural commodities are exempt from master licensing requirements.

- II. Persons applying pesticides to household pets and other non agricultural domestic animals are exempt from commercial applicator licensing.
- III. Swimming pool and spa operators that are certified by the National Swimming Pool Foundation, National Spa and Pool Institute or other organization approved by the Board are exempt from commercial applicator licensing. However, these persons must still comply with all provisions of C.M.R. 10-144, Chapter 202 – Rules Relating to Public Swimming Pools and Spas Administered by the Maine Bureau of Health.
- IV. Certified or licensed Wastewater or Drinking Water Operators applying registered disinfectants to waste or drinking water as part of their employment.
- V. Adults applying repellents to children with the consent of parents/guardians.
- VI. Persons installing antimicrobial metal hardware.

Discussion

Do unlicensed applicators have to be employees of the same company as the Master of Operator?
 Questions have arisen around employees of temp agencies and volunteers.

3) Chapter 41

Section 5. PLANT-INCORPORATED PROTECTANTS

- E. Product-Specific Requirements
 - I. Requirements for plant-incorporated protectant corn containing *Bacillus thuringiensis* (Bt) protein and the genetic material necessary for its production.
 - a. Prior to planting plant-incorporated protectant corn containing any *Bacillus thuringiensis* (Bt) protein and the genetic material necessary for its production, the grower must have completed a Board-approved training course and possess a valid product-specific training certificate.
 - b. Product-specific training certificates shall be issued following each Board-approved session. The certificates will remain valid until December 31 of the third year after issuance.
 - c. Non-Bt-corn growers whose crops are or will be located within 500 feet of a prospective Bt-corn planting site can request that the Bt-corn grower protect the non-Bt-corn crop from pollen drift.
 - i. the request must be made prior to planting of the Bt-corn crop;
 - ii. the request must identify the non-Bt-corn crop to be protected; and
 - iii. the growers may agree on any method for protection but, if an agreement cannot be reached,
 - 1. the Bt-corn grower must plant any refuge required by the Bt-corn grower agreement, grower guide or product label in a configuration that provides maximum protection from pollen drift onto the adjacent non-Bt-corn crop; or

2. if no refuge is required, the Bt-corn grower shall maintain at least a 300-foot Bt-corn-free buffer to non-Bt-corn crops.
- d. Bt-corn growers are encouraged to follow all best management practices developed by the Board or the Department of Agriculture, Conservation and Forestry.

Discussion

Section E(I)(c)(iii) How does this apply to refuge-in-a-bag? Does it need to be re-worded?

Chapter 29 Section 5

Section 5. Restrictions on Pesticide Applications to Control Browntail Moths Near Marine Waters

Pesticide applications for control of browntail moths within 250 feet of the mean high tide mark adjacent to coastal waters and extending upriver or upstream to the first bridge are subject to the requirements of this section:

A. 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.

B. Prohibitions and Restrictions

- I. A person may not apply a pesticide to control browntail moths on shade or ornamental trees within 50 feet of the mean high water mark.
- II. A person may not apply a pesticide to control browntail moths on shade or ornamental trees in coastal areas located between 50 and 250 feet from the mean high water mark except in accordance with this subsection.
 - a. Only products with active ingredients specifically approved by the Board for this purpose may be applied.
 - b. Applications may be performed only with a hydraulic hand-held spray gun or air-assisted sprayers.
 - c. Applications may be performed only in a manner in which the applicator directs the spray away from marine waters.
 - d. Applications may not be made when the wind is blowing toward marine waters.
 - e. Applications may be performed only when the wind is equal to or greater than 2 miles per hour and blowing away from marine waters.

Discussion

How does rule need to be amended to address current situation?

Proposed Administrative Consent Agreement Background Summary

Subject: Brian Cloutier
Greenscapes of Maine
28 Bow Street
Kennebunk, Maine 04043

Date of Incident(s): May 9, 2016

Background Narrative: The Board received a call on May 25, 2016, alleging that Greenscapes of Maine from Kennebunk made an unlicensed pesticide application at River Bend Woods on Gateway Drive in Wells.

On the same day the complaint call was received, a Board inspector conducted a follow-up inspection with Brian Cloutier, the owner of Greenscapes of Maine. Cloutier acknowledged he made the unlicensed application of Dimension 0.10% to the turf of the common areas and right-of-way of the above property.

The regulations require 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.

No one at Greenscapes of Maine was certified or licensed as a commercial pesticide applicator at the time Cloutier made the pesticide application at River Bend Woods on Gateway Drive in Wells.

Summary of Violation(s):

CMR 01-026 Chapter 20 Section 6(B) requires prior consent from the property owner before a person can apply pesticides to the property of another.

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

Attachments: Proposed Consent Agreement

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

Greenscapes of Maine)	ADMINISTRATIVE CONSENT AGREEMENT
28 Bow Street)	AND
Kennebunk, Maine 04043)	FINDINGS OF FACT

This Agreement, by and between Greenscapes of Maine (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 December 13, 2013.

The parties to this Agreement agree as follows:

1. That the Company is a commercial landscaping company which offers services in the Wells area.
2. That on May 25, 2016, Board staff received a phone call alleging that the Company made an unlicensed pesticide application in the River Bend Woods development on Gateway Drive in Wells.
3. That in response to the call described in paragraph two, a Board inspector conducted a follow up inspection with Brain Cloutier, the Company owner, on May 25, 2016.
4. That during the inspection described in paragraph three, Cloutier acknowledged that he applied Lesco Dimension 0.10% herbicide plus fertilizer to the right-of -way and common areas of the River Bend Woods development on Gateway Drive in Wells on May 9, 2016.
5. 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.
6. That a custom application is defined in 22 M.R.S. § 1471-C(5-A) includes 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.
7. That the application described in paragraphs two through six constitutes a custom application of a pesticide in accordance with 22 M.R.S. § 1471-C (5-A).
8. 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 paragraph four.
9. That the circumstances described in paragraphs one through eight constitute a violation of 22 M.R.S. 1471-D (1) (A) and CMR 01-026 Chapter 31 Section 1(A) III.
10. That the Board has regulatory authority over the activities described herein.
11. 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.

12. That this Agreement shall not become effective unless and until the Board accepts it.

13. That, in consideration for the release by the Board of the causes of action which the Board has against the Company resulting from the violation referred to in paragraph nine, the Company agrees to pay to the State of Maine the sum of \$400. (Please make checks payable to Treasurer, State of Maine).

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

GREENSCAPES OF MAINE

By: _____ Date: _____

Type or Print Name: _____

BOARD OF PESTICIDES CONTROL

By: _____ Date: _____

Henry Jennings, Director

APPROVED

By: _____ Date: _____

Mark Randlett, Assistant Attorney General

MAINE BOARD OF PESTICIDES CONTROL**POLICY CONCERNING DEFINITION OF BIOLOGICAL PESTICIDE****Adopted X X, 2017**

The Board listened to a concern raised by Maine Forest Service entomologists regarding the term “biological pesticide” as used in Section 5 of Chapter 29, which regulates pesticide applications for control of browntail moth adjacent to marine waters. The staff pointed out that when this rule was originally written, it contemplated that “biological pesticide” would primarily include strains of *Bacillus thuringiensis* and similar microbial pesticides. With the recent increase in browntail moth populations, questions have arisen about other active ingredients which are derived from organisms. Staff indicated that the term “biological pesticide” is now commonly perceived to include any single cellular biological organism or biologically derived product used to control, repel or mitigate a pest. For the purpose of clarifying the term “biological pesticide” as used specifically in Chapter 29, Section 5, the staff drafted two options that define the term, and those options were presented to the Board at the January 11, 2017 meeting for consideration.

- 1. Biological pesticide.** “Biological pesticide” includes any pesticide product with active ingredients limited to organisms and/or any biochemical derivatives from organisms.
- 2. Biological pesticide.** "Biological pesticide" includes any microbial pesticide that contains the microorganism and byproducts normally associated with the organism.



PAUL R. LEPAGE
GOVERNOR

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

WALTER E. WHITCOMB
COMMISSIONER

**MAINE BOARD OF PESTICIDES CONTROL POLICY—DEFINITION OF
BIOLOGICAL PESTICIDE AS IT RELATES TO CHAPTER 29 SECTION 5**

Adopted January 11, 2017

BACKGROUND

The Board discussed questions that arose during the spring of 2016 relative to interpretation of the term “biological pesticide” as used in Section 5 of Chapter 29, which regulates pesticide applications for control of browntail moth adjacent to marine waters. The staff pointed out that when this rule was originally written, it contemplated that “biological pesticide” would primarily include strains of *Bacillus thuringiensis* and similar microbial pesticides. With the recent increase in browntail moth populations, questions have arisen about other active ingredients which are derived from organisms. Staff indicated that the term “biological pesticide” is now commonly perceived to include pesticide active ingredients consisting of single cell organisms or products derived from organisms. At the January 11, 2017 meeting, the Board reviewed various options and adopted the following interpretation of the term “biological pesticide.”

POLICY

For the purposes of Chapter 29, Section 5, the term “biological pesticide” includes:

- pesticides that contain micro-organisms as the active ingredient, or
- pesticides that contain biological derivatives of micro-organisms as the active ingredient, and are approved by the Board.

HENRY JENNINGS, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-2731
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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

TO: Board Members
 FROM: Lebelles Hicks PhD DABT
 RE: Review of *Bacillus thuringiensis* variety *kurstaki* and Azadirachtin
 DATE: March 22, 2017

Pursuant to Chapter 29 section 5, active ingredients in insecticide products which may be applied as a foliar application within the 50 to 250 feet of the mean high tide mark zone for the control of Browntail moth require Board approval. There are restrictions for foliar applications in the 50 to 250 foot zone as well as the 0 to 50 foot zone. The 25 foot zone buffer for all bodies of water (Chapter 29 section 6) is not part of this review. "Biological" products used within both zones (0 to 250 feet) are exempt from the restrictions. In an effort to clarify the rule, the Board adopted a policy defining "biological" at the January 11, 2017 meeting (attached).

Biologicals as defined in the current policy include those:

- Pesticides that contain micro-organisms as the active ingredient, or
- Pesticides that contain biological derivatives of micro-organisms as the active ingredient, and are approved by the Board

Currently, products with the active ingredient spinosad are on the list for foliar use in the 50 to 250 zone and within the 0 to 50 foot zone. Two other types of "biological" active ingredients, currently registered and labeled for foliar use on ornamental landscape trees, are 1) *Bacillus thuringiensis* subspecies *kurstaki* (Btk), fermentation solids, spores, and insecticidal toxins and 2) azadirachtin derived from neem.

***Bacillus thuringiensis* subspecies *kurstaki* (Btk)**

Bacillus thuringiensis subspecies *kurstaki* (Btk) was not reviewed in the first batch of active ingredients because of a lack of efficacy data for control of Browntail moth. The Maine Forest Service has reviewed a recent study from Poland and concluded that it provides information that Browntail moth larvae are controlled with these types of products (Struble letter, 2017). Table 1 contains the current status of the Btk strains registered for this use and summaries of the freshwater and marine toxicity data for these active ingredients.

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Table 1. Aquatic Invertebrate toxicity <i>Bacillus thuringiensis</i> variety <i>kurstaki</i> (Btk) Active ingredients (EPA 1998b, 2014I, 2015bn)		
Btk Strain	Freshwater Invertebrates	Marine Invertebrates
Btk ABTS-351 (8 products)	Daphnia Acute “moderately toxic”; units ul/L 21-Day LC50 between 5 and 50 ppm (mg ai/L)	Grass shrimp “practically non-toxic” units colony forming units/gram food Aqueous LC50 = 4.9 ul/L Oral LC50 = > 2.5 nl/gram food
		Copepod: NOEL = 500 mg/kg sediment
Btk strain SA-11 (1 product)	Satisfied by previously reviewed studies Accession No. 127354; MRID No. 96533	Not required – Products with this active ingredient are not intended for direct application into estuarine or marine environments and are not expected to enter these environments in significant concentrations.
Btk strain SA-12 (1 product)		

Aquatic Toxicity in Invertebrates

Given the descriptors in Table 1 of “moderately” to “practically nontoxic,” the risk to aquatic invertebrates may be considered low. In addition, the crystalline toxins require activation in the alkaline (high pH) gut and the presence of *Bt* specific receptors in the guts of the susceptible insects. These conditions are not found in either the mammalian (low pH) or lobster gut (pH of 5.5 in larvae and 4.6 to 5 in adults).

Azadirachtin

Azadirachtin is extracted from the seeds of the Neem plant. The technical product Neemazal contains 37% azadirachtin (EPA# 71908-2) and is registered federally, but not in Maine. The 12 products which are registered in Maine that meet the criteria for control of Browntail moth on landscape ornamental trees in residential areas have azadirachtin concentrations ranging from 1.2 to 4.5%.

There are very few aquatic toxicity studies available for azadirachtin. According to Certis USA, “No environmental toxicity data have been generated or submitted to EPA in support of Azadirachtin as they are not required. They are not triggered by the Tiered Data Requirements for Biochemical Pesticides established by EPA.” This is supported by EPA’s conclusions in their 2008 Preliminary Work Plan for Azadirachtin (EPA 2008w) and the 2009 Final Work Plan (EPA 2009y).

“Ecological effects of Azadirachtin have been regularly evaluated since products containing this active ingredient were first registered in 1985. In each case, non-target data and/or various non-target waiver requests were sufficient to determine that the proposed uses of the pesticides containing this active ingredient posed negligible to nonexistent ecological risk (EPA 2008w)”

One aquatic toxicity data set was submitted by Kelly registration services on behalf of Parry America Inc. the basic producer for azadirachtin. These studies included quantitative information on technical

neemazal (37% azadirachtin) in *Daphnia* in acute and 21-day reproduction study. The 21 day reproductive study was chosen as the most relevant endpoint because azadirachtin is an insect growth regulator. The measured NOEC from this study was 0.67 mg azadirachtin/L. The resulting modified risk quotient is 0.14 which is below the cutoff of modified Risk Quotient of 500 agreed on at the January meeting.

Conclusions

Products containing Btk or azadirachtin meet the criteria for foliar use in the 0 to 250 foot zones found in Chapter 29 section 5.

References

BPC 2017, Policy on Definition of Biological Pesticide as it Relates to Chapter 29 Section 5.

BPC 2014, Chapter 29: STANDARDS FOR WATER QUALITY PROTECTION Section 5, Restrictions on Pesticide Applications to Control Browntail Moths Near Marine Waters

EPA 1998b, Registration Eligibility Decision Document for *Bacillus thuringiensis*

EPA 2008w, Azadirachtin; Summary Document Registration Review Initial Docket

EPA 2009y, Azadirachtin Final Work Plan Registration Review Case 6021

EPA 2014l, *Bacillus thuringiensis*, Revised Preliminary Work Plan and Summary Document Registration Review: Initial Docket September 2014

EPA 2015bn, *Bacillus thuringiensis* Final Work Plan Registration Review Case Number 0247

Parry America 1995 Aquatic Toxicity Studies Submitted to EPA

Struble 2017 Letter to the board of Pesticides Control



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
MAINE FOREST SERVICE
22 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

March 22, 2017

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

Attn: Ann Chamberlain

Re: Adding *Btk* to the list of biologicals approved for application against Browntail Moth within 250 feet of the mean high water mark.

As I understand the process adopted in the recent MBPC meetings, only pesticides contained in the approved list can be used in the 0-250 foot zone. I am requesting that the Board add appropriately registered formulations of *Btk* (*Bacillus thuringiensis kurstaki*) to that list.

As was detailed in the January 11, 2017 meeting of the Board, the only reason *Btk* was omitted from the initial list of approved materials was that, at that time, the Board felt that they lacked sufficient evidence supporting claims of potential treatment efficacy. In response to a question from Katy Green (MOFGA) Dr. Hicks answered that if they [the Board] were to get data showing that *Bt* is efficacious it could be added to the list.

Since then I have acquired a recent (November 2016) report of trials conducted by Dr. Alicja Sierpinska in Poland, using *Btk* (Foray 76B) against browntail moth: "A Study on the Effectiveness of the Foray 76B Plant Protection Formulation in the Protection of IV Age Class Oak Stands Against Brown-Tail, *Euproctis chrysorrhoea*, (Lepidoptera: Lymantriidae) in the Krotoszyn Forest Inspectorate. Final Report from Study # INS/2016/2."

This report details a single aerial application of *Btk* on approximately 58 acres of infested oaks, using a PZL M-18 Domader agricultural aircraft outfitted with Micronair atomizers. The rates and application reported were congruent with the Foray 76B label-USA (EPA Reg # 73049-49). Regarding efficacy, the report asserts that in the 58 acre treated block oaks lost an average of 1.22% of their foliage compared to 69.96% loss on untreated oaks in the 3.5 acre control block. The report also refers to presence of dead browntail larvae observed around tree trunks in the sprayed plots.

These results from a single aerial application are persuasive evidence of product efficacy against browntail moth.

While I do not expect that any spatially limited pesticide treatment to completely eliminate browntail defoliation and "itch" issues, this evidence indicates that conventional *Bt* treatment can successfully significantly reduce populations for a given season, easing the associated human health issues. In the current Maine situation where BTM populations are intensifying and expanding, the threatened public is actively seeking treatment options; this treatment can provide significant relief, while posing no threat to the sensitive shoreline environment.

