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

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

BOARD OF PESTICIDES CONTROL

March 5, 2021

9:00 AM Board Meeting

Video conference hosted in MS Teams, to join the meeting:
Web link for the Microsoft Teams meeting:

AGENDA

1. Introductions of Board and Staff

2. Minutes of the January 20, 2021 Board Meeting

   Presentation By: Megan Patterson, Director

   Action Needed: Amend and/or approve

3. Report on 2020 Work Accomplished and Request for Funds for Mosquito Monitoring from the Integrated Pest Management Program

   The Integrated Pest Management Program is reporting work accomplished in 2020 and requesting funds to assist with on-going efforts for mosquito surveillance, identification and continued outreach around vector-borne diseases.

   Presentation By: Kathy Murray, DACF IPM Specialist

   Action Needed: Discussion and determination if the Board wishes to fund this request

4. Draft Policy Regarding Interpretation of CMR 01-01A, Chapter 26, Section 3(B) Notification and Posting in the Context of Powered Application of General Use Antimicrobial Pesticides for Routine Cleaning

MEGAN PATTERSON, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING

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On December 31, 2021 Executive Order 7-A FY 20/21 was signed and expanded exemptions from commercial pesticide licensure to certain institutions implementing routine cleaning for SARS-CoV-2. Staff at hospitals, colleges, universities, municipal and county facilities are now exempted from commercial licensure for the powered application of general use antimicrobial pesticides. The EO did not provide exemptions from any other regulatory requirements—such as posting and record keeping. At the January 20, 2021 meeting of the Board staff asked for an interpretation of the applicability of existing posting requirements for facilities making multiple applications, to multiple locations, daily.

Presentation By: Megan Patterson, Director

Action Needed: Discuss and approve/disapprove the draft policy

5. Election of Officers

The Board's statute requires an annual election of officers. The members will choose a chair and vice-chair to serve for the coming year.

Presentation By: Megan Patterson, Director

Action Needed: Nominations and election of officers

6. Other Old and New Business

a. Repetitive Overseeding for Ecological Management of Grass Playing. *Horticultural Science.* 2021.

b. LD 125—An Act to Prohibit the Aerial Spraying of Glyphosate and Other Synthetic Herbicides for the Purpose of Silviculture—hearing scheduled for March 2, 2021

c. LD 155—Resolve, Directing the Board of Pesticides Control to Prohibit the Use of Certain Neonicotinoids for Outdoor Residential Use—work session scheduled for March 2, 2021

d. LD 226—An Act to Limit the Use of Hydrofluorocarbons to Fight Climate Change

e. LD 264—An Act to Prohibit Aerial Application of Perfluoroalkyl and Polyfluoroalkyl Substances

f. LD 316—An Act to Prohibit the Use of Chlorpyrifos—hearing scheduled for March 2, 2021

g. LD 355—An Act to Require Pest Disclosure in All Real Estate Transactions

h. LD 519—An Act to Protect Children from Exposure to Toxic Chemicals

i. LD 524—An Act to Require Schools to Submit Pest Management Activity Logs to the Board of Pesticides Control and the Posting of Inspection Results for the Purpose of Providing Information to the Public

j. University of Maine Extension Pesticides Education Report 2021

k. University of Maine Pesticide Container Fee Report 2021

l. Board of Pesticides Control Fund Report 2021

m. Environmental Specialist II direct hire bulletin

n. Environmental Risk Assessment Committee (ERAC) and Medical Advisory Committee (MAC) Policies

o. Update on EPA investigation of container fluorination

7. Schedule of Future Meetings

April 16, and June 4, 2021, are tentative Board meeting dates. The Board will decide whether to change and/or add dates

Adjustments and/or Additional Dates?

8. 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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BOARD OF PESTICIDES CONTROL

January 20, 2021

1:00-2:00 PM Board Meeting
2:00-2:30 PM Public Forum
2:30-4:00 PM Board Meeting Continued

MINUTES

Adams, Bohlen, Flewelling, Granger, Jemison, Morrill, Waterman

1. Introductions of Board and Staff
   - The Board, Assistant Attorney General Randlett, and Staff introduced themselves
   - Brown, Bryer, Connors Couture, Patterson, Pietroski, Tomlinson

2. Minutes of the November 6, 2020 Board Meeting

   Presentation By: Megan Patterson, Director

   Action Needed: Amend and/or approve

   - **Jemison/Waterman: Moved and seconded to accept minutes as amended**
   - **In Favor: Unanimous**

3. Request for Financial Support from the Maine Mobile Health Program and the Eastern Maine Development Corporation

   Since 1995 the Board has supported the Migrant and Seasonal Farmworker Safety Education program. The Maine Mobile Health Program (MMHP) and the Eastern Maine Development Corporation (EMDC provided training to 123 migrant agricultural workers during the 2020 season). Funding to support the effort in 2021 is being requested in the amount of $6,432, which is 20% increase over the funding amount the Board provided in 2020. The funding has been accounted for in the Board's FY 21 budget.

   Presentation By: Chris Huh, Program Manager, Farmworkers Jobs Program, Eastern Maine Development Corporation

Elizabeth Charles McGough, Director of Outreach, Maine Mobile Health Program

Action Needed: Discussion and determination if the Board wishes to fund this request

- McGough stated that monies from the program last year were used to train and hire two multi-lingual employees who could speak English, Spanish, and Haitian Creole. They also conducted EPA Worker Protection Standard training and Personal Protection Equipment protocols to keep farmworkers safe. She added that there were fewer farmworkers overall due to quarantines and reduced size of crews in 2020. Maine Mobile Health Program, MMHP, prepared to offer an online option for virtual WPS training if growers preferred. MMHP was available, in its capacity as a health organization, to offer COVID-19 tests and intend to be available to offer vaccines to workers when available.
- Morrill thanked McGough and Huh. Flewelling inquired about vaccine availability for farmworkers.
- McGough responded that farmworkers are an essential workforce and MMHP is partnering with Maine CDC to make sure farm workers have access to the vaccine during phase 1B.

    - **Jemison/Flewelling: Moved and seconded to approve a grant in the amount of $6432.00**
    - **In Favor: Unanimous**

4. Continuation of the BPC Budget Review with a Focus on the Cost of MePERLS Support, Maintenance, Hosting, and Licensing

During the September 18, 2020 Board review of the its projected 2023 budget, the increasing cost of MePERLS was discussed. Following a robust discussion of MePERLS and the projected costs, staff was asked to invite representatives from Pegasystems and Stratosphere to a future Board meeting. The State of Maine Office of Information Technology serves an essential role in negotiating contracts with both PegaSystems and Stratosphere and can provide a comprehensive overview of the technology and the relative costs. The Maine Office of Information Technology will now provide an overview of the proposed ongoing costs of MePERLS.

Presentation By: Bill Mason, Applications Director, Maine Office of Information Technology

Action Needed: Determine next steps

- Patterson explained that Bill Mason, Applications Director, Maine Office of Information Technology would discuss costs of support and maintenance, including platform costs, as he had been critical to negotiation of those contracts.
- Mason told the Board the current contract ends September 30, 2022. PegaSystems hosts the application and the environment, while Stratosphere employees the developers and addresses bugs and coding. Mason explained that there are currently six State of Maine

applications written within the PegaSystems platform and after the current contract expires the new contract would cover four applications.

- Mason stated that Maine IT had been subsidizing the six contracts substantially but would stop all subsidy after June 2023 and the additional costs will be assessed against the remaining agencies.
- MePERLS current annual cost is $99,144 and the estimated future annual cost will become $272,194 after Maine IT stops subsidizing after June 2023. There will also be a fee of $22,000 for minor enhancements if BPC continues forward with that arrangement, but inclusion of it in the next contract is optional.
- Morrill asked about the two applications who would not be renewing their contracts.
- Mason responded that they found it was not worth the value they were getting out of the application and Maine IT was working on building them something in house that would be less expensive. He added that the Procurement application is leaving because they found a less expensive solution, and LEEDS, a similar application, is also leaving. Mason stated those applications were much less complicated and took months, rather than years to produce, unlike MePERLS.
- Patterson explained that with the recent roll-out of the inspection flows, product registration, and annual summary submission—a significant portion of BPC's work is managed within MePERLS.
- Morrill asked Patterson to bring the budget to the next meeting to review a comparison for the next seven years.
- Mason noted that the costs projected were estimated and still needed to go to through approval, so they could change.
- Adams asked if staff liked the system more than some outside users.
- Patterson replied that staff have received a range of responses regarding the system. Many people like the convenience of obtaining Board related information on demand.
- Tomlinson added that the majority of product registrants, about 90%, were very pleased with how easy it is to submit product registration and renewals.
- Patterson stated that people preferred being able to pay online, check recertification credits, renew employees' licenses, and check credits for employees.
- Morrill would like to have further discussion about the initial program proposal and the ultimate system cost.

    - **Adams/Granger: Moved and seconded to adjourn meeting at 1:54pm**
    - **In Favor: Unanimous**

2:00pm Enter public comment session

- There was public comment on the interpretation of the recent Executive Order regarding the use of powered application for disinfection in ambulances. There were questions about training, recordkeeping and posting.
- There were comments from the Maine Organic Farmers and Growers Association regarding their priorities for future legislation.

Board meeting reconvened at 2:19pm

5. <u>Request for Special Local Need [24(c)] Registration for Express® Herbicide with TotalSol (FMC Corporation) for Spot Application and Bunchberry Control in Lowbush Blueberries</u>

In September 2008, the Board first approved a Section 24(c) registration for DuPont Express® Herbicide with TotalSol (EPA Reg. No. 352-632). The 24(c) was renewed in 2010, 2013 and 2019, but the registration expired December 31, 2020. In 2019, a two-year extension for this SLN was approved with the stipulation that University of Maine Cooperative Extension conduct groundwater testing. This 24(c) allows for spot applications to control labeled weeds during the prune year and applications in the fall after harvest and in the spring of the non-crop year to control bunchberry.

Presentation By: Mary Tomlinson, Pesticides Registrar and Water Quality Specialist

Action Needed: Approve/disapprove 24(c) registration request

- Tomlinson explained to the Board that in 2019 they voted to extend the SLN registration under the condition that UMCE conducted a series of groundwater tests in blueberry barrens. She added that three wells were tested by University of Maine Cooperative Extension, UMCE, over a period of several months the active ingredient was not detected. Tomlinson stated that UMCE was requesting extension of the SLN.
- Lily Calderwood, Extension Wild Blueberry Specialist and Assistant Professor of Horticulture for UMaine, stated the product is utilized to manage bunchberry in wild blueberry barrens. She added that bunchberry is a low growing plant that is difficult to manage using other means because it is below the blueberry canopy. Lowering soil pH was not an option because bunchberry prefers low pH as well.
- Calderwood explained that the water testing done found no detection of the active ingredient and the results were included in the Board packet. There was further discussion about other available studies, how the product was applied, and the need to deter applications before significant rain events.
- Jemison asked Calderwood if they would continue to look at groundwater contamination.
- Calderwood replied that the product was only used as a spot application and there was interest to conduct testing on what other weeds it may control and hopefully do a trial study of the product near a well to continue testing the well for contamination.
    - **Flewelling/Jemison: Moved and seconded to approve the SLN request for five years**
    - **In Favor: Unanimous**

6. <u>Interpretation of CMR 01-01A, Chapter 26, Section 3(B) in the Context of Powered Application of General Use Antimicrobial Pesticides for Routine Cleaning</u>

On December 31, 2021 Executive Order 7-A FY 20/21 was signed and expanded exemptions from commercial pesticide licensure to certain institutions implementing routine cleaning for SARS-CoV-2. Staff at hospitals, colleges, universities, municipal and county facilities are now exempted from commercial licensure for the powered application of general use antimicrobial pesticides. The Executive Order did not provide exemptions from any other regulatory requirements—such as posting and record keeping. The staff are asking the Board to interpret the applicability of existing posting requirements for facilities making multiple applications, to multiple locations, daily.

Presentation By: Megan Patterson, Director

Action Needed: Discuss and approve/disapprove the development of a policy

- Patterson explained the expansion of exemptions related to the revised Executive Order addressing powered application of disinfectants by staff at hospitals, municipal and county government, colleges and universities.
- There was discussion regarding additional chapters of rule this would encompass. Exempted facilities would be required to post after every application. Staff suggested that continual posting seemed unreasonable and that there may be a better way to accomplish the same goal without demanding new posting for every individual application.. Patterson stated that staff would like guidance to provide to applicators and to include in the training applicators will be required to take.
- There was discussion amongst the Board regarding recordkeeping and who this would encompass. Adams noted that the Board should be most concerned with the training.
- Adams suggested posting on a door that an area was disinfected and if anyone wanted more information they could also access that. He added that he would rather the Board discuss training and the ongoing effort about getting licensed.
- Patterson suggested posting in a central location in buildings stating that they planned to use products in specific locations and vehicles. She added that the idea was something similar to what was required in schools—posting for a set amount of time, possibly a week.
- Randlett proposed making this policy active for the duration of the Executive Order and if the BPC choose to continue that could be considered later but this would cover the immediate need.
- Morrill asked if staff could come up with draft policy for the March 5 meeting.
- Patterson responded that staff would do that.
- Randlett noted that there was no motion needed since the Board was not adopting anything formally, but it would be helpful to provide staff guidance on how they should handle enforcement actions regarding notification and posting.
- Morrill noted concern that we keep in the spirit of the notification process that someone should be pre-warned if they may come in contact with a product.

7. <u>Consideration of a Consent Agreement with Daley Green Services DBA Green Home Solutions, Belfast, Maine</u>

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 unlicensed applications, use inconsistent with the pesticide label, and record keeping.

Presentation By: Raymond Connors, Manager of Compliance

Action Needed: Approve/disapprove the consent agreement negotiated by staff

- Connors stated he received a complaint December 2019 from a homeowner stating that their home was uninhabitable after unlicensed applicators they hired from Green Home Solutions made applications for mold remediation. At the time the complainants called Board staff it had been two months since they had been able to reside in their home The complainants stated that pesticide residue remained on the walls, inside of cabinets, food and dishes. The rug had also been treated and remained wet for a prolonged period of time. The basement was also treated.
- Connors told the Board that a BPC inspector determined the application was conducted by an unlicensed, unsupervised applicator, and records were minimal. Label directions were not followed, and powered application equipment was used.
- Connors stated that the business acknowledged they were spraying the air to kill spores, but the label stated application was supposed to be non-powered and applied 8-10 inches above the surface.
- Patterson noted that the unlicensed applicator also treated porous surfaces when this product was only labelled for non-porous surfaces.
- Morrill asked that that the product label be included in the meeting packet. He added that Connors did a fantastic job with the details.

    - **Jemison/Flewelling: Moved and seconded to accept consent agreement**
    - **In Favor: Unanimous**

8. Other Old and New Business

a. Executive Order Update—M. Patterson

b. Exam Administration Update—J. Pietroski

- Pietroski told the Board that exams for up to 45 people per session were scheduled to be held at the Augusta Armory on February 17, March 3, April 17. He added that Master's written and oral exams will be held every Thursday in the Deering building.
- Pietroski explained that County Extension Offices would be closed to the public for the foreseeable future. In response, BPC inspectors will continue to proctor drive up private pesticide applicator and agricultural basic applicator exams. This is a continuation of work inspectors have been doing for several months.
- Pietroski informed the Board of staff plans to partner with DOL Career Centers to host in person exams for the BPC.

c. Legislative Update—M. Patterson

- Patterson reviewed relevant legislative titles with the Board. Two bills had language published at the time of the Board meeting.

d. 2021 Agricultural Trades Show agenda

e. Environmental Specialist III direct hire bulletin

f. Recent Activity Related to Aerial Application in Massachusetts—M. Patterson

- Patterson explained fluorination of plastic containers and the recent news regarding a mosquito insecticide in Massachusetts that tested positive for PFAS. She added that there are a number of bills proposed for this legislative session that address PFAS in the environment.

- Flewelling asked if this would this apply to other products.
- Patterson stated that according to the Agricultural Container Recycling Council as many as 20-30% of agricultural containers (pesticides, adjuvants, fertilizers, etc.) may have received this fluorine barrier treatment.

9. Schedule of Future Meetings

   March 5, April 16, and June 4, 2021 are tentative Board meeting dates.

10. Adjourn

    - **Morrill/Jemison: Moved and seconded to adjourn meeting at 3:55pm**
    - **In Favor: Unanimous**

Mosquito Monitoring Program Conducted by Maine Department of Agriculture, Conservation and Forestry IPM Program. Year-end Report 2020.

Each season beginning in 2015 the Maine DACF IPM Program has conducted a mosquito trapping program to collect and identify mosquitoes of concern as vectors of human and domestic animal disease. This program is conducted as a component of the statewide arbovirus surveillance program led by the Maine Center for Disease Control and Prevention. Mosquitoes collected by our program, as well as Maine Medical Center Research Institute and Maine Municipal Pest Management are tested for Eastern equine encephalitis (EEE), West Nile virus and Zika virus to inform public health awareness, education and management.