Where *Btk* is a registered (several formulations and manufacturers) and available in Maine, and is efficacious in controlling BTM, I am formally requesting that at the upcoming March 31 meeting the Board add *Bt* to the list of approved materials.

Thank you for your consideration of this matter.

Dave Struble
State Entomologist
Maine Forest Service

DOUG DENICO, DIRECTOR
MAINE FOREST SERVICE
18 ELKINS LANE, HARLOW BUILDING



PHONE: (207) 287-2791 OR 800-367-0223
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March 20, 2017

Maine Board of Pesticide Control
Maine Department of Agriculture, Conservation, & Forestry
28 State House Station
Augusta ME, 04333

(Via email to Anne Chamberlain)

Dear Ms. Chamberlain,

Could you please ensure that the Members of the Board receive this document; I hope that it will initiate further discussion, and from my perspective, some resolution. Thank you for your time with this matter.

Control of Browntail Moth with Foray Btk

I am writing to express my concerns about the exclusion of *Bacillus thuringiensis* var. *kurstaki* (Btk) from the list of allowable pesticides that may be used to control Browntail Moth in the State of Maine. In fact I am surprised to see that several broad spectrum chemical insecticides are considered as acceptable/allowable for use in the 50 to 250 foot (from the high water mark) zone but that Btk, the most widely used biological pesticide in the world, is not.

This seems contrary to Integrated Pest Management programs practiced by many forest health agencies in that the Board of Pesticide Control approves and allows the use of broad spectrum chemical insecticides, but biological (microbial) insecticides such as Btk are not approved and allowed for use against the Browntail Moth.

Browntail Moth Control - Early Research Results:

I have compiled and attached a brief summary of all known laboratory, ground and aerial trials that have been conducted in Maine against the Browntail Moth over the last 25 years. A variety of microbial products have been used and at different rates and at different times during the insect's life cycle. It is difficult to compare all products 'across the board' but most of the microbial insecticides tested seemed to provide some level of control; results obtained range from 'unsatisfactory' to >98% larval mortality.

There was a concern, expressed 20+ years ago, that the currently available formulations of Btk did not contain the protoxins that may be most effective against the Browntail Moth. Commercial Btk products contain a mix of crystal-shaped protein toxins and in fact the Cry 1Ac toxin mentioned in some of the research work and correspondence is a component of the current strains and formulations of Foray.

A review of the results of the research work conducted to control BTM in Maine indicates that the best results in Dr. Dubois's lab studies were obtained with Foray 48B, (86% larval mortality) and it was also applied at half the dose rate of other Bt products. Some of the field and lab trials conducted in CT and ME included various combinations of Foray and other engineered Bt products such as MVP11, a commercial product based upon the Cry1Ac toxin. However most of these other products were not commercially successful and have long since disappeared from the marketplace.

Efficacy:

Foray 48B has NOT been used operationally to control Browntail Moth in Maine; Foray 48B was used experimentally in 1992 and again in 1993 to treat about 65 acres on Little Diamond Island. Ground applications of Foray were conducted in 1997 and in 1998 an aerial spray was conducted on Peeks Island. There are references in a Dubois paper about further trials post-1998, but I can find no evidence of such work having been conducted against the Browntail Moth.

Laboratory, ground and aerial trials conducted in the early 1990's against Browntail Moth in Maine by Bradbury, Dubois and others indicated that high levels of BTM larval mortality were achieved, but that levels of defoliation were inadequate.

Browntail moth has been a periodic pest in Europe and several aerial application programs have been conducted throughout southern and eastern Europe to control BTM. Bulgaria, Croatia, Poland, Ukraine have all been involved in BTM control, but reports are difficult to obtain. Additionally, most countries in Eastern EU have traditionally relied upon chemical insecticides or insect growth regulators to control BTM and as such, we can learn very little about control strategies that would be applicable in Maine. In recent years, some countries have used Foray Btk formulations, including Bulgaria (85-90 % larval mortality) in 1999-2000 and more recently in 2016, on a smaller scale, in Poland with Foray 76B (defoliation in treated area >70%, compared to <2% in sprayed area). Based on these results we are optimistic that Foray will be increasingly used to control BTM in Europe in the future.

Current Status and Conclusions:

Having reviewed all available literature on the control of Browntail Moth in North America, it is apparent that an aerial application of Foray will and DOES provide acceptable levels of larval mortality and, perhaps to a lesser extent, foliage protection. However, it would seem that the unacceptable levels of defoliation experienced in those application trials can be mostly attributed to spray timing and insect behaviour.

Due to the fact that the early instars are hidden in their overwintering webs/nests in the spring, it can be challenging to time the aerial application when they larvae are actively feeding, especially if they are devouring foliage as quickly as the buds break. Some foliage must be exposed and expanding in order for the Foray to be deposited upon and the larvae to consume, so there will always be some defoliation.

There is a second opportunity for control again in the late summer/early fall, before the larvae return to their webs where they will overwinter.

Most of the least successful results are not attributable to the incorrect toxin ratio, or the lack of a specific toxin, but rather to the timing of the applications and the weather conditions experienced before or after the applications occurred.

Over the last 2 decades, we have learned a great deal about Btk and the appropriate application parameters required to ensure that Btk applications are applied in the right place, at the right time, and at the right dose. In general, Btk formulations are more robust than in the past, and they are consistent in terms of viscosity, ease of application, and spray deposit. Extensive research has been focused on determining the appropriate Btk droplet sizes needed to maximize efficacy, and research into application weather and insect behaviour has proven beneficial too. We now know that post-spray weather is as important as insect development. We also know that spray timing is critical but we still have much to learn about the timing of the spring and fall applications to help optimize our results and to significantly reduce larval populations.

Browntail Moth is a periodic insect pest here in North America that erupts every decade or more; consequently there are few experienced individuals available who were involved during the 90's infestation to help develop a microbial-based control strategy. Fortunately there are still one or two 'Browntail Moth veterans' in Maine that have some experience and are willing to revisit this issue and help develop a microbial-based control strategy.

The USDA Forest Service seems to share no interest in developing appropriate control techniques and as a commercial entity, our research resources are limited; however we are willing to work with and support the Maine Forest Service in its efforts to control the Browntail Moth. The Browntail Moth is not a threat to commercial forests like the Gypsy Moth or the Spruce Budworm, but it poses a much larger threat as a public health issue affecting the residents of infested areas due to the urticating hairs shed by the larvae. These hairs can last for a long time in the environment and they can serve as a continued source of irritation and discomfort for nearby residents and visitors alike.

This is an important issue and one that we (Valent BioSciences) often deal with when working overseas to develop Btk-based control strategies for similar pests such as the Processionary Moth complex which like the Browntail, are prodigious producers of urticating hairs. We have worked with local forest health and public health authorities in southern Europe to develop Btk-based control techniques for pests that are very similar in physiology, behaviour, and impact.

This 'approved-unapproved' issue becomes a circuitous argument in that the Board of Pesticide Control has not approved the use of Btk, so landowners and municipalities will not use a product that is not allowed or approved. In my opinion, communities are NOT going to support the wide-scale application of most of the insecticides included on the current BPC list, and denying communities the right to obtain some relief with a microbial insecticide is incorrect. Additionally, as long as Btk is not allowed and not approved, there is no incentive for forest health managers, landowners, the arboricultural trade, and even Btk manufacturers to work together to develop a suitable Btk-based control strategy.

For many years, we heard that microbial insecticides like Foray 48B will not provide the same level of efficacy and foliage protection as chemical insecticides do, but we can now challenge that assumption.

In two decades, our knowledge of the mode of action of Btk, when applied with well-defined application parameters and application technology, to insects whose behaviour we now understand as critical to our success as forest pest managers has made microbial insecticides the product of choice when controlling lepidopteran forest pests.

I suspect that residents of BTM infested areas would gladly welcome 'adequate to very good' levels of larval mortality and foliage protection; these are achievable.

Please revisit the list of pesticides allowed and approved for use against the Browntail Moth; I firmly believe that Btk should be included on that list.

Regards,

A handwritten signature in black ink, appearing to read "Stephen Nicholson", with a long horizontal flourish extending to the right.

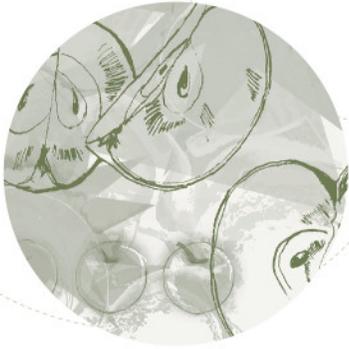
Stephen Nicholson
Global Forest Health Manager
Valent BioSciences Corporation

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60048

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847 968 4700 (corporate)
613 376 1070 (office)
613 539 1977 (mobile)

(Attch.: Foray labels, OMRI certificate, BTM Trial Summary)



OMRI Listed®

The following product is OMRI Listed. It may be used in certified organic production or food processing and handling according to the USDA National Organic Program Rule.

Product

Foray® 48B Biological Insecticide Flowable Concentrate

Company

Valent BioSciences® Corp.
Ms. Maria Pilar Herrero
870 Technology Way, Suite 100
Libertyville, IL 60048

Status

Allowed with Restrictions

Category

NOP: Bacillus thuringiensis

Issue date

07-Dec-2006

Product number

abb-0522

Class

Crop Pest, Weed, and Disease Control

Expiration date

01-Mar-2018

Restrictions

May be used as a pesticide if the requirements of 205.206(e) are met, which requires the use of preventative, mechanical, physical, and other pest, weed, and disease management practices.

Executive Director

Product review is conducted according to the policies in the current *OMRI Policy Manual*® and based on the standards in the current *OMRI Standards Manual*®. To verify the current status of this or any OMRI Listed product, view the most current version of the *OMRI Products List*® at OMRI.org. OMRI listing is not equivalent to organic certification and is not a product endorsement. It cannot be construed as such. Final decisions on the acceptability of a product for use in a certified organic system are the responsibility of a USDA accredited certification agent. It is the operator's responsibility to properly use the product, including following any restrictions.



Organic Materials Review Institute
P.O. Box 11558, Eugene, OR 97440-3758, USA
541.343.7600 • fax 541.343.8971 • info@omri.org • www.omri.org

Foray[®] 48B

BIOLOGICAL INSECTICIDE

FLOWABLE CONCENTRATE

For Commercial Forestry and Wide-Area
Pest Treatment—Aerial Application Only

 FOR ORGANIC PRODUCTION

ACTIVE INGREDIENT:

Bacillus thuringiensis, subsp. *kurstaki*, strain
ABTS-351, fermentation solids, spores and
insecticidal toxins 12.65%

OTHER INGREDIENTS 87.35%

TOTAL 100.00%

Potency: 10,600 Cabbage Looper Units (CLU) per mg of
product (equivalent to 48 billion CLU per gallon).

The percent active ingredient does not indicate product performance
and potency measurements are not federally standardized.

EPA Reg. No. 73049-427

EPA Est. No. 33762-IA-001

List No. 60181

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KEEP OUT OF REACH OF CHILDREN
CAUTION

1.0

FIRST AID

If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
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HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

2.2 Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.3 Agricultural Use Requirements:

Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must provide all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as spill or equipment breakdown.

2.4 Non-agricultural Use Requirements:

Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.5 User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

CONTINUED

2.6 Environmental Hazards

Except under the forest canopy, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This product must not be applied aerially within 1/4 mile of any habitats of threatened or endangered lepidoptera.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

4.0 AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions For Use section for information about this standard.

Refer to the Directions For Use (below) for further directions.

5.0 STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place. Keep containers tightly closed when not in use. Store in temperatures above freezing and below 32 degrees C (90 degrees F).

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes can not be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

Refillable Container: Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

6.0 WARRANTY AND DISCLAIMER

To the extent permitted by applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

7.0 DIRECTIONS FOR USE BOOKLET

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

Apply this product only through aerial application.

8.0 AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard (that involves contact with anything that has been treated, such as plants, soil, or water) is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

9.0 NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

10.0 APPLICATION

Apply Foray 48B, undiluted or with quantities of water sufficient to provide thorough coverage of plant parts to be protected, only by aerial equipment. The amount of water needed per acre will depend upon crop size, weather, spray equipment, and local experience.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower/treatment coordinator are responsible for considering all of these factors when making decisions.

11.0 HANDLING & MIXING

If Foray 48B is applied undiluted, the operator must ensure that the bulk quantity is well agitated and homogenous.

When Foray 48B is shipped by bulk tankers and transferred via a closed-loop mixing/loading system, the material is measured by passing through in-line flow meters directly into the aircraft, minimizing exposure to ground handling personnel.

In a similar manner, smaller containers of Foray 48B are also to be used with a closed-loop mixing/loading system to minimize the potential for accidental spills and exposure of ground handling personnel.

If dilution with water is needed for full crop coverage, fill tank with approximately 3/4 of the water required for dilution. Begin agitation and pump Foray 48B into the water while maintaining continuous agitation. Agitate as necessary to maintain suspension. Do not allow diluted mixture to remain in the tank for more than 72 hours.

When applying a diluted spray mixture, the use of a spreader-sticker approved for use on growing crops will improve the weather-fastness of the spray deposits. Add the spray adjuvant to the tank after the Foray 48B is added, and before the final volume of water is added to complete the mixture. Reduce or momentarily halt tank agitation and then add the required amount of adjuvant to the diluted mix. Use a closed-loop system to siphon the required quantity of adjuvant or pour the adjuvant into the top hatch of the tank. Once added, close tank opening, and resume agitation; add the rest of the water to complete the spray mix.

Combinations with commonly used spray tank adjuvants are generally not deleterious to Foray 48B, if the mix is used promptly. Before mixing in the spray tank, identify possible problems with physical compatibility by mixing all components in a small container in proportionate quantities. Check with an adjuvant supplier for advice on spray adjuvants that are compatible with biological pesticides such as Foray 48B to avoid incompatibilities.

12.0 SPRAY VOLUMES

12.1 Aerial Application: Use appropriate amount of Foray 48B, as indicated in the tables that follow, in aerial equipment undiluted or with quantities of water sufficient to provide thorough coverage of plant parts to be protected. In the western U.S., use a normal minimum of 5-10 gallons per acre; in the eastern regions, use a normal minimum of 2-3 gallons. The minimum amount of water needed per acre will depend upon crop size, weather conditions, spray equipment used and local experience.

13.0 GENERAL AGRICULTURAL USE INSTRUCTIONS

Foray 48B is a biological insecticide for the control of lepidopterous larvae. It contains the spores and endotoxin crystals of *Bacillus thuringiensis kurstaki*. Foray 48B must be ingested by the larvae to be effective. For consistent control, apply at first sign of newly hatched larvae (1st and 2nd instar larvae). Susceptible larvae that ingest Foray 48B cease feeding within a few hours and die within 2-5 days. Foray 48B may be applied up to and on the day of harvest. For maximum effectiveness, follow the instructions listed below:

Monitor fields to detect early infestations.

Apply Foray 48B when eggs start hatching and larvae are small (early instars) and before significant crop damage occurs. Larvae must be actively feeding to be affected.

Repeat applications every 3 to 14 days to maintain control and protect new plant growth. Factors affecting spray interval include rate of plant growth, weather conditions, and reinfestation. Monitor populations of pests and beneficials to determine proper timing of applications.

Under conditions of heavy pest pressures or when large worms are present use the higher rate, shorten the application interval, and/or improve spray coverage to enhance control. When these conditions are present, consider use of contact insecticide to enhance control.

Thorough coverage is essential for optimum performance.

Crop	Pests	Rate ¹ (fl. oz./acre)
Forests, Shade Trees, Ornamentals, Shrubs, Sugar Maple Trees, Seed Orchards, Ornamental Fruit, Nut and Citrus Trees ²	Gypsy Moth & Asian Gypsy Moth, Elm Spanworm Spruce Budworm, Browntail Moth, Douglas Fir Tussock Moth, Coneworm, Buck Moth Tussock Moths, Pine Butterfly, Bagworm, Leafrollers, Tortrix, Mimosa Webworm, Tent Caterpillar, Jackpine Budworm, Blackheaded Budworm, Saddled Prominent, Saddleback Caterpillar, Eastern and Western Hemlock Looper, Orangestriped Oakworm, Satin Moth Redhumped Caterpillars, Spring and Fall Cankerworm, California Oakworm, Fall Webworm	21 - 107 21 - 80 16 - 43 11 - 31

Special Instructions:

¹ Use the higher rates on advanced larval stages or under high density larval populations.

² In treating Gypsy Moth and Asian Gypsy Moth infected trees and shrubs in urban, rural, and semi-rural areas, exposure of non-target vegetation including, but not limited to, native and ornamental species and food or feed crops is permitted.

Use and mix this product with other pesticides only in accordance with the most restrictive of label limitations and precautions. Do not mix this product with any product containing a label prohibition against such mixing. Do not exceed label dosage rates.

14.0 GENERAL NON-AGRICULTURAL USE INSTRUCTIONS

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in ornamental gardens or parks, or on golf courses or lawns and grounds.

Not for use on trees being grown for sale or other commercial use, or for commercial seed production, or for the production of timber or wood products, or for research purposes except wide-area public pest control programs sponsored by government entities, such as mosquito abatement, Gypsy Moth control, and Mediterranean Fruit Fly eradication.

Foray 48B contains the spores and endotoxin crystals of *Bacillus thuringiensis kurstaki*. Foray 48B is a stomach poison and is effective against lepidopterous larvae. After ingestion, larvae stop feeding within hours and die 2-5 days later. Maximum activity is exhibited against early instar larvae. Apply Foray 48B only by aerial application.