The Maine DACF mosquito surveillance program used two types of traps intended to optimize detection of EEE, deployed at nine sites in Kennebec, Waldo and Androscoggin Counties. At each site 10 resting boxes (RB) and/or one CO2-baited CDC mini light trap (LT) was deployed.

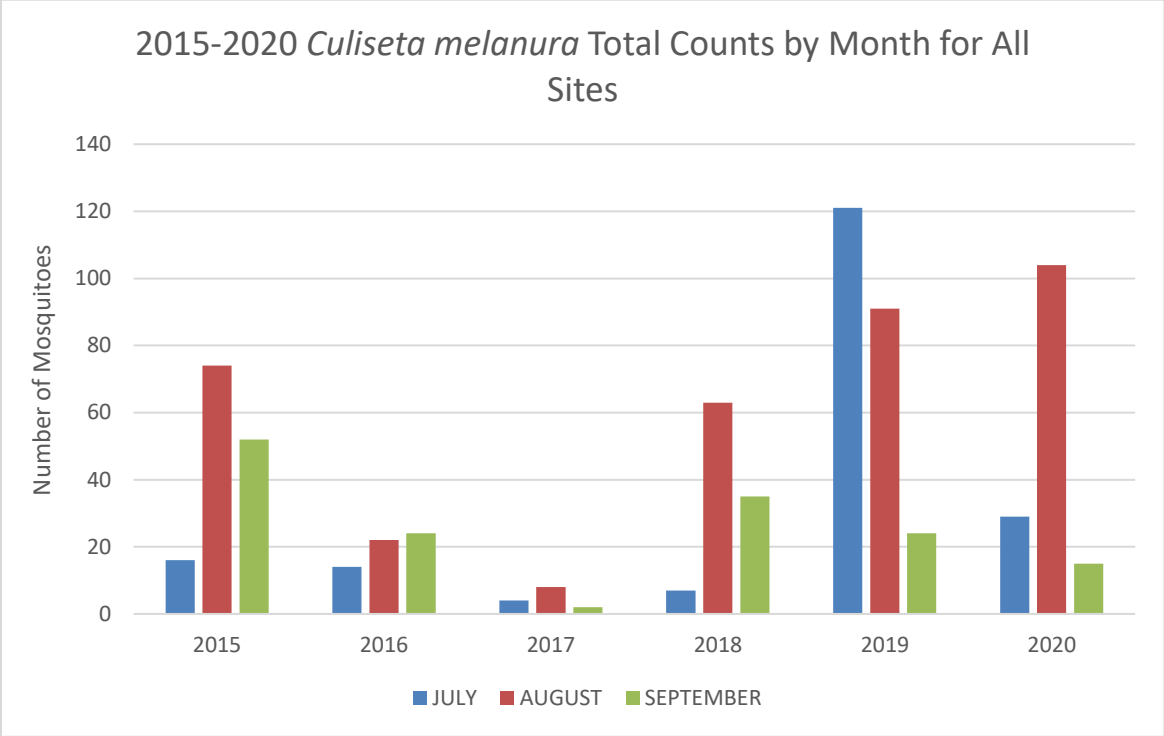
Sites and Traps Deployed in 2020.

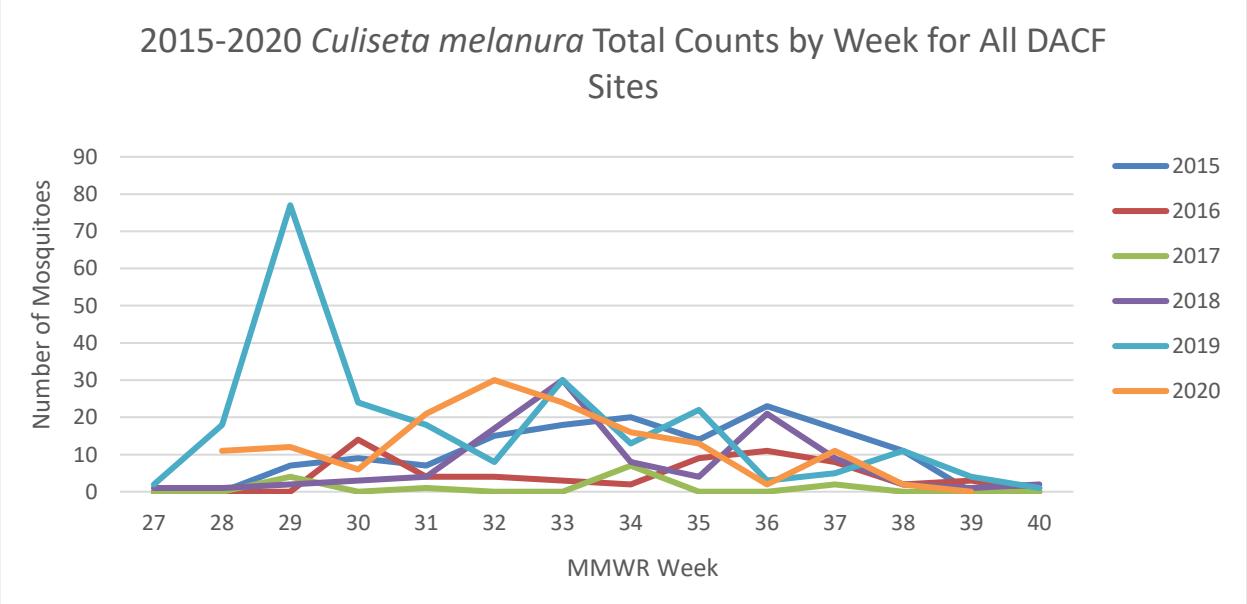
Town	Site Name	County	State	Trap Type
Palermo	Iron Ore Point	Waldo	Maine	RB
Troy	Ward Hill Rd	Waldo	Maine	LT
Troy	Carlton Bog	Waldo	Maine	RB
Unity Township	Unity Plantation	Kennebec	Maine	RB
Chelsea	Togus VA Hospital	Kennebec	Maine	RB
Augusta	Viles Arboretum	Kennebec	Maine	RB & LT
Farmingdale	Jamie's Pond	Kennebec	Maine	RB
Livermore	River Road	Androscoggin	Maine	LT

Results

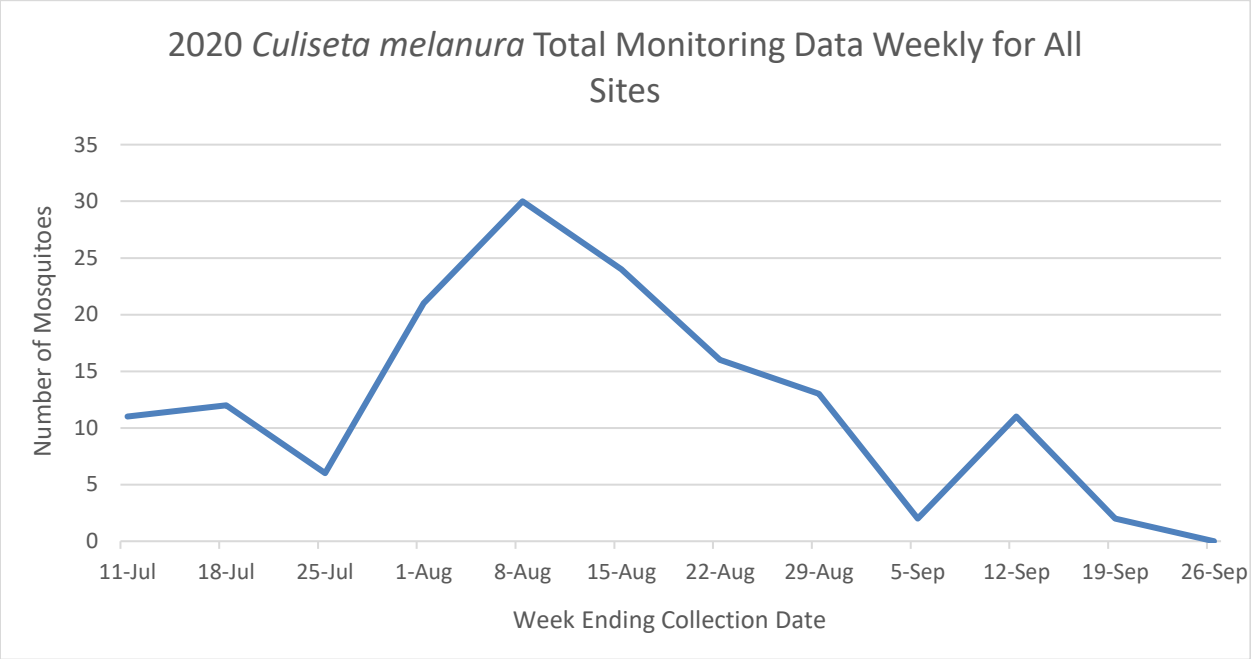
- Mosquitoes were collected, sorted, identified and submitted for disease testing at State of Maine Health and Environmental Testing Laboratory (HETL) weekly from 7/06/20 through 9/25/20. None of the samples were found to be positive for West Nile Virus, Eastern equine encephalitis virus or Zika virus in 2020.
- Labor: summer temporary staff member (Autumn St.Pierre): 15 weeks (@ $14.00/hr + $2.11/hr staffing agency fee) was employed through Maine Staffing, Inc. In addition, DACF entomologist, Kathy Murray contributed approximately 100 hours to train and supervise Autumn and to service three sites weekly in the Unity/Troy area.