Use Foray 48B with a closed-loop mixing/loading system that will minimize the potential for accidental spills and exposure of ground handling personnel.

If dilution with water is needed for full crop coverage, fill tank with approximately 3/4 of the water required for dilution. Begin agitation and pump Foray 48B into the water while maintaining continuous agitation. Agitate as necessary to maintain suspension. Do not allow diluted mixture to remain in the tank for more than 72 hours.

Monitor to detect early infestations.

Crop	Pests	Rate ¹ (fl. oz./acre)
Forests, Shade Trees, Ornamentals, Shrubs, Sugar Maple Trees,	Gypsy Moth & Asian Gypsy Moth, Elm Spanworm	21 - 107
Seed Orchards, Ornamental Fruit, Nut and Citrus Trees ²	Spruce Budworm, Browntail Moth, Douglas Fir Tussock Moth, Coneworm, Buck Moth Tussock Moths, Pine Butterfly, Bagworm, Leafrollers, Tortrix, Mimosa Webworm, Tent Caterpillar, Jackpine Budworm, Blackheaded Budworm, Saddled Prominent, Saddleback Caterpillar, Eastern and Western Hemlock Looper, Orangestriped Oakworm, Satin Moth	21 - 80
	Redhumped Caterpillars, Spring and Fall Cankerworm, California Oakworm, Fall Webworm	16 - 43
		11 - 31

Special Instructions:

¹ Use the higher rates on advanced larval stages or under high density larval populations.

² In treating Gypsy Moth and Asian Gypsy Moth infected trees and shrubs in urban, rural, and semi-rural areas, exposure of non-target vegetation including, but not limited to, native and ornamental species and food or feed crops is permitted.

Use and mix this product with other pesticides only in accordance with the most restrictive of label limitations and precautions. Do not mix this product with any product containing a label prohibition against such mixing. Do not exceed label dosage rates.

15.0 AERIAL APPLICATION

Apply Foray 48B, either alone or diluted with water, aerially at the rates per acre shown in the application rates table. Spray volumes of 32-107 fluid ounces of product per acre give optimum coverage. Best results are expected when Foray 48B is applied to dry foliage.

For smaller spray volumes, mix the proper number of teaspoons of Foray 48B from the following chart to attain the desired rates:

If the rate is:	Add this amount per gallon of mix:
8 fl. oz. (0.5 pt.)/acre	1/2 teaspoon
16 fl. oz. (1.0 pts.)/acre	1 teaspoon
24 fl. oz. (1.5 pts.)/acre	1-1/2 teaspoons
32 fl. oz. (2.0 pts.)/acre	2 teaspoons
48 fl. oz. (3.0 pts.)/acre	3 teaspoons
64 fl. oz. (4.0 pts.)/acre	4 teaspoons

Foray is a registered trademark of Valent BioSciences Corporation.

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SUMMARY OF BROWNTAIL MOTH TREATMENTS WITH FORAY 48B & OTHER BT PRODUCTS

DATE	TREATMENT	LAB	GROUND	AERIAL ¹	RATE/AC ²	RESULTS & COMMENTS
1974	DiPel flowable, 1X and Thuricide 16B, 1X May and August	X		X f/w	1-8 BIU/ac, lab 8 BIU/ac, aerial Diluted with water?	McLane et al; > 95% larval mortality (L2) in lab. Aerial results spotty: lack of foliage development in May, Aug treatment a failure as larvae were feeding in the web by the time spraying occurred. (Spray timing issues.) First known Btk applications.
June '92	F 48B, 2X, 10 days apart			r/w	30 BIU, 1 gpa	Little Diamond Island, 60 ac, applications too late, weather delays, equipment problems, cold wet weather post-spray.
Sept '92	F 48B , 1X			f/w	30 BIU, 3 gpa	application delayed, suggested sublethal dose?
May '93	F 48B, MPVII 2X, 13 days apart	X	X	f/w	24 BIU, undiluted	Cold wet wx, no feeding after 1 st app. 2 nd app delayed due to weather, larvae had defoliated overwintering sites and migrated to new foliage so no assessment conducted. Results were unsatisfactory.
1995	Lab bioassays	X				Artificial diet problems. Results n/a.
1996	Foray 48B and others Foliar bioassay	X			4 BIU	86% larval mortality with Foray @ 4BIU, other products applied @ 8 BIU/ac.
1997	F 48B, MPVII, Condor		Mistblower		40 BIU	98% larval mortality, mix of Foray (84%) and MPVII (14%).
May '98	F 48B, with MPVII (40:60) 1X			f/w	14.8 BIU (45 fl. oz.) Foray + 46 gm (68 fl. oz.) MPVII, total of 113 fl. oz./ac.	Peaks Island, 200 acres. 72% larval mortality as per text, 78% larval mortality as per chart.

1) f/w: airplane
r/w: helicopter

2) Potency referred to as BIU's, now referred to as CLU's (Cabbage Looper Units).

References:

Bradbury, Richard. Efficacy Trials with Foray 48B against Browntail Moth, Maine Forest Service, Insect & Disease Management, Technical Report #35, May 1995

Dubois, Norman et al. Implementation of a Program to Optimize the use of *Bacillus Thuringiensis* against the Browntail Moth, USDA Forest Service, Northeastern Research Center. (Presented at IUFRO Conference, Victoria BC, 1999, pg 37-44, in proceedings by Leibhold et al., Integrated Management and Dynamics of Forest Defoliating Insects, 2001) Also shown as USDA Forest Service, Newtown Square PA, General Technical Report NE 277.

McLane, W.H., Finney & Schwalbe. Field Evaluation of Aerially Applied *Bacillus thuringiensis* (Berliner) Against the Browntail Moth, *Nygmia phaeorrhoea* (Donov.) USDA APHIS PPQ, Otis AFB MA. APHIS Report 81-30, April 1978

Stephen Nicholson
Valent BioSciences
March 21, 2017



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

MEMORANDUM

Date: March 31, 2017
To: Board Members
From: Staff
Subject: Review and Discussion of Board Homeowner Education Efforts

The Board has continued to discuss various ideas and approaches for improving education of homeowners on the use of Integrated Pest Management and the proper use of pesticides. Staff has provided oral updates to the Board at each Board meeting. The following list details the outreach projects staff are currently or will be implementing:

Presentations

- BPC staff organized and held four public information meetings on browntail moth in March, for a total of eight meetings combined with those held in February.
 - Maine Forest Service, Cooperative Extension, Northern New England Poison Center, an arborist from the city of Bath, and Board staff all worked together in multiple arrangements to promote and cover all meetings.
 - The meetings were held in:
 - March 6, 7:00 PM Town Hall, Bowdoinham
 - March 7, 2:00 PM at UMaine Regional Learning Center, Falmouth
 - March 9, 6:00 PM Town Council Chambers, Freeport
 - March 9, 6:00 PM Belfast Free Library, Belfast
- Two recent Master Gardener Pesticide talks presented
- Four Master Gardener Pesticide talks scheduled for April/May:
 - Bangor on April 18
 - Falmouth April 7
 - Yarmouth April 25
 - Lisbon Falls May 2
- Garden Pro Meeting- Portland on April 12
- Rockport Conservation Committee Forum, Rockport on April 20
- Maine Land Conservation Conference, Bowdoinham on April 22
- Garden Pest Management/Beneficial Insect Protection, Lincoln on May 16

HENRY JENNINGS, DIRECTOR
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Social Media

- BPC staff uses the GovDelivery page under the following topics to communicate with citizens:
 - *BPC Board Meeting—currently active*
 - *Pesticide Continuing Education Credit Calendar—currently active*
 - *Commercial*
 - *Agricultural*
 - *Yard, Garden and Home—will begin using for advertising browntail moth meetings*
 - *Tips*
 - *Seminars*
- Interested individuals can utilize the GovDelivery tool to sign up for email communication on topics of interest
- GovDelivery will be used to post content on BPC's Facebook page

Flower Show

- The Maine Flower Show, Portland—March 30-April 2
- Booths at both shows
 - Multi-panel display with focusing on the topics below and linking everything back to website—
Healthy Maine Lawns/YardScaping/GotPests
- Presentations, mannequin with PPE and/or tick smart attire
- March Board meeting will be held at the The Maine Flower Show

Articles/Publications

- Combined Maine Forest Service browntail moth bulletins into single informational pamphlet distributed to homeowners
- Plan to distribute at flower show

Website Content

- Review of Board websites is underway—repairing broken links and updating content
- Create new content

From: Paul Schlein
Sent: Friday, March 10, 2017 8:24 AM
To: Pesticides
Subject: UN Pesticides Report for Discussion at Next BPC Meeting

Dear Maine Board of Pesticides Control,

The United Nations has just released a report on the global use of pesticides and their effects. I respectfully request that you post the PDF file of the report in a prominent location on your website, and review and discuss it as an agenda item at your next Board meeting. Here are links to the UN press release on the report and the report itself:

- Press Release: <http://www.un.org/apps/news/story.asp?NewsID=56311#.WMKnufK0lyF>
- Report: <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G17/017/85/PDF/G1701785.pdf?OpenElement>

Please acknowledge receipt of this message.

Thank you,

Paul Schlein
Arrowsic, Maine

UN human rights experts call for global treaty to regulate dangerous pesticides

7 March 2017 – Two United Nations human rights experts are calling for a comprehensive new global treaty to regulate and phase out the use of dangerous pesticides in farming, and move towards sustainable agricultural practices.

“Excessive use of pesticides are very dangerous to human health, to the environment and it is misleading to claim they are vital to ensuring food security,” the Special Rapporteur on the right to food, Hilal Elver, and the Special Rapporteur on Toxics, Baskut Tuncak, [said](#) in a joint statement to the Human Rights Council in Geneva.

The Special Rapporteurs pointed to research showing that pesticides were responsible for an estimated 200,000 acute poisoning deaths each year. Some 99 per cent of fatalities occurred in developing countries where health, safety and environmental regulations were weaker.

Chronic exposure to pesticides has been linked to cancer, Alzheimer’s and Parkinson’s diseases, hormone disruption, developmental disorders and sterility. Farmers and agricultural workers, communities living near plantations, indigenous communities and pregnant women and children are particularly vulnerable to pesticide exposure and require special protections.

The experts particularly emphasized the obligation of States to protect the rights of children from hazardous pesticides, also warning that certain pesticides can persist in the environment for decades and pose a threat to the entire ecological system on which food production depends.

While acknowledging that certain international treaties currently offer protection from the use of a few pesticides, they stressed that a global treaty to regulate the vast majority of them throughout their life cycle does not yet exist, leaving a critical gap in the human rights protection framework.

“Without harmonized, stringent regulations on the production, sale and acceptable levels of pesticide use, the burden of the negative effects of pesticides is felt by poor and vulnerable communities in countries that have less stringent enforcement mechanisms,” they emphasized.

Special Rapporteurs and independent experts are appointed by the Geneva-based UN Human Rights Council to examine and report back on a specific human rights theme or a country situation. The positions are honorary and the experts are not UN staff, nor are they paid for their work.



General Assembly

Distr.: General
24 January 2017

Original: English

Human Rights Council

Thirty-fourth session

27 February-24 March 2017

Agenda item 3

**Promotion and protection of all human rights, civil,
political, economic, social and cultural rights,
including the right to development**

Report of the Special Rapporteur on the right to food

Note by the Secretariat

The Secretariat has the honour to transmit to the Human Rights Council the report of the Special Rapporteur on the right to food, pursuant to Council resolutions 6/2, 31/10 and 32/8. The report was written in collaboration with the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes. In the report, a clearer account is provided of global pesticide use in agriculture and its impact on human rights; the negative consequences that pesticide practices have had on human health, the environment and society, which are underreported and monitored in the shadow of a prevailing and narrow focus on “food security”, are described; and the environmental and human rights regimes are examined to determine whether the constituent rules are sufficient to protect farm workers, consumers and vulnerable groups, as well as the natural resources that are necessary to support sustainable food systems.

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Report of the Special Rapporteur on the right to food

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I. Introduction

1. The present report of the Special Rapporteur on the right to food was written in collaboration with the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes. Pesticides, which have been aggressively promoted, are a global human rights concern, and their use can have very detrimental consequences on the enjoyment of the right to food. Defined as any substance or mixture of substances of chemical and biological ingredients intended to repel, destroy or control any pest or regulate plant growth,¹ pesticides are responsible for an estimated 200,000 acute poisoning deaths each year,² 99 per cent of which occur in developing countries,³ where health, safety and environmental regulations are weaker and less strictly applied. While records on global pesticide use are incomplete,⁴ it is generally agreed that application rates have increased dramatically over the past few decades.

2. Despite the harms associated with excessive and unsafe pesticide practices, it is commonly argued that intensive industrial agriculture, which is heavily reliant on pesticide inputs, is necessary to increase yields to feed a growing world population, particularly in the light of negative climate change impacts and global scarcity of farmlands. Indeed, over the past 50 years, the global population has more than doubled, while available arable land has only increased by about 10 per cent.⁵ Evolving technology in pesticide manufacture, among other agricultural innovations, has certainly helped to keep agricultural production apace of unprecedented jumps in food demand. However, this has come at the expense of human health and the environment. Equally, increased food production has not succeeded in eliminating hunger worldwide. Reliance on hazardous pesticides is a short-term solution that undermines the rights to adequate food and health for present and future generations.

3. Pesticides cause an array of harms. Runoff from treated crops frequently pollute the surrounding ecosystem and beyond, with unpredictable ecological consequences. Furthermore, reductions in pest populations upset the complex balance between predator and prey species in the food chain, thereby destabilizing the ecosystem. Pesticides can also decrease biodiversity of soils and contribute to nitrogen fixation, which can lead to large declines in crop yields, posing problems for food security.

4. While scientific research confirms the adverse effects of pesticides, proving a definitive link between exposure and human diseases or conditions, or harm to the ecosystem presents a considerable challenge. This challenge has been exacerbated by a systematic denial, fuelled by the pesticide and agroindustry, of the magnitude of the

¹ Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO), *International Code of Conduct on Pesticides Management: Guidelines on Highly Hazardous Pesticides* (Rome, 2016), p. vi. In the report, the authors examine only pesticides used in agriculture and not so-called “public health” pesticides used in disease control.

² Måns Svensson and others, “Migrant agricultural workers and their socio-economic, occupational and health conditions — a literature review”, Lund University (1 January 2013).

³ Lynn Goldmann, *Childhood Pesticide Poisoning: Information for Advocacy and Action* (Geneva, FAO, United Nations Environment Programme (UNEP) and WHO, 2004), p. 7.

⁴ See www.fao.org/faostat/en/#home.

⁵ Heinz-R. Köhler and Rita Triebkorn, “Wildlife ecotoxicology of pesticides: can we track effects to the population level and beyond?” *Science*, vol. 341, No. 6147 (16 August 2013), pp. 759-765; M. Allsop and others, *Pesticides and Our Health: A Growing Concern* (Exeter, United Kingdom, Greenpeace Research Laboratories, 2015), p. 3.

damage inflicted by these chemicals, and aggressive, unethical marketing tactics remain unchallenged.

5. Exposure to pesticides can have severe impacts on the enjoyment of human rights, in particular the right to adequate food, as well as the right to health. The right to food obligates States to implement protective measures and food safety requirements to ensure that food is safe, free from pesticides and qualitatively adequate. Furthermore, human rights standards require States to protect vulnerable groups, such as farm workers and agricultural communities, children and pregnant women from the impacts of pesticides.

6. Although certain multinational treaties and non-binding initiatives offer some limited protections, a comprehensive treaty that regulates highly hazardous pesticides does not exist, leaving a critical gap in the human rights protection framework.

7. Without or with minimal use of toxic chemicals, it is possible to produce healthier, nutrient-rich food, with higher yields in the longer term, without polluting and exhausting environmental resources.⁶ The solution requires a holistic approach to the right to adequate food that includes phasing out dangerous pesticides and enforcing an effective regulatory framework grounded on a human rights approach, coupled with a transition towards sustainable agricultural practices that take into account the challenges of resource scarcity and climate change.

II. Adverse impact of pesticides on human rights

8. Hazardous pesticides impose substantial costs on Governments and have catastrophic impacts on the environment, human health and society as a whole, implicating a number of human rights and putting certain groups at elevated risk of rights abuses.⁷

A. Human health

9. Few people are untouched by pesticide exposure. They may be exposed through food, water, air, or direct contact with pesticides or residues. However, given that most diseases are multi-causal, and bearing in mind that individuals tend to be exposed to a complex mixture of chemicals in their daily lives, establishing a direct causal link between exposure to pesticides and their effects can be a challenge for accountability and for victims seeking access to an effective remedy. Even so, persistent use of pesticides, in particular agrochemicals used in industrial farming, have been connected to a range of adverse health impacts, both at high and low exposure levels.⁸

10. Pesticide poisonings remain a serious concern, especially in developing countries, even though these nations account for only 25 per cent of pesticide usage. In some countries, pesticide poisoning even exceeds fatalities from infectious diseases.⁹ Tragic accidents involving poisoning include an incident in 1999 in Peru, where 24 schoolchildren died following the consumption of the highly toxic pesticide parathion, which had been

⁶ International Assessment of Agricultural Knowledge, Science and Technology for Development, *Agriculture at a Crossroads: Synthesis Report* (Washington, D.C., 2009), p. 3.

⁷ For a discussion of some of these negative effects, see, e.g., UNEP, *Costs of Inaction on the Sound Management of Chemicals* (Geneva, 2013).

⁸ Frank Eyhorn, Tina Roner and Heiko Specking, *Reducing Pesticide Use and Risks — What Action is Needed?*, Briefing Paper (HELVETAS Swiss Intercooperation, 2015), pp. 7-9.

⁹ Michael Eddleston, "Pesticide poisoning in the developing world — a minimum pesticides list", *The Lancet*, vol. 360, No. 9340 (12 October 2002), pp. 1163-1167.

packaged so that it was mistaken for powdered milk. Other cases include the deaths of 23 children in India in 2013 after consuming a meal contaminated with the highly hazardous pesticide monocrotophos; the poisoning of 39 preschool children in China in 2014 from consumption of food containing residues of the pesticide TETs; and the deaths of 11 children in Bangladesh in 2015 after eating fruits laced with pesticides.¹⁰

11. Unfortunately, there are no reliable, global statistics on the number of people who suffer from pesticide exposure. Recently, the non-profit organization Pesticide Action Network estimated that the number of people affected annually by short- and long-term pesticide exposure ranged between 1 million and 41 million.¹¹

12. Of grave concern are the impacts of chronic exposure to hazardous pesticides. Pesticide exposure has been linked to cancer, Alzheimer's and Parkinson's diseases, hormone disruption, developmental disorders and sterility. They can also cause numerous neurological health effects such as memory loss, loss of coordination, reduced visual ability and reduced motor skills. Other possible effects include asthma, allergies and hypersensitivity. These symptoms are often very subtle and may not be recognized by the medical community as a clinical effect caused by pesticides.¹² Furthermore, chronic effects of pesticides may not manifest for months or years after exposure, presenting a significant challenge for accountability and access to an effective remedy, including preventive interventions.

13. Despite grave human health risks having been well established for numerous pesticides, they remain in use. Even where pesticides have been banned or restricted, the risk of contamination can persist for many decades and they may continue to accumulate in food sources. In many cases, possible health impacts have not been extensively studied before pesticides are placed on the market. This is particularly true for "inactive" ingredients that are added to enhance the effectiveness of the pesticide's active ingredient and that may not be tested and are seldom disclosed on product labels.¹³ Moreover, the combination effects of exposure to multiple pesticides in food, water, soil and air have not been adequately studied.¹⁴

14. Certain groups are at substantially higher risk of pesticide exposure, as detailed below.

Farmers and agricultural workers

15. Agricultural workers are routinely exposed to toxic pesticides via spray, drift or direct contact with treated crops or soil, from accidental spills or inadequate personal protective equipment. Even when following recommended safety precautions, those applying pesticides are subject to higher exposure levels. Families of agricultural workers are also vulnerable, as workers bring home pesticide residues on their skin, clothing and shoes.

¹⁰ Pesticide Action Network, response to the questionnaire on pesticides and the right to food, pp. 3-4. The questionnaire and the responses are available from www.ohchr.org/EN/Issues/Environment/ToxicWastes/Pages/Pesticidesrighttofood.aspx.

¹¹ Pesticide Action Network, *Communities in Peril: Global Report on Health Impacts of Pesticide Use in Agriculture* (2010).

¹² Köhler, "Wildlife ecotoxicology of pesticides"; Eyhorn, *Reducing Pesticide Use*.

¹³ See <http://www.toxipedia.org/display/toxipedia/Effects+of+Pesticides+on+Human+Health>.

¹⁴ Eyhorn, *Reducing Pesticide Use*, p. 4.

16. Studies in developed countries show that annual acute pesticide poisoning affects nearly 1 in every 5,000 agricultural workers.¹⁵ Globally, however, it is unknown what percentage of farmworkers experience acute pesticide poisoning owing to a lack of standardized reporting. Poor enforcement of labour regulations and lack of health and safety training can elevate exposure risks, while many Governments lack the infrastructure and resources to regulate and monitor pesticides.¹⁶

17. The exposure risk of children engaged in agricultural work is particularly alarming. Although little data are available, the International Labour Organization estimates that about 60 per cent of child labourers worldwide work in agriculture, and children often make up a substantial portion of the agricultural workforce in developing countries. Their increased sensitivity to the hazards of pesticides, the inadequacy of protective equipment and their lack of experience may leave them particularly exposed.¹⁷

18. Seasonal and migrant workers are also more vulnerable, as they may work temporarily at various agricultural sites, multiplying their exposure risk to pesticides. Language barriers may further prevent these workers from understanding labels and safety warnings, they may experience poor working conditions without access to adequate safety equipment and they may have difficulty accessing medical care and compensation for pesticide-related diseases. Workers may also have little control over the types of pesticides used.

Communities living near agricultural lands

19. Those living close to industrial agricultural lands and plantations may also be at grave risk of pesticide exposure. Aerial pesticide spraying is particularly dangerous, as chemicals can drift to nearby locations. Communities may be forced to reside closer to pesticide use areas owing to financial or other constraints, and the malnutrition that may accompany extreme poverty can exacerbate the adverse health effects of toxic pesticides. For example, low levels of protein, resulting in low enzyme levels, enhance vulnerability to organophosphate insecticides.¹⁸

20. Examples of exposure owing to proximity to plantations include Costa Rica, where children living close to banana plantations were found to be exposed to high levels of insecticides.¹⁹ In India, inhabitants of the Padre village in the State of Kerala, located near cashew plantations, were found to suffer from high rates of illness and death that have been linked to the highly hazardous pesticide endosulfan; disability rates among inhabitants are reportedly 73 per cent higher than the overall rates for the entire state.²⁰

21. During the 1970s, the pesticide DCBP was used extensively on banana and pineapple plantations around the world.²¹ In Davao, the Philippines, where the pesticide was used in the 1980s, high levels of sterility were scientifically proven to have resulted from exposure. Other conditions, including cancer, asthma, tuberculosis and skin disease,

¹⁵ International Panel of Experts on Sustainable Food Systems, *From Uniformity to Diversity: A Paradigm Shift from Industrial Agriculture to Diversified Agroecological Systems* (2016), p. 29.

¹⁶ Eddleston, "Pesticide poisoning in the developing world".

¹⁷ Gaafar Abdel Rasoul and others, "Effects of occupational pesticide exposure on children applying pesticides", *Neuro Toxicology*, vol. 29, No. 5 (September 2008), pp. 833-838.

¹⁸ Pesticide Action Network Asia Pacific, response to the questionnaire on pesticides and the right to food, p. 4.

¹⁹ International Panel of Experts on Sustainable Food Systems, *From Uniformity to Diversity*, p. 29.

²⁰ Pesticide Action Network, response to the questionnaire on pesticides and the right to food, p. 1.

²¹ Environmental Justice Atlas, "Farmworkers poisoned by DBCP (Nemagon), Philippines", available from <https://ejatlas.org/conflict/philippine-farmworkers-poisoned-by-dbcp-pesticide>.

were also detected, but a linkage was not scientifically proven. While local authorities banned aerial spraying following community protests, the Supreme Court of the Philippines reversed the ban, allegedly under pressure from banana corporations.²² Further, suits brought by plantation workers have been dismissed, leaving victims without compensation. Twenty years on, despite a global ban on DBCP, soils and water sources remain contaminated.

Indigenous communities

22. In various countries, agribusinesses have taken over lands belonging to indigenous and minority communities and instituted pesticide-dependent intensive agriculture. As a result, communities may be forced to live in marginal situations alongside such farms, regularly exposing them to pesticide drift.

23. Traditional food sources of indigenous peoples are regularly found to contain high levels of pesticides. This is also true in the Arctic, because chemicals travel northward through long-range environmental transport in wind and water, bioaccumulating and biomagnifying in traditional foods such as marine mammals and fish.²³ Indigenous peoples in the Arctic are found to have hazardous pesticides in their bodies that were never used near their communities, and suffer from above average rates of cancer and other diseases.

Pregnant women and children

24. Children are most vulnerable to pesticide contamination, as their organs are still developing and, owing to their smaller size, they are exposed to a higher dose per unit of body weight; the levels and activity of key enzymes that detoxify pesticides are much lower in children than in adults.²⁴ Health impacts linked to childhood exposure to pesticides include impaired intellectual development, adverse behavioural effects and other developmental abnormalities.²⁵ Emerging research is revealing that exposure to even low levels of pesticides, for example through wind drift or residues on food, may be very damaging to children's health, disrupting their mental and physiological growth and possibly leading to a lifetime of diseases and disorders.

25. Pregnant women who are exposed to pesticides are at higher risk of miscarriage, pre-term delivery and birth defects. Studies have regularly found a cocktail of pesticides in umbilical cords and first faeces of newborns, proving prenatal exposure.²⁶ Exposure to pesticides can be transferred from either parent. The most critical period for exposure for the father is three months prior to conception, while maternal exposure is most dangerous from the month before conception through the first trimester of pregnancy.²⁷ Recent evidence suggests that pesticide exposure by pregnant mothers leads to higher risk of

²² Pesticide Action Network Asia Pacific, response to the questionnaire on pesticides and the right to food.

²³ Alaska Native Health Board, "Traditional food contaminants testing projects in Alaska", July 2002; Gretchen Welfinger-Smith and others, "Organochlorine and metal contaminants in traditional foods from St. Lawrence Island, Alaska", *Journal of Toxicology and Environmental Health*, Part A, vol. 74, No.18 (September 2011).

²⁴ Beyond Pesticides, "Children and pesticides don't mix", Factsheet, available from <http://www.beyondpesticides.org/assets/media/documents/lawn/factsheets/Pesticide.children.dontmix.pdf>.

²⁵ Eyhorn, *Reducing Pesticide Use*, p. 9.

²⁶ Enrique Ostrea, Dawn Bielawski and N.C. Posecion, "Meconium analysis to detect fetal exposure to neurotoxicants", *Archive of Disease in Childhood*, vol. 91, No. 8 (September 2006).

²⁷ Pesticide Action Network, response to the questionnaire on pesticides and the right to food, p. 3.

childhood leukaemia and other cancers, autism and respiratory illnesses.²⁸ For example, neurotoxic pesticides can cross the placental barrier and affect the developing nervous system of the fetus, while other toxic chemicals can adversely impact its undeveloped immune system.²⁹

26. Pesticides can also pass through breast milk. This is particularly worrying, as breast milk is the only source of food for many babies and their metabolism is not well developed to fight against hazardous chemicals. Pesticides are also found in baby formula, or in the water with which it is mixed.³⁰

Consumers

27. Pesticide residues are commonly found in both plant and animal food sources, resulting in significant exposure risks for consumers. Studies indicate that foods often contain multiple residues, thereby resulting in the consumption of a “cocktail” of pesticides. Although the harmful effects of pesticide mixtures are still not fully understood, it is known that in some cases, synergistic interactions can occur that lead to higher toxicity levels. High cumulative exposure of consumers to pesticides is particularly worrying, especially with lipophilic pesticides, which bind with fats and bioaccumulate in the body.³¹

28. Traces may remain on fruits and vegetables that are extensively treated with pesticides before they reach the consumer. The highest levels of pesticides are often found in legumes, leafy greens and fruits such as apples, strawberries and grapes. While washing and cooking produce reduces residue levels, food preparation can sometimes increase these levels.³² Also, many pesticides used today are systemic — taken up through the roots and distributed throughout the plant — and therefore washing will have no effect.

29. Pesticides may also bioaccumulate in farmed animals through contaminated feed. Insecticides are often used in poultry and eggs, while milk and other dairy products may contain a range of substances through bioaccumulation and storage in the fatty tissues of the animals. This is of particular concern as cow’s milk is often a staple component of human diets, especially for children.

30. Certain pesticides, such as organotins, accumulate and magnify through marine food web systems. As a result, people who depend on or consume greater amounts of seafood tend to have particularly high concentrations in their blood, causing significant health risks.³³

31. Pesticides also present a serious threat to drinking water, particularly in agricultural areas, which often depend on groundwater. While it can take several decades before pesticides applied in fields appear in water wells, high levels of herbicides in agricultural areas have already caused health problems for some communities.³⁴ For example, in the

²⁸ Council on Environmental Health, “Policy statement: pesticide exposure in children”, *Pediatrics*, vol. 130, No. 6 (December 2012).

²⁹ Köhler, “Wildlife ecotoxicology of pesticides”, p. 19.

³⁰ International Baby Food Action Network and Geneva Infant Feeding Association, response to the questionnaire on pesticides and the right to food, p. 4.

³¹ Köhler, “Wildlife ecotoxicology of pesticides”, p. 10.

³² B.M. Keikothaile, P. Spanoghe and W. Steurbaut, “Effects of food processing on pesticide residues in fruits and vegetables: a meta-analysis approach”, *Food and Chemical Toxicology*, vol. 48, No. 1 (January 2010).

³³ Köhler, “Wildlife ecotoxicology of pesticides”, p. 11.

³⁴ Aviva Glaser, “Threatened waters: turning the tide on pesticide contamination”, *Beyond Pesticides* (February 2006), available from <http://www.beyondpesticides.org/assets/media/documents/documents/water.pdf>.

United States of America, where over 70 million pounds of atrazine are used annually, runoff into water supplies has been linked to increased risk of birth defects.³⁵ While atrazine was banned in the European Union in 2004, some European countries still detect it in groundwater today.

B. Environmental impact

32. Pesticides can persist in the environment for decades and pose a global threat to the entire ecological system upon which food production depends. Excessive use and misuse of pesticides result in contamination of surrounding soil and water sources, causing loss of biodiversity, destroying beneficial insect populations that act as natural enemies of pests and reducing the nutritional value of food.

33. Pesticides contaminate and degrade soil to varying degrees. In China, recent studies released by the Government show moderate to severe contamination from pesticides and other pollutants on 26 million hectares of farmland, to the extent that farming cannot continue on approximately 20 per cent of arable land.³⁶

34. Water contamination can be equally damaging. In Guatemala, for example, contamination of the Pasión River with the pesticide malathion, used on palm oil plantations, killed thousands of fish and affected 23 species of fish. This in turn deprived 12,000 people in 14 communities of their primary source of food and livelihood.³⁷

35. While regulators are mostly concerned about health risks through pesticide residues, their effects on non-target organisms are hugely underestimated. For example, neonicotinoids, a commonly used class of systemic insecticides, are causing soil degradation and water pollution and endangering vital ecosystem services such as biological pest control.³⁸ Designed to damage the central nervous system of target pests, they can also cause harm to beneficial invertebrates as well as to birds, butterflies and other wildlife.³⁹

36. Neonicotinoids are accused of being responsible for “colony collapse disorder” of bees worldwide.⁴⁰ For example, heavy use of these insecticides has been blamed for the 50 per cent decline over 25 years in honeybee populations in both the United States and the United Kingdom of Great Britain and Northern Ireland.⁴¹ This decline threatens the very basis of agriculture, given that wild bees and managed honeybees play the greatest role in pollinating crops. According to estimates from the Food and Agriculture Organization of the United Nations (FAO), of some 100 crop species (which provide 90 per cent of global

³⁵ FindLaw, Atrazine Lawsuit Overview (2016), available from <http://injury.findlaw.com/product-liability/atrazine-lawsuit-overview.html>.

³⁶ Caixin Online, “China’s tainted soil initiative lacks pay plan”, 6 August 2016, available from <http://english.caixin.com/2016-06-08/100952896.html>.

³⁷ See case GTM 4/2015 in document A/HRC/31/79.

³⁸ The Taskforce on Systemic Pesticides, *Worldwide Integrated Assessment of the Impacts of Systemic Pesticides on Biodiversity and Ecosystems* (9 January 2015).

³⁹ Peter Jenkins, *Net Loss: Economic Efficacy and Cost of Neonicotinoid Insecticides Used as Seed Coatings: Updates from the United States and Europe* (Center for Food Safety, 2016).

⁴⁰ Beyond Pesticides, “BEE protective: chemicals implicated”, available from <http://www.beyondpesticides.org/programs/bee-protective-pollinators-and-pesticides/chemicals-implicated>.

⁴¹ *Guardian*, “Pesticides linked to honeybee decline”, 29 March 2012.

food), 71 per cent are pollinated by bees.⁴² The European Union, unlike the United States, restricted the use of certain neonicotinoids in 2013.

37. Many of the pesticides used today, accounting for approximately 60 per cent of dietary exposure,⁴³ are systemic. Seeds treated with systemic pesticides are commonly used in soybean, corn and peanut production. Similarly, crops may be genetically engineered (so-called GMOs) to produce pesticides themselves. Proponents of systemic pesticides and genetically engineered crops claim that by eliminating liquid spraying, the risk of exposure to farm workers and other non-target organisms is greatly reduced. However, further studies of chronic exposure are needed to determine the extent of the impact of systemic pesticides and genetically engineered crops on human health, beneficial insects, soil ecosystems and aquatic life.⁴⁴ For example, transgenic corn and soybean varieties have been developed that are capable of producing *Bacillus thuringiensis* (*Bt*) endotoxins that act as insecticides.⁴⁵ While the use of *Bt* crops has led to a reduction in conventional synthetic insecticide use, controversy remains about the possible risks posed by these crops.