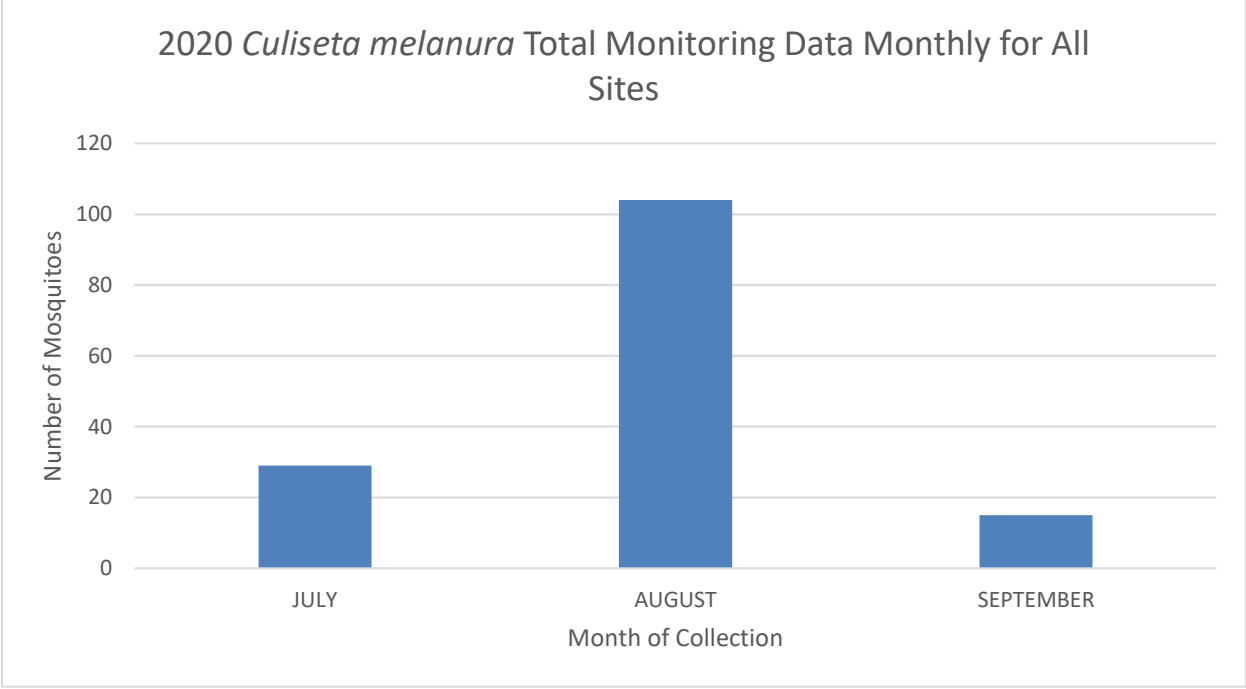
- Resting boxes are used to collect primarily *Culiseta spp*. mosquitoes, which are important vectors of EEE. The pattern of activity varies annually, but peak activity is usually in August. 2019 stands out as showing higher numbers of *Cs. melanura*, earlier in the season (week ending July 20, 2019) than other years. 2019 was a very active EEE year nationwide, with 38 cases (19 fatal) in the US. Twelve cases (3 fatal) occurred in Massachusetts. The weekly total number of *Culiseta melanura* collected in DACF traps from July 1 through Sept 31st, 2020, are shown below.