38. The prime example of controversy around genetically engineered crops is glyphosate, the active ingredient of some herbicides, including Roundup, that allow farmers to kill weeds but not their crops. While presented as less toxic and persistent compared to traditional herbicides, there is considerable disagreement over the impact of glyphosate on the environment: studies have indicated negative impacts on biodiversity, wildlife and soil nutrient content.⁴⁶ There are also concerns regarding human health. In 2015, WHO announced that glyphosate was a probable carcinogen.⁴⁷

39. In Europe, genetically engineered crop regulations exemplify the precautionary principle. If an action or policy has a suspected risk of causing harm to the public or the environment, in the absence of scientific consensus, the burden of proof falls on those taking the action or policy to demonstrate that it is not harmful. In contrast, in the United States, the biggest producer of genetically engineered crops,⁴⁸ regulations have generally followed the concept of “substantial equivalence”, whereby a novel crop or food is compared to an existing one and if judged adequately similar, it falls under existing

⁴² UNEP, *Global Honey Bee Colony Disorders and Other Threats to Insect Pollinators* (Nairobi, 2010); Michelle Allsopp and others, *Plan Bee — Living Without Pesticides: Moving Towards Ecological Farming* (Amsterdam, Greenpeace, 2014), p. 9.

⁴³ Chuck Benbrook, “Prevention, not profit, should drive pest management”, Rachel Carson Memorial Lecture, *Pesticides News* 82, December 2008.

⁴⁴ Jennifer Hsaio, “GMOs and pesticides: helpful or harmful”, blog, special edition on genetically modified organisms (GMOs), Harvard University (10 August 2015); Andria Cimino and others, “Effects of neonicotinoid pesticide exposure on human health: a systematic review”, *Environmental Health Perspectives* (6 July 2016); Greenpeace, “Environmental and health impacts of GM crops: the science”, Briefing, September 2011.

⁴⁵ Matthew Niederhuber, “Insecticidal plants: the tech and safety of GM *Bt* crops”, blog, special edition on GMOs, Harvard University (10 August 2015); Mike Mendelsohn and others, “Are *Bt* crops safe?”, *Nature Biotechnology*, vol. 21, No. 9 (September 2003), pp. 1003-1009.

⁴⁶ Jordan Wilkerson, “Why Roundup ready crops have lost their allure”, blog, special edition on GMOs, Harvard University (10 August 2015); Friends of the Earth Europe, *The Environmental Impacts of Glyphosate* (Brussels, 2013).

⁴⁷ International Agency for Research on Cancer, “Evaluation of five organophosphate insecticides and herbicides”, IARC monographs, vol. 112 (20 March 2015); Daniel Cressey, “Widely used herbicide linked to cancer”, *Nature News* (24 March 2015).

⁴⁸ For example, in 2013, 93 per cent of the soybeans, 90 per cent of the cotton and 90 per cent of the corn grown in the United States were genetically engineered for either herbicide tolerance or insect resistance. See <https://www.loc.gov/law/help/restrictions-on-gmos/usa.php>.

regulations.⁴⁹ Considering their probable grave effects on health and the environment, there is an urgent need for holistic regulation on the basis of the precautionary principle to address the genetically engineered production process and other new technologies at the global level.

III. Legal structure

A. Human rights law

40. The right to adequate food provides a guarantee for food that is necessary to achieve an adequate standard of living. In addition to the Universal Declaration of Human Rights, it has been codified in article 11 of the International Covenant on Economic, Social and Cultural Rights. The Committee on Economic, Social, and Cultural Rights, in its general comment No. 12 (1999) on the right to adequate food, substantiates the right to adequate food, stating that it must not be construed in a narrow or restrictive sense, and declaring that adequacy denotes not just quantity but also quality. The Committee further considers that the right implies food that is free from adverse substances, and asserts that States must implement food safety requirements and protective measures to ensure that food is safe and qualitatively adequate. Under even the narrowest interpretation of article 11 and general comment No. 12, food that is contaminated by pesticides cannot be considered as adequate food.

41. In its general comment, the Committee furthermore asserts that sustainability is intrinsically linked to the notion of adequate food, implying that food must be accessible for both present and future generations. As outlined in the present report, pesticides are responsible for biodiversity loss and water and soil contamination and for negatively affecting the productivity of croplands, thereby threatening future food production.

42. The right to adequate food embraces the notion that its realization must not interfere with the enjoyment of other human rights. Therefore, arguments suggesting that pesticides are needed to safeguard the right to food and food security clash with the right to health, in view of the myriad negative health impacts associated with certain pesticide practices.

43. Indeed, article 12 of the International Covenant provides a right to the highest attainable level of health and obligates States to take measures to improve all aspects of environmental and industrial hygiene. In its general comment No. 14 (2000) on the right to the highest attainable standard of health, the Committee embraces the notion that the right extends to the underlying determinants of health, such as safe food, potable water, safe and healthy working conditions and a healthy environment. It also notes that the obligation to improve industrial and environmental hygiene essentially entails the right to a healthy workplace, including the prevention and reduction of exposure to harmful substances, and the minimization of the causes of health hazards inherent in the workplace. With regard to pesticide exposure, human rights law underlines the obligation on States to ensure that people live and work in safe and healthy environments and have access to safe and clean food and water. As such, exposure to pesticides, whether at work, as a bystander or via residue found on food or in water, would violate a person's right to the highest attainable level of health.

44. Moreover, articles 11 and 12 of the Convention on the Elimination of All Forms of Discrimination against Women address women's right to protection of health and safety,

⁴⁹ National Academies of Sciences, Engineering and Medicine, *Genetically Engineered Crops: Experiences and Prospects* (Washington, D.C., 2016).

including the safeguarding of the function of reproduction, and call for special protections to be accorded to mothers before and after childbirth. The Committee on the Elimination of Discrimination against Women also calls on States to take appropriate measures to provide special protection to women during pregnancy. Such obligations clearly extend to minimizing the risks of maternal exposure to pesticides.

45. The Convention on the Rights of the Child also includes specific provisions to protect children from environmental contaminants and supports childhood development. Article 6 highlights the obligation of Governments, to the maximum extent possible, to ensure that children survive and develop in a healthy manner.

46. Appropriately, article 24 (2) (c) of the Convention makes the explicit link between food, water and the right to the highest attainable standard of health. States must combat disease and malnutrition through the provision of adequate, nutritious foods and clean drinking water, taking into consideration the dangers and risks of environmental pollution. In articles 24 (4) and 32 (1), the Convention also calls for international cooperation to help developing countries achieve this, and requires States to protect children from work that may be hazardous to their health or physical or mental development, such as work where they use or may otherwise be exposed to hazardous pesticides. It is clear that ensuring protection from pesticides falls within the parameters of the Convention.

47. Furthermore, the International Covenant on Civil and Political Rights, the United Nations Declaration on the Rights of Indigenous Peoples, the International Convention on the Rights of All Migrant Workers and Members of Their Families and other international human rights instruments all contain provisions that require States to provide adequate protection, information and remedies in the context of pesticide use.

48. While international human rights laws provide substantive protections against excessive and unsafe pesticide practices, implementation and enforcement remain major challenges. Most commonly, a human right that contemplates the negative effects of pesticides is implicit in the right to health. For example, in the African system, which does not recognize the right to food, the African Commission on Human and Peoples' Rights has interpreted the right to health to require Governments to take action to prevent third parties from destroying or contaminating food sources.⁵⁰

49. The Optional Protocol to the International Covenant on Economic, Social and Cultural Rights provides individuals with a grievance mechanism at the international level to claim violations of any of the rights set forth in the Covenant and to submit complaints to the Committee on Economic, Social, and Cultural Rights.

50. Certain voluntary guidelines and recommendations are also relevant in the context of human rights and pesticides. The Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security, which provide non-binding guidance for States on operationalizing the right to adequate food, promote State action in the realm of food safety and consumer protection. For example, guideline 9 calls for States to develop food safety standards on pesticide residues. Guideline 4 advocates that States should ensure adequate protection for consumers against unsafe food and encourages the development of corporate social responsibility policies for businesses.

⁵⁰ Communication No. 155/96, *Social and Economic Rights Action Center and Center for Economic and Social Rights v. Nigeria*, decision adopted on 27 May 2012.

51. Businesses, whose decisions “can profoundly affect the dignity and rights of individuals and communities”,⁵¹ also have human rights responsibilities. Yet the State-centric nature of the human rights regime largely fails to account for the considerable role that the business sector plays in the violation of human rights. The inability of the regime to address non-State actors is particularly problematic given that the pesticide industry is dominated by a few transnational corporations that wield extraordinary power over global agrochemical research, legislative initiatives and regulatory agendas.

52. The responsibility of corporations is specified in the Guiding Principles on Business and Human Rights. In addition to setting out States’ existing obligations to protect against business-related human rights abuse and ensure access to remedy for victims, the Guiding Principles specify the independent responsibility of businesses to respect human rights, that is to avoid and address adverse human rights impacts linked to their operations. While businesses are not directly bound by international human rights treaties, the Guiding Principles provide a broadly agreed normative basis to assess corporate activity.

53. Given the severe, negative impact of the use of hazardous pesticides on people and the planet, an international legally binding instrument to regulate, in international human rights law, the activities of transnational corporations would be important to strengthen the international accountability framework.

B. International environmental law

54. International environmental treaties have delivered limited success in enabling a transition away from hazardous pesticides in favour of safer alternatives. A good example of a global treaty that reduces the use of a hazardous pesticide is the phase-out and control of methyl bromide under the Montreal Protocol on Substances that Deplete the Ozone Layer to the Vienna Convention for the Protection of the Ozone Layer. The Protocol enabled an assessment of ongoing uses of methyl bromide, identification of viable alternatives and a schedule for orderly transition to such alternatives.

55. In addition, the Stockholm Convention on Persistent Organic Pollutants provides for global prohibitions and restrictions for a certain set of hazardous pesticides. However, while the treaty has expanded from banning or restricting the use of an initial set of 12 largely obsolete industrial chemicals and pesticides, its coverage is still limited and many highly hazardous pesticides do not fall within its scope.

56. Two other treaties cover a broader scope of hazardous pesticides, but only for specific international activities. The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade enables information sharing between States on the export and import of certain hazardous pesticides, while the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal regulates the international trade of hazardous pesticides as waste.

57. A major defect in the international regime for hazardous pesticides is the lack of an effective framework to regulate different types of hazardous pesticides throughout their life cycle. A toxic pesticide is only regulated if it meets the narrow criteria of the Stockholm Convention or the Montreal Protocol, which the vast majority of hazardous pesticides do not. Thus, hundreds of hazardous pesticides are not eligible for regulation under existing treaties to control critical stages of their life cycle. Another shortcoming of the Rotterdam

⁵¹ Mary Robinson, “The business case for human rights”, in Financial Times Management, *Visions of Ethical Business* (London: Financial Times Professional, 1998).

Convention is its consensus-based decision-making process, allowing one country to obstruct the listing of hazardous pesticides, such as paraquat. States have also delayed listing of hazardous pesticides under the Stockholm Convention, and they have the ability to accept or reject a global “ban” through opt-in and opt-out provisions.

Other relevant conventions

58. Although the Convention on Biological Diversity does not explicitly mention pesticides, it is still highly relevant in view of the negative impacts of pesticides on biodiversity. Article 6 of the Convention requires parties to create a national strategy for the conservation of biodiversity, promotes sustainable development and recognizes the need for food security. National legislation for the protection of biodiversity is increasingly being used in efforts to restrict the use of hazardous pesticides. For example, in the United States, several lawsuits are being brought under the Endangered Species Act to protect the loss of biodiversity from pesticides.⁵²

59. The Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters is also relevant to the regulation of pesticides and derives many of its core obligations from human rights law. Article 1 sets out detailed obligations with respect to the matters covered by the Convention.

60. The Aarhus Convention has recently been invoked concerning confidentiality of information regarding glyphosate. In a recent case brought by non-governmental organizations to the European Court of Justice,⁵³ the Court ruled that health and safety information about the pesticide must be made available to the public. The case stems from the European Commission’s refusal to grant access to such information (see A/HRC/30/40, paras. 46-47). The ruling further demonstrates the international consensus that health and safety information about pesticides and other hazardous substances should never be confidential.

C. International code of conduct and non-binding practices

61. The International Code of Conduct on Pesticide Management, established by WHO and FAO, is a voluntary framework that guides Governments, the private sector, civil society and other stakeholders on best practices in managing pesticides throughout their life cycle, particularly where there is inadequate or no national legislation to regulate pesticide management.⁵⁴ In 2013, the Code was updated to focus on the health and environmental impacts of pesticides to support healthy ecosystems and sustainable agricultural practices. It also emphasizes minimizing the use of pesticides, calls on countries to identify and, if necessary, remove highly hazardous pesticides and gives attention to vulnerable groups.

62. While several major pesticide companies have pledged to adhere to the Code through their membership of Croplife International, which states on its website that “leading companies of the plant science industry have agreed to abide by provisions in the latest revision to the Code”,⁵⁵ civil society groups have recently made grave allegations regarding breaches of the Code by the pesticide industry. For example, a monitoring report

⁵² See, e.g., <https://www.epa.gov/endangered-species/endangered-species-litigation-and-associated-pesticide-limitations>.

⁵³ Case C-673/13 P, *Commission v. Stichting Greenpeace Nederland and Pesticide Action Network Europe*, judgment of 23 November 2016.

⁵⁴ See article 1.1.

⁵⁵ See <https://croplife.org/crop-protection/regulatory/product-management/international-code-of-conduct/>.

submitted by several non-governmental organizations to the FAO Panel of Experts on Pesticide Management alleges that Bayer CropScience and Syngenta are involved in the manufacturing, distribution and sale of highly hazardous pesticides in violation of the Code. According to the report, in 2014, in Punjab, India, the companies failed to adequately inform farmers about the dangers of their pesticides or the necessary safety measures.⁵⁶

63. Another non-binding policy framework is the Strategic Approach to International Chemicals Management, adopted by the International Conference on Chemicals Management, held in Dubai in 2006. The Dubai Declaration, which is part of the Strategic Approach, explicitly states the commitment to respect human rights. The International Conference also adopted a resolution in 2015 to encourage the use of alternatives to highly hazardous pesticides without, however, any specificity or obligation to phase them out any time in the future.⁵⁷

64. The Responsible Care Global Charter is also a voluntary initiative of the chemical industry that major agrochemical companies, but not all, have signed.⁵⁸

65. Conventions of the International Labour Organization on the protection of agricultural workers also provide some safeguards against dangerous pesticides. For example, article 12 of the Safety and Health in Agriculture Convention, 2001 (No. 184) is dedicated to the sound management of chemicals, while article 13 imposes regulatory obligations with regard to preventive and protective measures for the use of chemicals.

66. All major pesticide companies are members of the United Nations Global Compact, reporting yearly to the United Nations through the Global Reporting Initiative. While it is somewhat encouraging that they are willing to join corporate social responsibility schemes, such arrangements lack any enforcement or accountability measures and allow companies substantial freedom in choosing what they wish to adhere to.

67. Overall, while some of these initiatives have had some impact, the voluntary nature of soft law instruments clearly limits their effectiveness.

68. Meanwhile, the activities of certain non-governmental organizations have made a significant impact on recent policies. Pesticide Action Network International, for example, has developed a list of highly hazardous pesticides based on its own definition, which has been useful in advocacy efforts.⁵⁹ A recent civil society initiative, the International Monsanto Tribunal, held in The Hague in October 2016, dealt with human rights violations stemming from widely used hazardous pesticides. Eminent judges heard testimonies from victims and will deliver an opinion, following procedures similar to those at the International Court of Justice.⁶⁰ While these efforts are helpful to publicize the problem and help to develop laws in the future, they cannot provide remedy to victims.

⁵⁶ Ad hoc monitoring report by the European Center for Constitutional and Human Rights, Pesticide Action Network Asia and others, October 2015.

⁵⁷ See www.saicm.org/images/saicm_documents/iccm/ICCM4/Re-issued_mtg_report/K1606013_e.pdf.

⁵⁸ A list of company signatories to the 2014 Responsible Care Global Charter is available from https://www.icca-chem.org/wp-content/uploads/2016/05/2014-Global-Charter-Company-Signatory-List_April-5-2016.pdf.

⁵⁹ See <http://www.panna.org/issues/publication/pan-international-list-highly-hazardous-pesticides>.

⁶⁰ See <http://en.monsanto-tribunal.org/>.

IV. Challenges of the current pesticides regime

A. Divergent levels of protection at the national level

69. For the preparation of the present report, some Governments provided information on laws to regulate pesticide use and on authorization and testing requirements prior to registration as well as inspection and monitoring practices, including random sampling of agricultural products for residue levels and farm inspections. Training and awareness-raising initiatives for the general public, farmers, distributors and schoolchildren were also shared, as well as precautionary measures and labelling requirements. Finally, integrated pest management strategies and examples of practices promoting organic farming were provided.⁶¹

70. Countries have established significant national laws and practices in an effort to reduce pesticide harm; however, policies and levels of protection vary significantly. For instance, there are often serious shortcomings in national registration processes prior to the sale of pesticide products. It is very difficult to assess the risk of pesticides submitted for registration, particularly as toxicity studies often do not analyse the many chronic health-related effects. Further, reviews may not take place frequently enough and regulatory authorities may be under strong pressure from the industry to prevent or reverse bans on hazardous pesticides. Without standardized, stringent regulations on the production, sale and acceptable levels of pesticide use, the burden of the negative effects of pesticides is felt by agricultural workers, children, the poor and other vulnerable communities, especially in countries that have weaker regulatory and enforcement systems.