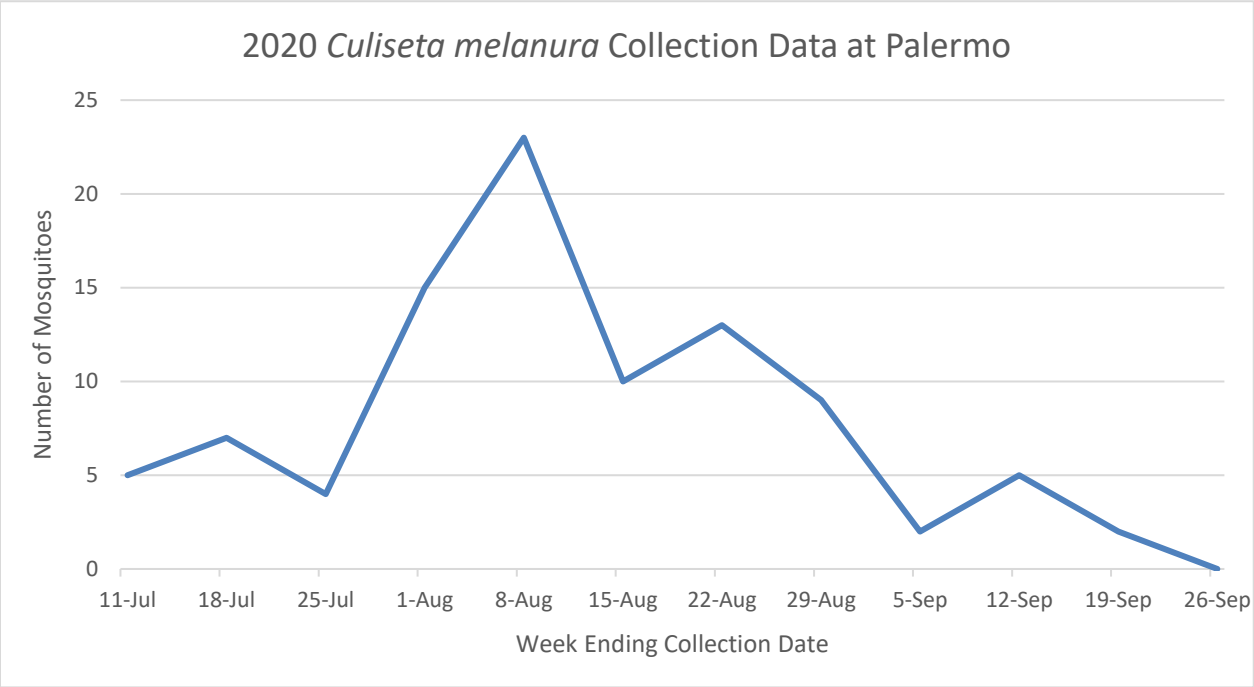


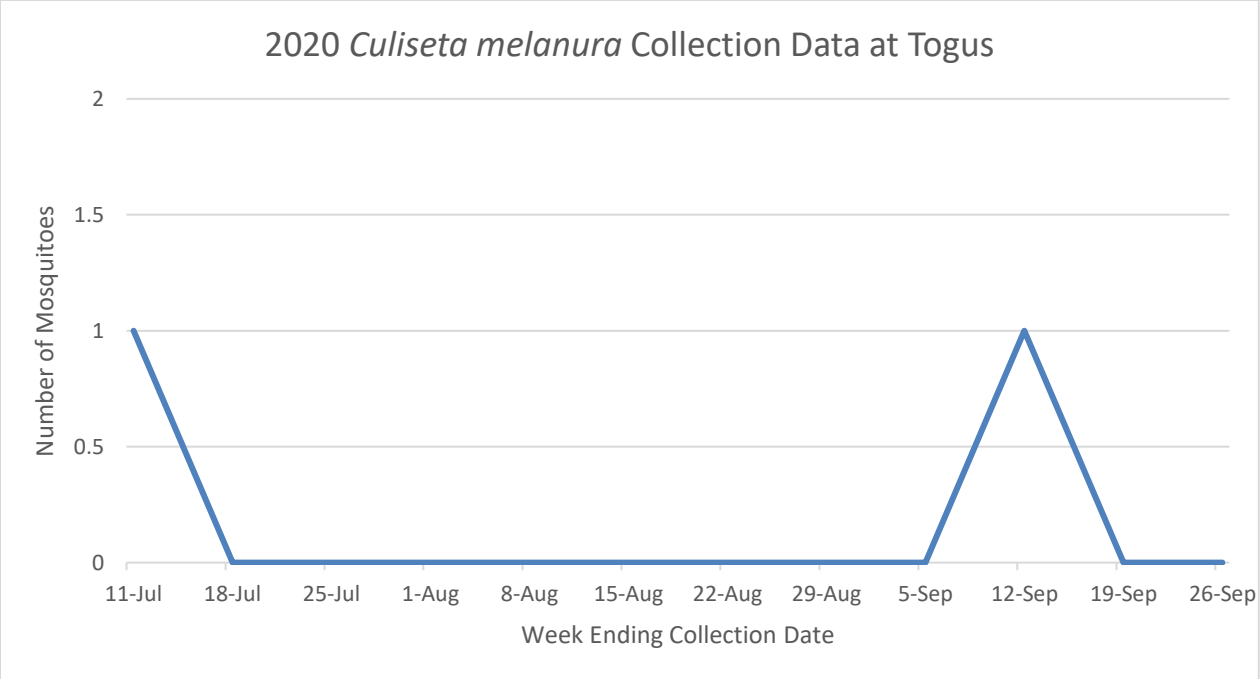
In 2020, peak abundance of *C. melanura* in DACF traps was during the week of August 8, 2020.

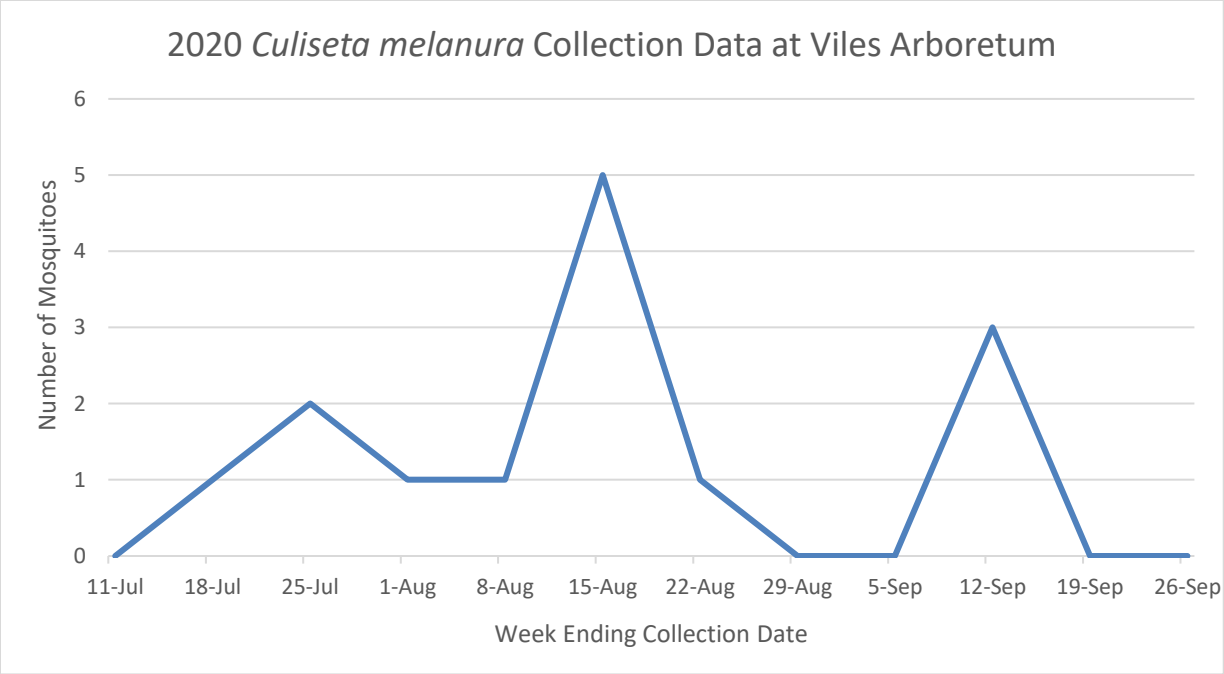


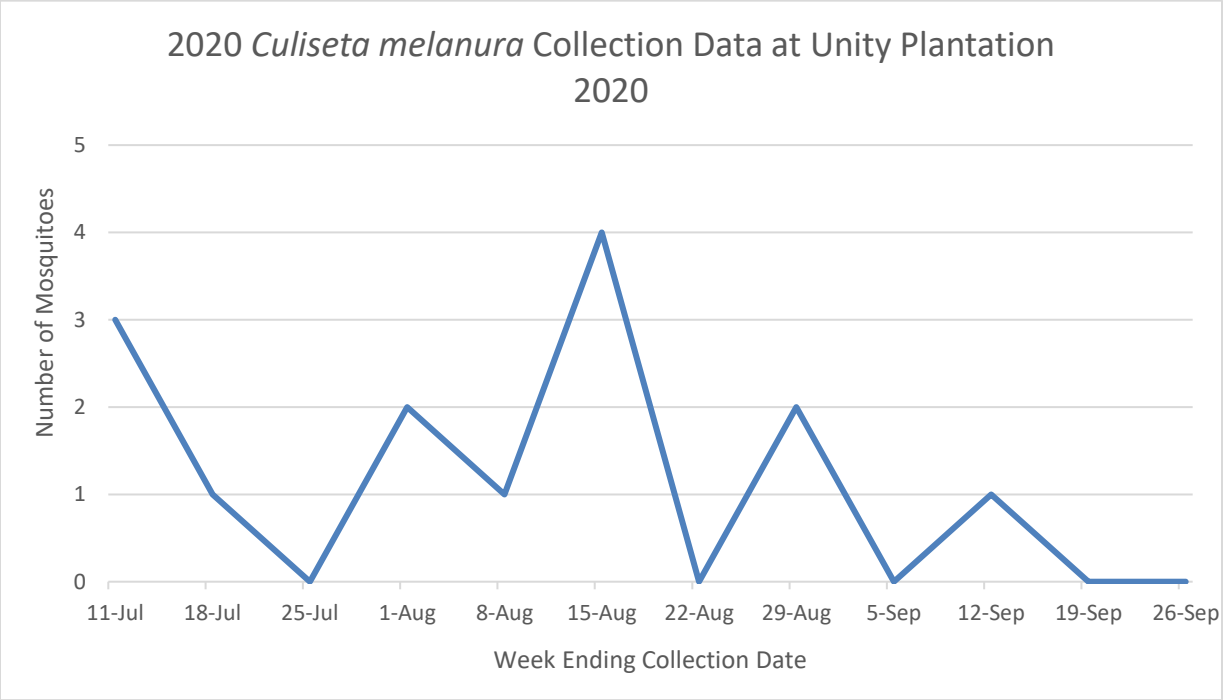


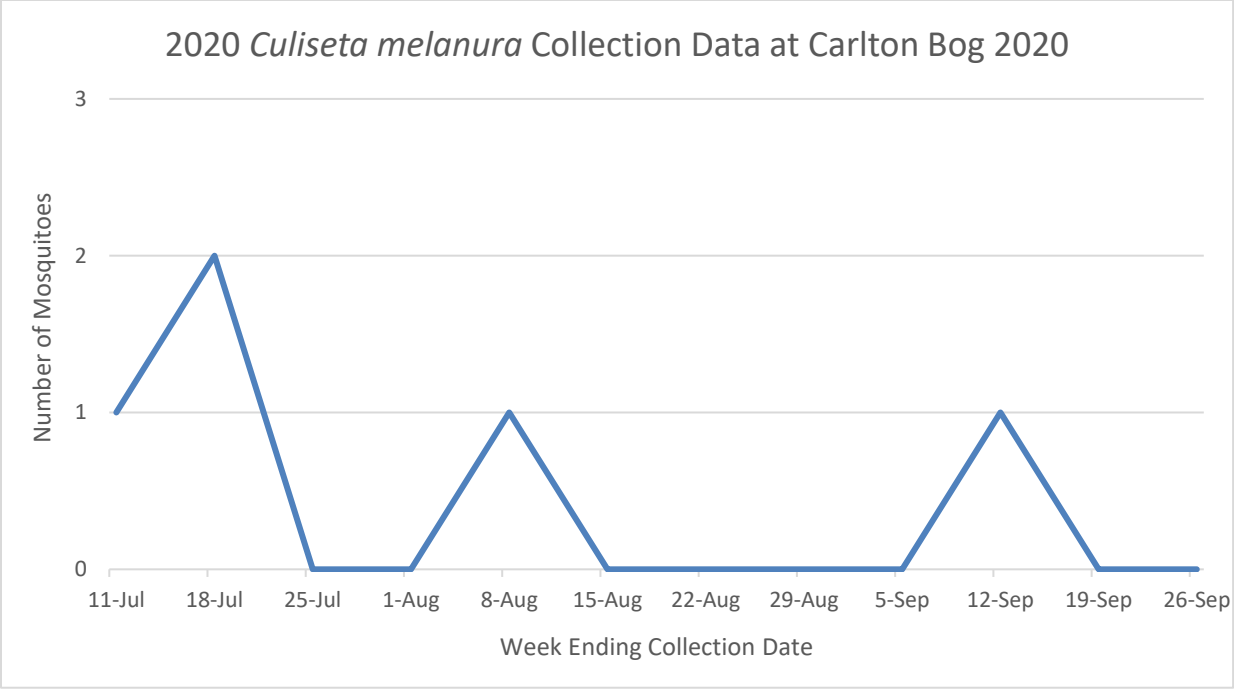
Of the sites monitored by DACF, four tend to have higher numbers of *C. melanura*. The following show the numbers trapped each week at each site in 2020.