71. Many developing countries have shifted their agricultural policies from traditional food production for local consumption to export-oriented cash crops. Under strong pressure to maximize yields, farmers have become increasingly reliant on chemical pesticides. Yet the steep rise in the use of pesticides has not always been accompanied by necessary safeguards to control their application. Approximately 25 per cent of developing countries lack effective laws on distribution and use, while about 80 per cent lack sufficient resources to enforce existing pesticide-related laws.⁶²

72. Most countries maintain a threshold maximum residue level, indicating the highest level of pesticide considered to be safe for consumption. Monitoring those levels can help protect consumers and incentivize farmers to minimize the use of pesticides. However, capacity for inspection is often lacking, or adequate systems are not in place to measure or enforce maximum residue levels. Moreover, as maximum residue levels are not uniform, food products banned in one country may still be permitted entry in countries that allow higher levels. Similarly, while foods produced locally containing high pesticide residue levels may not be permitted for export owing to stricter regulations abroad, they may still be sold domestically.

73. Lack of harmonized standards also results in more toxic, and even banned, pesticides being used extensively in developing countries because they are cheaper alternatives. In many cases, highly hazardous pesticides that are not or no longer permitted for use in industrialized countries are exported to developing countries. Some pesticide companies fail to register or reregister products intended for export to developing countries, or increase exports of products that have been banned or restricted to use up existing stocks,

⁶¹ See the responses to the questionnaire on pesticides and the right to food.

⁶² Donald J. Ecobichon, "Pesticide use in developing countries", *Toxicology*, vol. 160, Nos. 1-3 (2001), pp. 27-33.

fully aware that they would not be authorized for sale in the country where the company is based.⁶³ To subject individuals of other nations to toxins known to cause major health damage or fatality is a clear human rights violation.

74. Finally, international trade deals threaten to lower standards of protection from toxic pesticides while increasing the risk of harm to the environment and to citizens. The European Parliament has expressed concern that regulatory convergence through the Transatlantic Trade and Investment Partnership risks aligning common standards at the lowest common denominator. The Parliament further contends that the pesticides industry consistently considers protective regulations as “trade irritants” that obstruct trade.⁶⁴

B. Other challenges

75. In addition to the legal gaps and dual standards noted above, there are other challenges derived from excessive or inaccurate use of pesticides, accidents, and dissemination of misinformation and misconceptions by producers.

Personal protective equipment and labels

76. Pesticide companies and Governments often argue that exposure risk to pesticides is generally low if personal protective equipment is properly used. Yet in reality, compliance with recommended personal protective equipment practices is generally low, for a number of reasons.

77. Personal protective equipment may be unsuitable for local working conditions, for example extreme heat and humidity, steep terrain and thick vegetation. Other factors may include pressure to work as fast as possible, lack of training on the health risks of exposure or trainings conducted in non-native languages, coupled with high turnover of workers.

78. Warning labels on pesticides may also be ineffective owing to the small size of print used on container labels, failure to translate instructions into local languages and low literacy rates among pesticide users. While pictograms and other creative labelling tactics may try to address some of these problems, without training, agricultural workers may still have difficulty deciphering colour codes or warning symbols.

79. The repackaging of pesticides into smaller amounts for retail is also of grave concern. Pesticides are often transferred from labelled containers that meet safety standards into unlabelled, mislabelled or inappropriate containers, such as old water bottles, to be sold alongside foodstuffs.

80. The industry frequently uses the term “intentional misuse” to shift the blame onto the user for the avoidable impacts of hazardous pesticides. Yet clearly, the responsibility for protecting users and others throughout the pesticide life cycle and throughout the retail chain lies with the pesticide manufacturer. This is reflected, for example, in the Guiding Principles on Business and Human Rights on “business relationships”, which set a precedent by requiring businesses to have producer responsibility for certain products even

⁶³ For example, paraquat has been banned in Switzerland and Europe for years. However, Syngenta, based in Switzerland, continues to distribute the product overseas. In the United States, the Environmental Protection Agency restricts but does not prohibit the export of unapproved or unregistered pesticides to third countries. See Paulo Prada, “Paraquat: a controversial chemical’s second act”, Reuters, 2 April 2015.

⁶⁴ Erica Smith, David Azoulay and Baskut Tuncak, *Lowest Common Denominator: How the Proposed EU-US Trade Deal Threatens to Lower Standards of Protection from Toxic Pesticides* (Centre for International Environmental Law, 2015), pp. 2-3.

after they are sold. It is imperative that such responsibility be extended to pesticide producers.

Managing the complete life cycle of pesticide impacts

81. From the production of pesticides to their disposal, the impacts of pesticides go beyond their application to crops and exposure through food and water.

82. One of the most catastrophic incidents involving pesticides occurred in 1984 in Bhopal, India, where approximately 45 tons of methyl isocyanate gas leaked from a Union Carbide plant as a result of negligence, immediately killing thousands of people and resulting in serious health issues and premature deaths for tens of thousands living in the vicinity. Epidemiological studies conducted soon after the accident showed significant increases in pregnancy loss, infant mortality, decreased fetal weight, chromosomal abnormalities, impaired associate learning and respiratory illnesses.⁶⁵

83. The tragedy led to the worldwide development of major reforms, including the above-mentioned Responsible Care initiative. Such initiatives, however, have not succeeded in halting continued disasters related to the manufacture of pesticides worldwide.

84. Pesticide waste is also a major challenge. There are thousands of tonnes of obsolete pesticides around the world, some of which are nearly 30 years old, presenting a major health hazard, particularly in developing countries.⁶⁶ Existing data indicate that more than 20 per cent of obsolete pesticide stockpiles consist of persistent organic pollutants, which are highly toxic and made up of organic compounds that are resistant to environmental degradation.

85. Unused pesticides may accumulate and deteriorate for a variety of reasons. For example, purchased or donated pesticides may be unsuitable to local conditions or quantities received may exceed demand. This can occur because of pressure from agrochemical industries and corruption, leading to more pesticides being procured than needed. Also, when pesticides are banned, managing existing stocks is a problem. According to FAO, “good practice requires regulatory authorities to allow a phase-out period when products are banned or restricted so that existing stocks can be used up before the restriction is fully applied”.⁶⁷ This is, of course, a highly problematic suggestion.

Pivotal role of the private sector

86. The oligopoly of the chemical industry has enormous power. Recent mergers have resulted in just three powerful corporations: Monsanto and Bayer, Dow and Dupont, and Syngenta and ChemChina. They control more than 65 per cent of global pesticide sales. Serious conflicts of interest issues arise, as they also control almost 61 per cent of commercial seed sales. The pesticide industry’s efforts to influence policymakers and regulators have obstructed reforms and paralysed global pesticide restrictions globally. When challenged, justifications for lobbying efforts include claims that companies comply with their own codes of conduct, or that they follow local laws.⁶⁸

87. Companies often contest scientific evidence of the hazards related to their products, with some even standing accused of deliberately manufacturing evidence to infuse scientific uncertainty and delay restrictions. There are also serious claims of scientists being

⁶⁵ Pesticide Action Network, response to the questionnaire on pesticides and the right to food.

⁶⁶ See <http://www.fao.org/agriculture/crops/obsolete-pesticides/where-stocks/en/>.

⁶⁷ See <http://www.fao.org/agriculture/crops/obsolete-pesticides/why-problem/pesticide-bans/en/>.

⁶⁸ Kari Hamerschlag, Anna Lappé and Stacy Malkan, *Spinning Food: How Food Industry Front Groups and Covert Communications are Shaping the Story of Food* (Friends of the Earth, 2015).

“bought” to restate industry talking points. Other egregious practices include infiltrating federal regulatory agencies via the “revolving door”, with employees shifting between regulatory agencies and the pesticide industry. Pesticide manufacturers also cultivate strategic “public-private” partnerships that call into question their culpability or help bolster the companies’ credibility. Companies also consistently donate to educational institutions that conduct research on pesticides, and such institutions are becoming dependent on industry owing to shrinking public funding.

88. Industry has also sought to dissuade Governments from restricting pesticide use to save pollinators. In Europe, a campaign was mounted preceding the decision by the European Union in 2013 to ban neonicotinoids. The chemical industry, allegedly with support from the Government of the United Kingdom, publicly contested findings of the European Food Safety Authority about the unacceptable risk of neonicotinoids to bees. Syngenta reportedly even threatened to sue individual European Union officials involved in publishing the Authority’s report.⁶⁹ Bayer and Syngenta are still refusing to disclose their own studies that demonstrated the harmful effects of their pesticides on honeybees at high doses.⁷⁰

89. Scientists who uncover health and environmental risks to the detriment of corporate interests may face grave threats to their reputations, and even to themselves. One of the most prominent examples are the actions of Novartis (later Syngenta), producer of atrazine, which engaged in a campaign to discredit scientists whose studies suggested adverse health and environmental impacts of this pesticide.⁷¹ Despite their efforts, subsequent research by scientists largely validated the original findings.⁷² In 2012, Syngenta settled a class action lawsuit brought by 20 water utility companies, paying \$105 million to cover the costs of atrazine removal from affected water supplies.

V. Alternative to extensive use of pesticides: agroecology

90. Today, hazardous pesticides are in excessive use, inflicting damage on human health and ecosystems around the world, and their use is poised to increase in the coming years. Safer practices exist and can be developed further to minimize the impacts of such excessive, in some cases unnecessary, use of pesticides that violate a number of human rights. A rise in organic agricultural practices in many places illustrates that farming with less or without any pesticides is feasible. Studies have indicated that agroecology is capable of delivering sufficient yields to feed the entire world population and ensure that they are adequately nourished.⁷³

91. The assertion promoted by the agrochemical industry that pesticides are necessary to achieve food security is not only inaccurate, but dangerously misleading. In principle, there is adequate food to feed the world; inequitable production and distribution systems present major blockages that prevent those in need from accessing it. Ironically, many of those who are food insecure are in fact subsistence farmers engaged in agricultural work, particularly in lower-income countries.

⁶⁹ Damian Carrington, “Insecticide firms in secret bid to stop ban that could save bees”, *Guardian*, 27 April 2013.

⁷⁰ See <https://www.euractiv.com/section/agriculture-food/news/pesticide-manufacturers-own-tests-reveal-serious-harm-to-honeybees/>.

⁷¹ Rachel Aviv, “A valuable reputation”, *The New Yorker*, 10 February 2014.

⁷² Thomas O. McGarity and Wendy Elizabeth Wagner, *Bending Science: How Special Interests Corrupt Public Health Research* (Harvard University Press, 2012).

⁷³ International Assessment of Agricultural Knowledge, Science and Technology for Development, *Agriculture at a Crossroads*.

92. Agroecology, considered by many as the foundation of sustainable agriculture, replaces chemicals with biology. It is the integrative study of the ecology of the entire food system, encompassing ecological, economic and social dimensions.⁷⁴ It promotes agricultural practices that are adapted to local environments and stimulate beneficial biological interactions between different plants and species to build long-term fertility and soil health.⁷⁵

93. The amount of pesticides needed to protect crops depends on the robustness of the farming system. If crops are cultivated in unsuitable locations, they tend to be more susceptible to pests and diseases. Over the past decades, diversity in farming systems has been greatly reduced in terms of crops and varieties grown in natural habitats. The result is a loss of ecosystem services like natural pest control through predators and a loss of soil fertility. Rather than encouraging resistance, crop breeding in industrial agriculture has focused on high-yielding varieties that respond well to chemical inputs but that are more susceptible to pests and diseases. As most seed companies are now owned by agrochemical companies, there is limited interest in developing robust varieties. In order to succeed with pesticide reduction, it is essential to reintroduce diversity into agriculture and move away from monocultures of single varieties.⁷⁶

94. In ecological farming, crops are protected from pest damage by enhancing biodiversity and encouraging the presence of natural enemies of pests. Examples include developing habitats around farms to support natural enemies and other beneficial wildlife or applying functional agrobiodiversity, using scientific strategies to increase natural enemy populations. Crop rotation and usage of cover crops also help protect the soil from various pathogens, suppress weeds and increase organic content, while more resistant crop varieties can help prevent plant disease.⁷⁷

95. Agroecological farming can help secure livelihoods for smallholder farmers and those living in poverty, including women, because there is no heavy reliance on expensive external inputs. If properly managed, biodiversity and efficient use of resources can enable smallholder farms to be more productive per hectare than large industrial farms (A/HRC/16/49).

Measuring success

96. Despite their widespread use, chemical pesticides have not achieved reduction in crop losses in the last 40 years.⁷⁸ This has been attributed to their indiscriminate and non-selective use, killing not only pests but also their natural enemies and insect pollinators. Efficacy of chemical pesticides is also greatly reduced owing to pesticide resistance over time.

97. Such resistance is particularly likely and rapid in monoculture of genetically engineered crops. As a result, genetically engineered crops may create a cycle of entrapment for farmers, with herbicide-tolerant crops eventually requiring more herbicides to fight pest resistance. Farmers using genetically engineered seed are obliged to buy the

⁷⁴ International Foundation for Organic Agriculture, Organics International, Biovision and Millennium Institute, "Agroecology", briefing note, 11 July 2015.

⁷⁵ International Panel of Experts on Sustainable Food Systems, *From Uniformity to Diversity*; Meriel Watts and Stephanie Williamson, *Replacing Chemicals with Biology: Phasing Out Highly Hazardous Pesticides with Agroecology* (Pesticide Action Network Asia and the Pacific, 2015).

⁷⁶ HELVETAS Swiss Intercooperation, response to the questionnaire on pesticides and the right to food.

⁷⁷ Allsopp, *Plan Bee*, pp. 39-51.

⁷⁸ E.C. Oerke, "Crop losses due to pests", *Journal of Agricultural Science*, vol. 144, No. 1 (February 2006).

pesticides that go along with it, benefiting the pesticide industry without considering the economic burden on farmers or the cost to the environment.⁷⁹ Farmers' right to assess technologies such as genetically engineered crops and weigh these in the light of other possible alternatives has also been ignored under the assumptions of conventional economics.⁸⁰ Indeed some argue that the development of alternatives has been undermined by the emphasis on investment in genetically engineered technologies.⁸¹

98. Replacing highly hazardous pesticides with less hazardous pesticides is necessary and overdue but not a sustainable solution, as many pesticides initially considered relatively "benign" are later found to pose very serious health and environmental risks.

99. Measuring the success of agroecology in comparison with industrial agricultural systems requires further research. Studies using short time frames and focusing on individual crop yields underestimate the potential long-term productivity of agroecological systems. Comparative studies are increasingly showing that diversified systems are advantageous and even more profitable when looking at total outputs, rather than specific crop yields. Aiming to build balanced and sustainable agroecosystems, agroecology is more likely to produce constant yields in the longer term owing to their greater ability to withstand climate variations and naturally resist pests.⁸²

100. Success must be calculated in terms other than economic profitability, and take into consideration the costs of pesticides on human health, the economy and the environment. Agroecology prevents direct exposure to toxic pesticides and helps improve air, soil, surface water and groundwater quality.⁸³ Less energy intensive, agroecology can also help mitigate the effects of climate change by reducing emissions of greenhouse gasses and by providing carbon sinks.

VI. Conclusions and recommendations

A. Conclusions

101. **While the present report has illustrated that there is no shortage of international and national legislation, as well as non-binding guidelines, such instruments are failing to protect humans and the environment from hazardous pesticides. These instruments suffer from implementation, enforcement and coverage gaps, and generally fail to effectively apply the precautionary principle or meaningfully alter many business practices. Existing instruments are particularly ineffective in addressing the cross-border nature of the global pesticide market, as proven by the widespread and often legally permitted practices of exporting banned highly hazardous pesticides to third countries. These gaps and inadequacies should be confronted on the basis of human rights mechanisms.**

102. **International human rights law sets forth comprehensive State obligations to respect, protect and fulfil human rights. In particular, the rights to adequate food and**

⁷⁹ International Panel of Experts on Sustainable Food Systems, *From Uniformity to Diversity*, p. 16.

⁸⁰ Daniela Soleri and others, "Testing economic assumptions underlying research on transgenic food crops for third world farmers: evidence from Cuba, Guatemala and Mexico", *Ecological Economics*, vol. 67, No. 4 (1 November 2008), pp. 667-682.

⁸¹ Oye Ka and others, "Biotechnology: regulating gene drives", *Science*, vol. 345, No. 6197 (8 August 2014).

⁸² International Panel of Experts on Sustainable Food Systems, *From Uniformity to Diversity*, pp. 31-37.

⁸³ International Foundation for Organic Agriculture, "Agroecology".

to health provide clear protections for all people against excessive or inappropriate use of pesticides. Taking a human rights approach to pesticides guarantees the principles of universality and non-discrimination, under which human rights are guaranteed for all persons, including vulnerable groups, who disproportionately feel the burden of hazardous pesticides.

103. Implementing the right to adequate food and health requires proactive measures to eliminate harmful pesticides. Corporations have the responsibility to ensure that the chemicals they produce and sell do not pose threats to these rights. There continues to be a general lack of awareness of the dangers posed by certain pesticides, a condition exacerbated by industry efforts to downplay the harm being done as well as complacent Governments that often make misleading assertions that existing legislation and regulatory frameworks provide sufficient protection.

104. While efforts to ban and appropriately regulate the use of pesticides are a necessary step in the right direction, the most effective, long-term method to reduce exposure to these toxic chemicals is to move away from industrial agriculture.

105. In the words of the Director-General of FAO, we have reached a turning point in agriculture. Today's dominant agricultural model is highly problematic, not only because of damage inflicted by pesticides, but also their effects on climate change, loss of biodiversity and inability to ensure food sovereignty. These issues are intimately interlinked and must be addressed together to ensure that the right to food is achieved to its full potential. Efforts to tackle hazardous pesticides will only be successful if they address the ecological, economic and social factors that are embedded in agricultural policies, as articulated in the Sustainable Development Goals. Political will is needed to re-evaluate and challenge the vested interests, incentives and power relations that keep industrial agrochemical-dependent farming in place.⁸⁴ Agricultural policies, trade systems and corporate influence over public policy must all be challenged if we are to move away from pesticide-reliant industrial food systems.

B. Recommendations

106. The international community must work on a comprehensive, binding treaty to regulate hazardous pesticides throughout their life cycle, taking into account human rights principles. Such an instrument should:

- (a) Aim to remove existing double standards among countries that are particularly detrimental to countries with weaker regulatory systems;
- (b) Generate policies to reduce pesticide use worldwide and develop a framework for the banning and phasing-out of highly hazardous pesticides;
- (c) Promote agroecology;
- (d) Place strict liability on pesticide producers.

107. States should:

- (a) Develop comprehensive national action plans that include incentives to support alternatives to hazardous pesticides, as well as initiate binding and measurable reduction targets with time limits;

⁸⁴ International Panel of Experts on Sustainable Food Systems, *From Uniformity to Diversity*, p. 6.

-
- (b) Establish systems to enable various national agencies responsible for agriculture, public health and the environment to cooperate efficiently to address the adverse impact of pesticides and to mitigate risks related to their misuse and overuse;
- (c) Establish impartial and independent risk-assessment and registration processes for pesticides, with full disclosure requirements from the producer. Such processes must be based on the precautionary principle, taking into account the hazardous effects of pesticide products on human health and the environment;
- (d) Consider non-chemical alternatives first, and only allow chemicals to be registered where need can be demonstrated;
- (e) Enact safety measures to ensure adequate protections for pregnant women, children and other groups who are particularly susceptible to pesticide exposure;
- (f) Fund comprehensive scientific studies on the potential health effects of pesticides, including exposure to a mixture of chemicals as well as multiple exposures over time;
- (g) Guarantee rigorous and regular analysis of food and beverages to determine levels of hazardous residues, including in infant formula and follow-on foods, and make such information accessible to the public;
- (h) Closely monitor agricultural pesticide use and storage to minimize risks and ensure that only those with the requisite training are permitted to apply such products, and that they do so according to instructions and using appropriate protective equipment;
- (i) Create buffer zones around plantations and farms until pesticides are phased out, to reduce pesticide exposure risk;
- (j) Organize training programmes for farmers to raise awareness of the harmful effects of hazardous pesticides and of alternative methods;
- (k) Take necessary measures to safeguard the public's right to information, including enforcing requirements to indicate the type of pesticides used and level of residues on the labels of food and drink products;
- (l) Regulate corporations to respect human rights and avoid environmental damage during the entire life cycle of pesticides;
- (m) Impose penalties on companies that fabricate evidence and disseminate misinformation on the health and environmental risks of their products;
- (n) Monitor corporations to ensure that labelling, safety precautions and training standards are respected;
- (o) Encourage farmers to adopt agroecological practices to enhance biodiversity and naturally suppress pests, and to adopt measures such as crop rotation, soil fertility management and crop selection appropriate for local conditions;
- (p) Provide incentives for organically produced food through subsidies and financial and technical assistance, as well as by using public procurement;
- (q) Encourage the pesticide industry to develop alternative pest management approaches;
- (r) Eliminate pesticide subsidies and instead initiate pesticide taxes, import tariffs and pesticide-use fees.

108. Civil society should inform the general public about adverse impact of pesticides on human health and environmental damage, as well as organizing training programmes on agroecology.

Chamberlain, Anne

From: Pesticides
Sent: Monday, March 20, 2017 10:21 AM
To: Chamberlain, Anne
Subject: FW: NY Times article on Monsanto and Roundup

From: Paul
Sent: Monday, March 20, 2017 10:10 AM
To: Pesticides
Subject: NY Times article on Monsanto and Roundup

Please add this article to the next BPC meeting agenda and Board packet.

https://mobile.nytimes.com/2017/03/14/business/monsanto-roundup-safety-lawsuit.html?_r=2&referer=

Thank you,

Paul Schlein
Arrowsic, Maine

Monsanto Weed Killer Roundup Faces New Doubts on Safety in Unsealed Documents



354



A scanning machine illuminating a bottle of Roundup, a weed killer, as it moved along a production line at a facility in Antwerp, Belgium, owned by Monsanto.

JASPER JUINEN / BLOOMBERG

By DANNY HAKIM

MARCH 14, 2017

The reputation of Roundup, whose active ingredient is the world's most widely used weed killer, took a hit on Tuesday when a federal court unsealed documents raising questions about its safety and the research practices of its manufacturer, the chemical giant [Monsanto](#).

Roundup and similar products are used around the world on everything from row crops to home gardens. It is Monsanto's flagship product, and industry-funded research has long found it to be relatively safe. A case in federal court in San

Francisco has challenged that conclusion, building on the findings of an international panel that claimed Roundup's main ingredient might cause cancer.

The court documents included Monsanto's internal emails and email traffic between the company and federal regulators. The records suggested that Monsanto had ghostwritten research that was later attributed to academics and indicated that a senior official at the [Environmental Protection Agency](#) had worked to quash a review of Roundup's main ingredient, glyphosate, that was to have been conducted by the United States Department of Health and Human Services.

The documents also revealed that there was some disagreement within the E.P.A. over its own safety assessment.

The files were unsealed by Judge Vince Chhabria, who is presiding over litigation brought by people who claim to have developed non-Hodgkin's lymphoma as a result of exposure to glyphosate. The litigation was touched off by a [determination](#) made nearly two years ago by the International Agency for Research on Cancer, a branch of the World Health Organization, that glyphosate was a probable carcinogen, citing research linking it to non-Hodgkin's lymphoma.

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Court records show that Monsanto was tipped off to the determination by a deputy division director at the E.P.A., Jess Rowland, months beforehand. That led the company to prepare a public relations assault on the finding well in advance of its publication. Monsanto executives, in their internal email traffic, also said Mr. Rowland had promised to beat back an effort by the Department of Health and Human Services to conduct its own review.

Dan Jenkins, a Monsanto executive, said in an email in 2015 that Mr. Rowland, referring to the other agency's potential review, had told him, "If I can kill this, I should get a medal." The review never took place. In another email, Mr. Jenkins

noted to a colleague that Mr. Rowland was planning to retire and said he “could be useful as we move forward with ongoing glyphosate defense.”

The safety of glyphosate is not settled science. A number of agencies, including the [European Food Safety Agency](#) and [the E.P.A.](#), have disagreed with the international cancer agency, playing down concerns of a cancer risk, and Monsanto has vigorously defended glyphosate.

But the court records also reveal a level of debate within the E.P.A. The agency’s Office of Research and Development raised some concern about the robustness of an assessment carried out by the agency’s Office of Pesticide Programs, where Mr. Rowland was a senior official at the time, and recommended in December 2015 that it take steps to “strengthen” its “human health assessment.”

In a statement, Monsanto said, “Glyphosate is not a carcinogen.”

It added: “The allegation that glyphosate can cause cancer in humans is inconsistent with decades of comprehensive safety reviews by the leading regulatory authorities around the world. The plaintiffs have submitted isolated documents that are taken out of context.”

The E.P.A. had no immediate comment, and Mr. Rowland could not be reached immediately.

Monsanto also rebutted suggestions that the disclosures highlighted concerns that the academic research it underwrites is compromised. Monsanto frequently cites such research to back up its safety claims on Roundup and pesticides.

In one email unsealed Tuesday, William F. Heydens, a Monsanto executive, told other company officials that they could ghostwrite research on glyphosate by hiring academics to put their names on papers that were actually written by Monsanto. “We would be keeping the cost down by us doing the writing and they would just edit & sign their names so to speak,” Mr. Heydens wrote, citing a previous instance in which he said the company had done this.

Asked about the exchange, Monsanto said in a second statement that its “scientists did not ghostwrite the paper” that was referred to or previous work, adding that a paper that eventually appeared “underwent the journal’s rigorous peer review process before it was published.”

David Kirkland, one of the scientists mentioned in the email, said in an interview, “I would not publish a document that had been written by someone else.” He added, “We had no interaction with Monsanto at all during the process of reviewing the data and writing the papers.”

The disclosures are the latest to raise concerns about the integrity of academic



[findings](#). Declarations of interest included in a Monsanto-financed paper on glyphosate that appeared in the journal *Critical Reviews in Toxicology* said panel members were recruited by a consulting firm. Email traffic made public shows that Monsanto officials discussed and debated scientists who should be considered, and shaped the project.

“I think it’s important that people hold Monsanto accountable when they say one thing and it’s completely contradicted by very frank internal documents,” said Timothy Litzenburg of the Miller Firm, one of the law firms handling the litigation.

The issue of glyphosate’s safety is not a trivial one for Americans. Over the last two decades, Monsanto has genetically re-engineered corn, soybeans and cotton so it is much easier to spray them with the weed killer, and some 220 million pounds of glyphosate were used in 2015 in the United States.

“People should know that there are superb scientists in the world who would disagree with Monsanto and some of the regulatory agencies’ evaluations, and even E.P.A. has disagreement within the agency,” said Robin Greenwald, a lawyer at Weitz & Luxenberg, which is also involved in the litigation. “Even in the E.U., there’s been a lot of disagreement among the countries. It’s not so simple as Monsanto makes it out to be.”

Correction: March 18, 2017

An article on Wednesday about documents unsealed in a case over exposure to glyphosate, a crucial ingredient in the weed killer Roundup, misspelled part of the name of a law firm involved in the litigation. It is Weitz & Luxenberg, not Luxembourg.

354 COMMENTS »

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From: jody spear
Sent: Saturday, March 11, 2017 11:26 AM
To: Paul Schlein; Avery Yale Kamila
Cc: Pesticides
Subject: Re: correction and additional material for UN Pesticides Report for Discussion at Next BPC Meeting

Thanks for this, Paul.

The Portland Protectors fb posting on this includes a related story on neonic use reducing crop yields because it kills predator beetles that eat plant-damaging slugs. It's a Penn State study published in Dec. 2014, which makes me wonder if research sent to pcb is indexed in a way that would allow us to look it up on line. I try to feed the board current information and would like them to have this study if they don't already.

There's something wrong with the second link for the "report" you sent. You might see if it can be fixed.

Jody



128th MAINE LEGISLATURE

FIRST REGULAR SESSION-2017

Legislative Document

No. 993

H.P. 694

House of Representatives, March 14, 2017

An Act To Protect Pollinators from Neonicotinoid Pesticides

Reference to the Committee on Agriculture, Conservation and Forestry suggested and ordered printed.

A handwritten signature in cursive script that reads "R B. Hunt".

ROBERT B. HUNT
Clerk

Presented by Representative DEVIN of Newcastle.

1 **Be it enacted by the People of the State of Maine as follows:**

2 **Sec. 1. 7 MRSA c. 419** is enacted to read:

3 **CHAPTER 419**

4 **NEONICOTINOID PESTICIDES**

5 **§2471. Definitions**

6 As used in this chapter, unless the context otherwise indicates, the following terms
7 have the following meanings.

8 **1. Certified applicator.** "Certified applicator" has the same meaning as in Title 22,
9 section 1471-C, subsection 4.

10 **2. Licensed veterinarian.** "Licensed veterinarian" has the same meaning as in Title
11 32, section 4853, subsection 5.

12 **3. Neonicotinoid pesticide.** "Neonicotinoid pesticide" means any pesticide
13 containing a chemical belonging to the neonicotinoid class of chemicals, including
14 imidacloprid, nithiazine, acetamiprid, clothianidin, dinotefuran, thiacloprid,
15 thiamethoxam and any other chemical designated by the commissioner by rule as
16 belonging to the neonicotinoid class of chemicals.

17 **4. Nursery stock.** "Nursery stock" means any of the following:

18 A. A hardy plant, whether cultivated, native or wild, that is capable of surviving a
19 Maine winter, including, but not limited to, a deciduous tree, evergreen tree, shrub or
20 woody vine, and all viable parts of that plant;

21 B. A nonhardy plant that is cultivated in the State for distribution in another state that
22 requires plant inspection and certification before entering that other state, and all
23 viable parts of that plant; or

24 C. Any other plant for which, as determined by the commissioner, regulation of the
25 movement of the plant is necessary to control a dangerous plant pest.

26 **5. Plant pest.** "Plant pest" has the same meaning as in section 2211, subsection 6.

27 **6. Restricted use pesticide.** "Restricted use pesticide" has the same meaning as in
28 Title 22, section 1471-C, subsection 23.

29 **§2472. Labeling**

30 A person may not sell at retail in the State any seed, plant material, nursery stock,
31 annual plant, bedding plant or other plant that has been treated with a neonicotinoid
32 pesticide unless the seed, plant material, nursery stock, annual plant, bedding plant or
33 other plant bears a label, or is placed within the retail location in close proximity to a
34 prominently displayed sign, that includes the following statement:



128th MAINE LEGISLATURE

FIRST REGULAR SESSION-2017

Legislative Document

No. 594

S.P. 209

In Senate, February 16, 2017

An Act To Modify the Definition of "General Use Pesticide"

Reference to the Committee on Agriculture, Conservation and Forestry suggested and ordered printed.

A handwritten signature in cursive script that reads "Heather J.R. Priest".

HEATHER J.R. PRIEST
Secretary of the Senate

Presented by Senator SAVIELLO of Franklin.
Cosponsored by Representative TIMBERLAKE of Turner.

1 **Be it enacted by the People of the State of Maine as follows:**

2 **Sec. 1. 22 MRSA §1471-C, sub-§11-B**, as enacted by PL 1987, c. 723, §2, is
3 amended to read:

4 **11-B. General use pesticide.** "General use pesticide" means any pesticide ~~which~~
5 ~~has been registered by the United States Environmental Protection Agency as evidenced~~
6 ~~by a registration number on the label that is required to be registered by the board~~
7 ~~pursuant to Title 7, chapter 103, subchapter 2-A and which that is not a restricted use or~~
8 ~~limited use pesticide, as defined in this section. Pesticides restricted by the United States~~
9 ~~Environmental Protection Agency are so identified on the label. Pesticides restricted or~~
10 ~~limited by the Board of Pesticides Control board~~ are listed by the board.

11 **SUMMARY**

12 This bill amends the definition of "general use pesticide" in the laws governing the
13 Department of Agriculture, Conservation and Forestry, Board of Pesticides Control by
14 removing reference to pesticides registered by the United States Environmental
15 Protection Agency and adding reference to pesticides registered by the board.



128th MAINE LEGISLATURE

FIRST REGULAR SESSION-2017

Legislative Document

No. 699

H.P. 490

House of Representatives, February 28, 2017

An Act To Enact the Toxic Chemicals in the Workplace Act

Reference to the Committee on Labor, Commerce, Research and Economic Development suggested and ordered printed.

A handwritten signature in cursive script that reads "Robert B. Hunt".

ROBERT B. HUNT
Clerk

Presented by Representative COLLINGS of Portland.
Cosponsored by Senator GRATWICK of Penobscot and
Representatives: ALLEY of Beals, BATES of Westbrook, FECTION of Biddeford, HERBIG
of Belfast, MASTRACCIO of Sanford, Senators: CARSON of Cumberland, CHIPMAN of
Cumberland.

1 **Be it enacted by the People of the State of Maine as follows:**

2 **Sec. 1. 26 MRSA c. 23** is enacted to read:

3 **CHAPTER 23**

4 **TOXIC CHEMICALS IN THE WORKPLACE ACT**

5 **§1731. Short title**

6 This chapter may be known and cited as "the Toxic Chemicals in the Workplace
7 Act."

8 **§1732. Definitions**

9 As used in this chapter, unless the context otherwise indicates, the following terms
10 have the following meanings.

11 **1. Affected employee.** "Affected employee" means an employee who in the course
12 of employment works with, is in close contact with or otherwise has the potential to be
13 exposed to a highly toxic chemical.

14 **2. Alternative.** "Alternative" means a substitute process, product, material,
15 chemical, strategy or combination of these that serves a functionally equivalent purpose
16 to a chemical or chemicals used in the workplace.

17 **3. Alternative chemical work plan.** "Alternative chemical work plan" or "plan"
18 means a plan developed under section 1734.

19 **4. Authoritative bodies.** "Authoritative bodies" means the United States
20 Department of Health and Human Services, National Toxicology Program, Food and
21 Drug Administration and Centers for Disease Control and Prevention; the United States
22 Environmental Protection Agency; the World Health Organization; and the European
23 Union, European Chemicals Agency.

24 **5. Chemical.** "Chemical" means any substance or mixture of substances and may be
25 a substance with a distinct molecular composition or a group of structurally related
26 substances and includes the breakdown products of the substance or substances that form
27 through decomposition, degradation, metabolism or other chemical process.