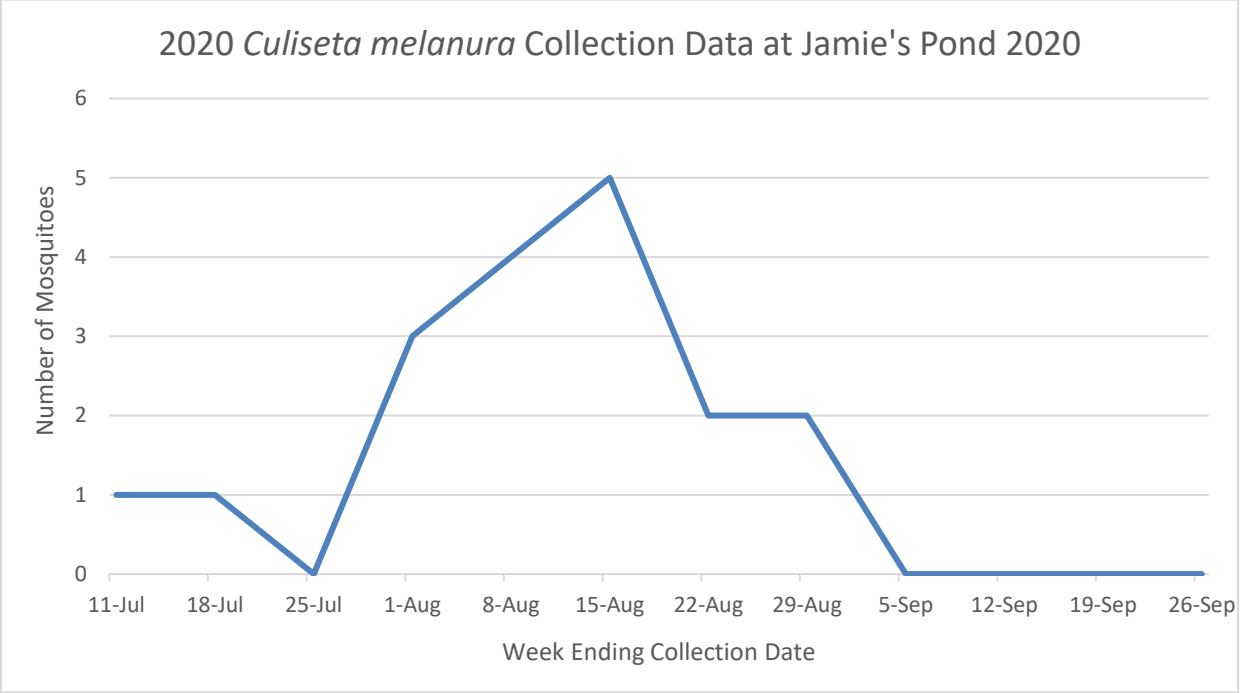





2020 *Culiseta melanura* Collection Data at Viles Arboretum
Number of Mosquitoes
0
1
2
3
4
5
6
11-Jul
18-Jul
25-Jul
1-Aug
8-Aug
15-Aug
22-Aug
29-Aug
5-Sep
12-Sep
19-Sep
26-Sep
Week Ending Collection Date


2020 *Culiseta melanura* Collection Data at Unity Plantation 2020
Number of Mosquitoes
0
1
2
3
4
5
11-Jul
18-Jul
25-Jul
1-Aug
8-Aug
15-Aug
22-Aug
29-Aug
5-Sep
12-Sep
19-Sep
26-Sep
Week Ending Collection Date


2020 *Culiseta melanura* Collection Data at Carlton Bog 2020
Number of Mosquitoes
0
1
2
3
11-Jul
18-Jul
25-Jul
1-Aug
8-Aug
15-Aug
22-Aug
29-Aug
5-Sep
12-Sep
19-Sep
26-Sep
Week Ending Collection Date

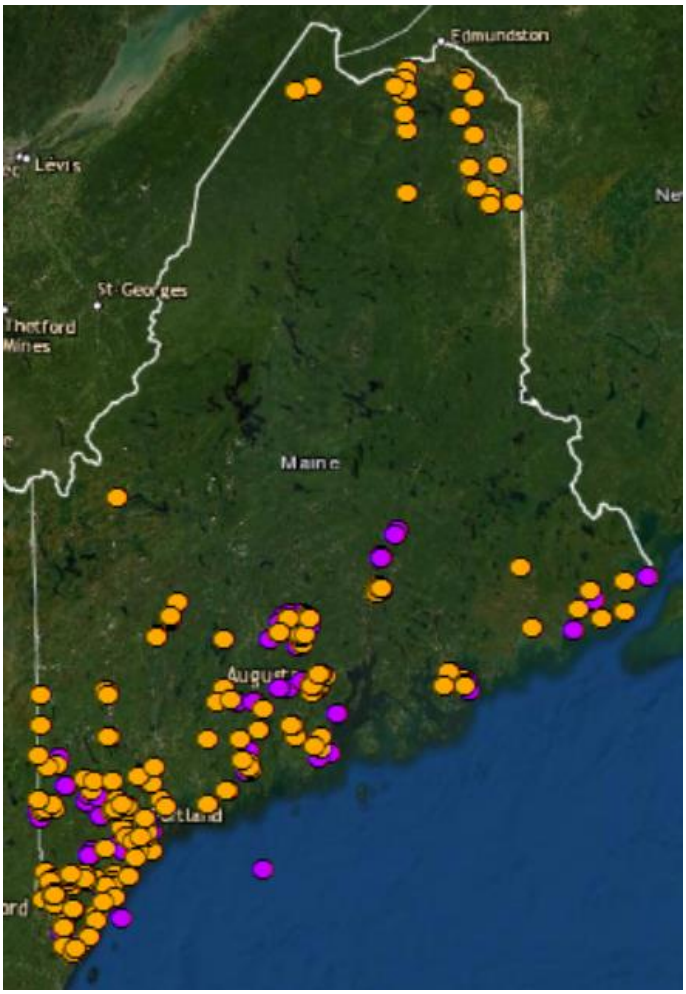

2020 *Culiseta melanura* Collection Data at Jamie's Pond 2020
Number of Mosquitoes
0
1
2
3
4
5
6
11-Jul
18-Jul
25-Jul
1-Aug
8-Aug
15-Aug
22-Aug
29-Aug
5-Sep
12-Sep
19-Sep
26-Sep
Week Ending Collection Date

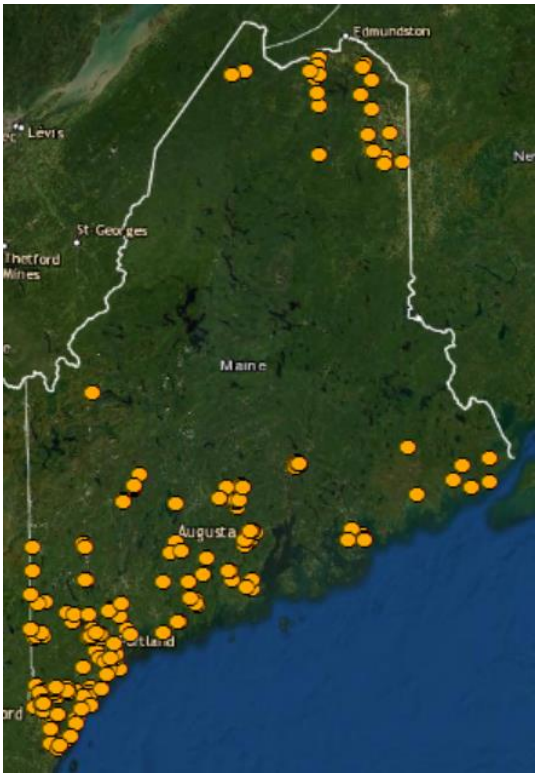
Mapping

In collaboration with Maine Medical Center Research Institute, we summarized the available mosquito trapping data from the statewide surveillance program, for the years 2009-2019 (2020 data were not yet available from MMCRI at the time this report was prepared) to geographically represent eleven years of statewide surveillance data for *Culiseta melanura*, the primary vector of Eastern Equine Encephalitis. By utilizing geographic information system tools, we hope to better understand the distribution and habitat characteristics supporting important vector species and to improve our ability to predict, detect and respond to changes in mosquito and arbovirus activity. Statistical modelling and mapping is ongoing.

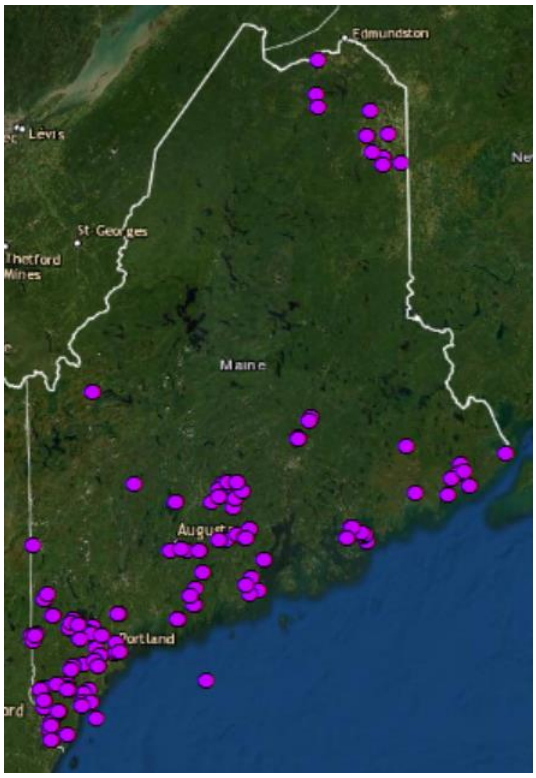
The maps below represent trap locations and relative abundance of *Culiseta melanura* (as indicated by average number of female adult mosquitoes collected per night at each site over the entire season). *In all figures, orange = CDC mini light traps baited with CO2 (1 trap per site), Purple = resting boxes (10 per site).*

Figures 1-3. Locations of trap sites during any year between 2009 and 2019. Note: not all locations were sampled every year.



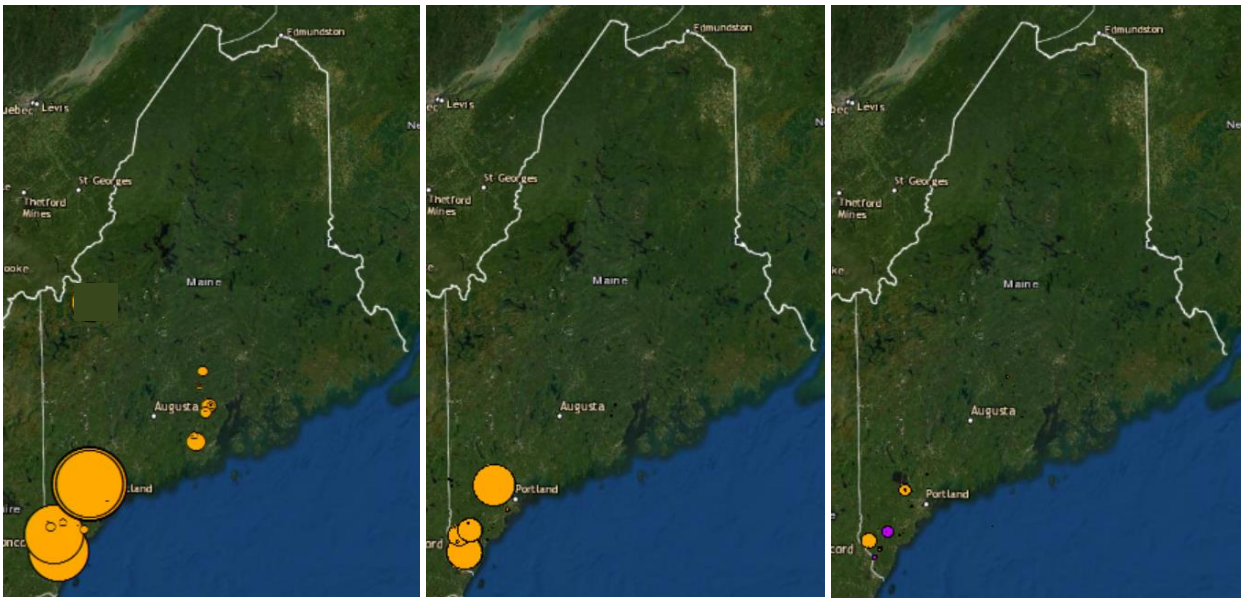


2009 – 2019 All Light Trap Sites



2010 – 2019 All Resting Box Sites

Figures 4-15. In the following figures, the size of the points indicates the relative seasonal average number of *Cs. melanura* collected per night sampled in light traps (yellow) and resting boxes (purple).



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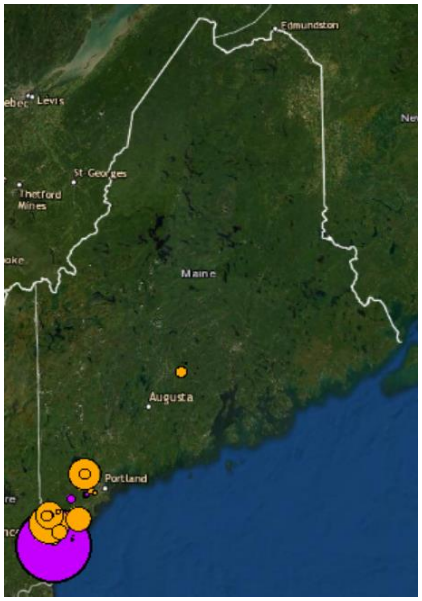

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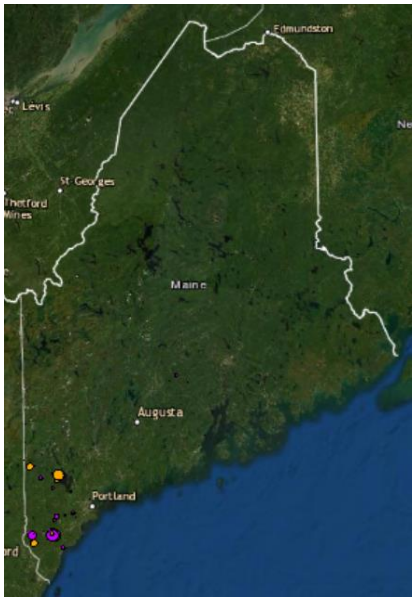

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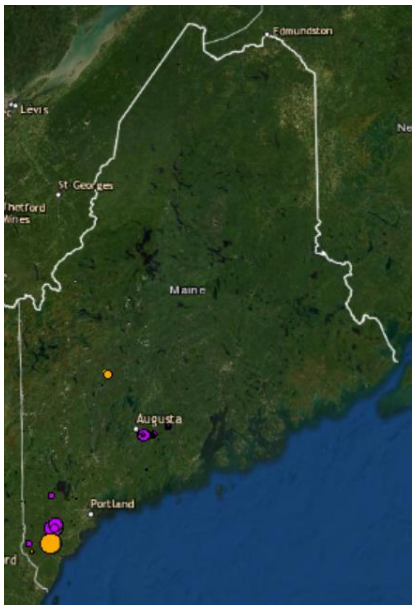