28 **6. Credible scientific evidence.** "Credible scientific evidence" means the results of
29 a study, the experimental design and conduct of which have undergone independent
30 scientific peer review, that are published in a peer-reviewed journal or publication of an
31 authoritative federal or international governmental agency, including, but not limited to,
32 the authoritative bodies.

33 **7. Department.** "Department" means the Department of Labor.

1 **8. Employee.** "Employee" means a current employee, a former employee or a
2 person who may be permitted, required or directed by an employer in consideration of
3 direct or indirect gain or profit to engage in any employment activities.

4 **9. Employer.** "Employer" means an individual, partnership, association,
5 corporation, legal representative, trustee in bankruptcy or any common carrier by rail,
6 motor, water or air or express company doing business or operating within the State:

7 A. That is engaged in the manufacture within the State of products for sale or
8 distribution in the State, nationally or internationally;

9 B. That is engaged in any employment activities within the State involving the use or
10 storage in the workplace of methylene chloride or perchloroethylene;

11 C. That is engaged in any employment activities within the State involving the use or
12 handling of chemicals by employees in the workplace or involving chemicals that are
13 stored, generated, located or otherwise present in the workplace; or

14 D. That is engaged in any employment activities within the State that include a
15 workplace constructed of materials, and equipment in and around the workplace, that
16 under normal conditions of use, construction or repair release a highly toxic chemical
17 that poses a health risk to employees.

18 **10. Highly toxic chemical.** "Highly toxic chemical" means a chemical that, as based
19 on credible scientific evidence, has a significant potential for harm to human health.

20 **11. Safer alternative.** "Safer alternative" means an alternative that, when compared
21 to a highly toxic chemical that it could replace, would reduce the potential for harm to
22 human health or that has not been shown to pose the same or greater potential harm to
23 human health as that highly toxic chemical.

24 **12. Transition team.** "Transition team" or "team" means the team designated by an
25 employer pursuant to section 1734.

26 **13. Workplace.** "Workplace" means any plant, yard, premises, room or other place
27 where an employee or employees are engaged in the performance of labor or service over
28 which the employer has the right of access or control.

29 **§1733. Designation of chemicals**

30 A chemical for which there is credible scientific evidence that the chemical is a
31 carcinogen, a mutagen, a reproductive toxin, a developmental toxin, an endocrine
32 disruptor or a neurotoxicant is designated a highly toxic chemical and is regulated by this
33 chapter.

34 **1. Consult material safety data sheets.** The employer shall consult material safety
35 data sheets under the United States Occupational Safety and Health Act of 1970 for a
36 chemical in the workplace to determine if the chemical is classified as a carcinogen, a
37 mutagen, a reproductive toxin, a developmental toxin, an endocrine disruptor or a
38 neurotoxicant and is a candidate for transitioning to a safer alternative.

1 **2. Consult databases of authoritative bodies.** The employer shall consult the
2 databases of authoritative bodies to determine if a chemical in the workplace is classified
3 as a carcinogen, a mutagen, a reproductive toxin, a developmental toxin, an endocrine
4 disruptor or a neurotoxicant and is a candidate for transitioning to a safer alternative.

5 **3. Department website.** The department shall publish and periodically update on its
6 publicly accessible website lists of online databases that identify highly toxic chemicals
7 subject to regulation under this chapter.

8 **§1734. Alternative chemical work plan; transition team**

9 As described in this section, an employer shall develop and implement a written
10 alternative chemical work plan and designate a transition team.

11 **1. Plan contents.** The plan must include a general description of the process the
12 employer intends to implement in transitioning from highly toxic chemicals in the
13 workplace to safer alternatives, describe the responsibilities of and tasks to be completed
14 by each team member and include any additional information as required by the
15 department by rule. If multiple chemicals are considered by the employer for transition
16 to safer alternatives, the employer may develop a separate plan for each chemical or may
17 address all chemicals in a single plan. The employer shall update the plan as necessary to
18 include additional information as required by sections 1735, 1736, 1737, 1738, 1739,
19 1741 and 1744.

20 **2. Transition team.** The employer shall select individuals to serve as the transition
21 team to assist in the development and implementation of the plan. Team members must
22 include:

23 A. The employer or a representative of the employer;

24 B. An employee or an employee representative; and

25 C. At least one affected employee. If multiple chemicals are considered for
26 transition in a single plan, an affected employee for each chemical must be included
27 on the team.

28 Additional team members may include managers, supply chain partners, customers,
29 marketers, health and safety committee members, safety engineers, industrial hygienists,
30 occupational health nurses or physicians and occupational health consultants.

31 **§1735. Identification of highly toxic chemicals**

32 The transition team described in section 1734, subsection 2 shall develop a written
33 inventory of all chemicals, both toxic and nontoxic, that are used by employees in the
34 workplace or that are stored, located or otherwise present in the workplace. For each
35 identified chemical, the transition team shall determine and record whether the chemical
36 is presently designated a highly toxic chemical as described in section 1733. Information
37 developed and collected under this section must be added to the alternative chemical
38 work plan.

1 **§1736. Transition priorities**

2 The transition team described in section 1734, subsection 2 shall develop a priority
3 ranking of all highly toxic chemicals identified under section 1735 for use in determining
4 priority for transition to safer alternatives. The transition team may consider other
5 chemicals, both toxic and nontoxic, in a separate priority ranking. In developing a
6 priority ranking, the transition team shall, at a minimum, consider for each highly toxic
7 chemical:

8 **1. Exposure potential.** The frequency with which employees are exposed to the
9 highly toxic chemical or the likelihood of potential employee exposure to the highly toxic
10 chemical;

11 **2. Associated harms.** The potential harms associated with the highly toxic chemical
12 as based on information available to the employer; and

13 **3. Alternatives analysis.** An analysis of the anticipated difficulty of transitioning to
14 a safer alternative, both from a technical and from a financial perspective, as determined
15 under section 1737.

16 Information developed and collected under this section must be added to the
17 alternative chemical work plan.

18 **§1737. Alternatives analysis**

19 For each highly toxic chemical identified under section 1735, the transition team shall
20 develop an alternatives analysis that must:

21 **1. Alternatives.** Identify all alternatives that can potentially and reasonably be
22 substituted in place of the highly toxic chemical. The employer shall contact chemical
23 suppliers and manufacturers for possible safer alternatives;

24 **2. Effects.** Evaluate the potential effects of transitioning to each alternative,
25 including, but not limited to, effects on energy use, water use, the environment and
26 employee health and safety;

27 **3. Harms.** Describe any potential harms associated with the alternative; and

28 **4. Costs.** Provide a detailed financial analysis of the potential short-term and long-
29 term costs of substituting each alternative for a highly toxic chemical.

30 The transition team shall review the analysis developed under this section and the
31 priority ranking developed under section 1736 and shall determine the highly toxic
32 chemicals identified under section 1735 for which safer alternatives will be tested and
33 evaluated for transition under section 1738. Information developed and collected under
34 this section must be added to the alternative chemical work plan.

35 **§1738. Testing, evaluation and implementation of safer alternative**

36 **1. Develop testing process.** After review of all information generated or collected
37 under sections 1736 and 1737, the transition team shall, for each highly toxic chemical,

1 determine whether to proceed with testing and evaluation of an alternative that the
2 transition team determines to be a safer alternative. The transition team shall develop and
3 implement a process for testing and evaluating the feasibility of transition to a safer
4 alternative.

5 **2. Transition.** If, after testing and evaluation of the safer alternative pursuant to
6 subsection 1, the transition team elects to proceed with transition on a permanent basis,
7 the transition team shall develop and recommend a process for implementing a permanent
8 transition to the safer alternative.

9 **3. Permanent transition.** If the transition team recommends permanent transition
10 pursuant to subsection 2 to the safer alternative and the safer alternative analysis under
11 sections 1736 and 1737 and the testing and evaluation under subsection 1 are favorable,
12 the employer shall, with the transition team, develop and implement a process for
13 permanent transition to the safer alternative.

14 **4. Process for decision of no transition.** If the employer elects not to proceed with
15 permanent transition pursuant to subsection 3, the employer shall record the basis for its
16 decision. The employer may not elect not to proceed with permanent transition without
17 proper justification. If the results of the safer alternative analysis under sections 1736 and
18 1737 and the testing and evaluation under subsection 1 are favorable, the employer's
19 decision not to proceed with the safer alternative is not justified.

20 If the employer elects not to proceed with the use of the safer alternative, the employer
21 shall submit a report to the department detailing the basis for not proceeding.

22 **5. Additional information for work plan.** Information developed and collected
23 under this section must be added to the alternative chemical work plan.

24 **§1739. Discontinuance of safer alternative**

25 **1. Discontinuance of safer alternative.** At any time following completion of the
26 permanent transition process to a safer alternative under section 1738, subsection 3, the
27 employer may determine that substitution of the safer alternative is no longer technically,
28 financially or otherwise feasible and elect to discontinue use of the safer alternative only
29 if the provisions of subsections 2 and 3 are met.

30 **2. Justification of discontinuance.** The employer may not discontinue use of a safer
31 alternative following completion of the permanent transition process under section 1738,
32 subsection 3 without proper justification. To justify a decision to discontinue use of the
33 safer alternative, the employer shall, with the transition team, conduct another safer
34 alternative analysis under sections 1736 and 1737 and review the testing and evaluation
35 under section 1738, subsection 1. If the results of the safer alternative analysis and
36 testing and evaluation continue to be favorable, the employer has not justified a decision
37 to discontinue use of the safer alternative.

38 **3. Report of discontinuance.** If the employer elects to discontinue use of a safer
39 alternative under subsection 1, the employer shall submit a report to the department
40 detailing the basis for discontinuance. Information developed and collected and reports
41 submitted under this section must be added to the alternative chemical work plan.

1 **§1740. Self-audit by employer**

2 Every 3 years, an employer shall certify that the employer has audited the employer's
3 compliance with this chapter. The audit must include review of the highly toxic
4 chemicals previously identified in the alternative chemical work plan and review of
5 whether there are new highly toxic chemicals to be evaluated for transitioning to safer
6 alternatives. The employer shall develop a report of the audit findings and the response to
7 the findings and shall also document that any deficiencies have been corrected. The audit
8 report under this section must be added to the alternative chemical work plan, and the
9 employer shall retain the 2 most recent audit reports on file pursuant to section 1742.

10 **§1741. Reporting requirements**

11 The employer shall annually submit to the department a report describing the
12 employer's progress with identifying highly toxic chemicals, priorities for transition and
13 all ongoing or completed transitions to safer alternatives and shall include in the report
14 any additional information as determined by the department by rule. Following
15 completion of each permanent transition to a safer alternative, the employer shall submit
16 to the department a final report describing the transition process and including any
17 additional information as determined by the department by rule. The employer shall, on
18 request and within a reasonable period of time not to exceed 30 days, provide to the
19 department a progress report on any activities related to this chapter and any ongoing
20 transition to a safer alternative. Information developed and collected and reports
21 submitted under this section must be added to the alternative chemical work plan.

22 **§1742. Records retention**

23 An employer shall maintain information developed, collected or otherwise generated
24 by the employer or a transition team under this chapter regarding the transition to a safer
25 alternative for 5 years following the submission of the report to the department regarding
26 the completed transition to the safer alternative as required under section 1741.

27 An employer shall maintain information developed, collected or otherwise generated
28 by the employer or a transition team under this chapter regarding the election not to
29 proceed with a permanent transition and the discontinuance of a safer alternative
30 previously transitioned to for 3 years following the submission of the report to the
31 department regarding the election not to proceed as required under section 1738 or the
32 discontinuance of the safer alternative as required under section 1741.

33 **§1743. Access to information**

34 **1. Employee access.** Upon the written or oral request of an employee or an
35 employee representative for specific information developed, collected or otherwise
36 generated under this chapter, the employer shall, within 15 working days, provide any
37 information in its possession that is responsive to the request.

38 **2. State access.** Upon the written or oral request of the department or the
39 Department of Health and Human Services, Maine Center for Disease Control and
40 Prevention for specific information developed, collected or otherwise generated under

1 this chapter, the employer shall, within 15 working days, provide any information in its
2 possession that is responsive to the request.

3 **§1744. Annual employee training and informational materials**

4 The transition team must develop, implement and annually revise employee training
5 and informational materials related to the alternative chemical work plan, including
6 identifying highly toxic chemicals and priorities for transition, and any ongoing or
7 completed transitions to safer alternatives under this chapter.

8 An employer shall conduct annual employee training following the employee
9 information and training section of the United States Department of Labor, Occupational
10 Safety and Health Administration's globally harmonized system of classification and
11 labeling of chemicals as found in 29 Code of Federal Regulations, Section 1910.1200(h).

12 When relevant, training and informational materials developed under this section
13 must be added to an alternative chemical work plan.

14 **§1745. Enforcement and penalties**

15 The department shall enforce the provisions of this chapter and may impose penalties
16 for violations of this chapter.

17 **1. Inspections for compliance.** During normal business hours, the department may
18 conduct unannounced site inspections of an employer's workplace to determine employer
19 compliance with this chapter. If an inspection conducted by the department pursuant to
20 this subsection is based in whole or in part on an employee complaint previously filed
21 with the department, the department shall ensure that any information contained in the
22 complaint that might identify the employee or employees who filed the complaint is
23 afforded confidentiality protection.

24 **2. Penalties.** An employer who violates any provision of this chapter commits a
25 civil violation for which a fine of not more than \$1,000 for each violation may be
26 adjudged.

27 **§1746. Rulemaking**

28 The department shall adopt rules to implement the provisions of this chapter. Rules
29 adopted pursuant to this section are major substantive rules as defined in Title 5, chapter
30 375, subchapter 2-A.

31 **§1747. Effective date**

32 This chapter is effective September 1, 2018.

33 **Sec. 2. Department of Labor; major substantive rulemaking.** By January
34 1, 2018, the Department of Labor shall provisionally adopt and submit to the Legislature
35 for review rules related to the Toxic Chemicals in the Workplace Act established
36 pursuant to the Maine Revised Statutes, Title 26, chapter 23. Rules adopted pursuant to
37 this section are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A.

SUMMARY

1
2 This bill enacts the Toxic Chemicals in the Workplace Act to create a statutory and
3 regulatory framework designed to prevent harm to employees by reducing exposure to
4 highly toxic chemicals in the workplace and thereby decrease the rates of cancer and
5 other chronic diseases in the State, improve workplace chemical management and safety
6 and ensure safer workplaces and healthier communities.

7 This bill specifically:

8 1. Directs employers to identify highly toxic chemicals and directs the Department of
9 Labor to publish lists of online resources that identify highly toxic chemicals;

10 2. Requires employers subject to the provisions of the Act to develop and implement
11 a written alternative chemical work plan and designate a transition team to assist in
12 transitioning from highly toxic chemicals in the workplace to safer alternatives;

13 3. Directs the transition team to inventory all chemicals in the workplace, both toxic
14 and nontoxic, and determine which chemicals have been designated as highly toxic
15 chemicals;

16 4. Requires the transition team to develop a priority ranking of all identified highly
17 toxic chemicals, based on a number of criteria, to assist in determining which chemicals
18 will be transitioned to safer alternatives;

19 5. Directs the transition team, as part of developing the priority ranking, to conduct
20 for each highly toxic chemical an alternatives analysis that includes, among other things,
21 a detailed financial analysis of the costs of substituting an alternative;

22 6. Requires the transition team to decide which alternatives to highly toxic chemicals
23 are safer alternatives and which safer alternatives should be tested and evaluated for
24 permanent transition. After testing and evaluation of selected safer alternatives, the
25 employer, with the transition team, may elect to transition to a safer alternative on a
26 permanent basis;

27 7. Requires an employer to contact chemical suppliers and manufacturers for
28 possible safer alternatives and to implement a process for permanent transition to the
29 safer alternatives. If the employer elects not to use safer alternatives, the employer must
30 submit a report to the Department of Labor detailing the basis for not proceeding with the
31 transition to the safer alternatives;

32 8. Requires employers to complete self-audits for compliance with this Act;

33 9. Stipulates reporting and records retention requirements for the employer, as well
34 as guidelines for access to information by employees and state agencies;

35 10. Requires annual employee training that follows the United States Department of
36 Labor, Occupational Safety and Health Administration's globally harmonized system of
37 classification and labeling of chemicals;

1 11. Requires the Department of Labor to enforce the provisions of the Act and
2 authorizes the department to issue penalties for violations of the Act;

3 12. Requires the Department of Labor to adopt all rules necessary to implement the
4 provisions of the Act;

5 13. Stipulates an effective date for the Act of September 1, 2018; and

6 14. Directs the Department of Labor, by January 1, 2018, to submit for legislative
7 review major substantive rules related to the Act.



128th MAINE LEGISLATURE

FIRST REGULAR SESSION-2017

Legislative Document

No. 418

H.P. 298

House of Representatives, February 7, 2017

**An Act To Educate the Public on the Proper Use of Pesticides and
To Promote Integrated Pest Management Using Existing Resources**

Reference to the Committee on Agriculture, Conservation and Forestry suggested and ordered printed.

A handwritten signature in cursive script that reads "Robert B. Hunt".

ROBERT B. HUNT
Clerk

Presented by Representative BLACK of Wilton.
Cosponsored by Senator SAVIELLO of Franklin and
Representatives: HICKMAN of Winthrop, KINNEY of Knox, LYFORD of Eddington,
MAREAN of Hollis, SKOLFIELD of Weld, THERIAULT of China, TIMBERLAKE of
Turner, Senator: DAVIS of Piscataquis.