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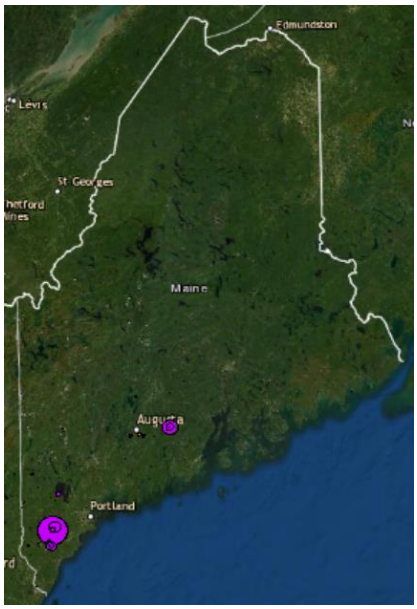

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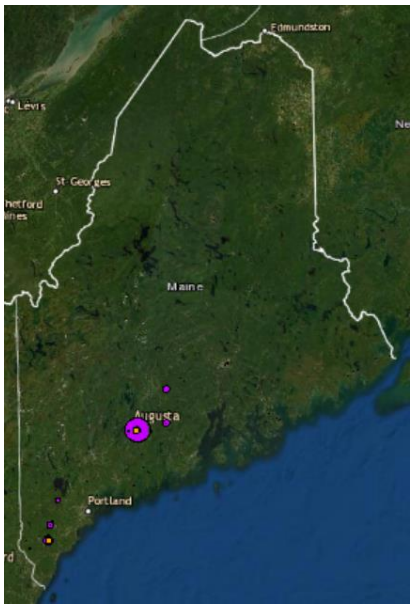
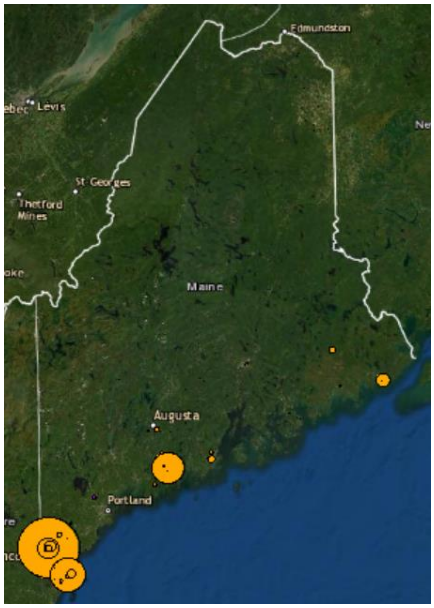


2018



2019

Report prepared by Autumn St.Pierre, Maine Department of Agriculture, Conservation, and Forestry, October 2020.

The Integrated Pest Management Program is requesting funds to assist with on-going efforts for mosquito surveillance and identification, development of a GIS-based mosquito habitat mapping system, and continued outreach around vector-borne diseases. Assistant will be available to perform additional tasks for BPC if mosquito activity is low due to weather or other unforeseen factors. Request: $10,710.00

2021 Field Season

7-8 sites

Item	**rate**	**salary plus temp staffing fee**	**hours (40hrs/wk*15 wks,** June 21-Sept 30, 2021)	**total $**
summer field and lab assistant	$15.00/hr	17.85	300	10,710

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

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

MAINE BOARD OF PESTICIDES CONTROL
POLICY CONCERNING POSTING REQUIREMENTS FOR FACILITY STAFF EXEMPTED FROM LICENSURE BY EO 7-A FY 20/21 WHO ARE MAKING FREQUENT POWERED APPLICATIONS OF GENERAL USE DISINFECTANTS FOR THE PURPOSES OF ROUTINE CLEANING

AS REQUIRED BY CHAPTER 26, SECTION 3(B)
DRAFT, March 5, 2021

BACKGROUND

At its January 20, 2021 meeting, the Board discussed Executive Order 7-A FY 20/21. This Executive Order (EO) amended EO 7 FY 20/21 (pertaining to K-12 schools) and expanded the exemption from commercial licensure for powered application of general use antimicrobial pesticides to the following institutional settings:

- hospitals,
- municipal and county government facilities and vehicles, and
- universities and colleges.

All other relevant regulations remain in effect, including posting and notification requirements detailed in CMR 012-026, Chapter 26, Standards For Indoor Pesticide Applications And Notification For All Occupied Buildings Except K - 12 Schools, Section 3(B). Chapter 26.03(B) requires advanced posting at least 24 hours and no more than seven days prior to each indoor application at institutions. The Board approved written notice must remain posted for at least 48 hours following the application. The posting must be in in a conspicuous place or places where notices to employees are customarily posted.

This policy identifies approved locations, frequency, advance timing and duration of posting which may be used by employees of facilities identified by EO 7 FY 20/21.

MEGAN PATTERNSON, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING

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

POLICY

For the purposes of EO 7-A FY 20/21 the posting required by Chapter 26, Section 2(B), may be made in the following manner:

> Before applications commence and no more than X days in advance of a pesticide application in a facility identified in EO 7-A FY 20/21, staff conducting powered applications of general use disinfectants must post or cause to be posted a Board approved written notice (see attached) in a conspicuous place or places where notices to employees are customarily posted. The notice must inform employees of the planned application and about their right to ask for and receive more specific information, as described in Chapter 26.03(D). The Board approved written notice or a sign with equivalent written content must remain posted for at least 48 hours following the application.
>
> Where multiple applications will occur over an extended period of time a single notice conforming with the attached Board approved example may be posted. The notice must include a date range for the applications to be made.

All other relevant sections of Chapter 26 and all other regulations remain in effect.

This policy will expire concurrent with the expiration of EO 7-A FY 20/21.

Notice of Pesticide Application

Disinfectants May Be Applied in this Building as Part of an Integrated Pest Management Program on (date/date range) _____

To request information about the use of disinfectants in this building contact:

Primary Contact: _____

Phone/E-mail: _____

This sign must remain posted for at least 48 hours after the application is completed.

Date Posted or Provided: _____

Person Providing Notice: _____

Date/Time Completed: _____

Remove sign on: _____

For general information on pesticides and regulations contact:

Maine Board of Pesticides Control
287-2731, or visit
www.thinkfirstspraylast.org

BOARD OF PESTICIDES CONTROL • STATE OF MAINE •
Think First...
Spray Last!

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Repetitive Overseeding for Ecological Management of Grass Playing Fields

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Additional index words. broadleaf weeds, *Lolium perenne*, perennial ryegrass, pesticide-free, schools, turf

***Abstract*. Because of public concern about exposing children to pesticides, legislation restricting its use on school playing fields has increased. One way to manage weeds without chemical herbicides is overseeding or the practice of repetitively seeding with a rapidly germinating turfgrass species. Overseeding for broadleaf weed control was tested on eight fields in Central New York (CNY) for three seasons and 40 fields across the northeastern United States for two seasons. Half of each field was treated each season by overseeding *Lolium perenne* L. (perennial ryegrass) three to five times each season for a total of 731 kg seed/ha (15 lb per 1000 ft^2). Changes in the percent broadleaf weeds, grass, bare ground, soil moisture, Dark Green Color Index (DGCI) of grass cover, depth to soil compaction, and shear strength were measured after each treatment. The percent broadleaf weeds decreased and the percent grass cover increased due to overseeding in the Northeast fields, but not in CNY fields. Depth to compaction, percent soil moisture, and shear strength varied over time in the Northeast fields, and the percent bare ground, DGCI, and soil moisture varied over time in CNY fields. DGCI in the Northeast and soil compaction in CNY were affected by the interaction of overseeding × time. Although overseeding can be a beneficial weed management tool and affect other turf and soil traits in an integrated turf management program, monitoring environmental conditions and supporting field maintenance routines are critical weed management strategies for maintaining healthy turfgrass.**

Concern about the potential health risks associated with continued exposure to pesticides is growing worldwide. Exposure to pesticides during childhood is of greater concern because children are at critical stages of cognitive development and their common behaviors, such as touching the face, ingesting soil, and crawling, increase their exposure in treated areas (Faustman et al., 2000). From 1998 to 2002, childhood pesticide exposure rates at schools increased yearly, and 69% of cases were linked to school pesticide applications as opposed to pesticide drift from neighboring farms (Alarcon et al., 2005). Therefore, reducing use at schools could greatly reduce the risk of exposure for children.

In an attempt to reduce this risk, legislative action regulating and restricting pesticide use on school and public grounds has increased across the United States and abroad. As early as 1998, Denmark instituted a plan to phase out pesticides in public green spaces by 2003 (Larsen et al., 2004). In 2007, the State of Connecticut passed a law prohibiting the use of lawn care pesticides at schools and daycare centers, except with an emergency exemption (Connecticut General Assembly, 2009). In 2008, the Canadian Province of Ontario passed legislation restricting the use of pesticides for cosmetic purposes (Legislative Assembly of Ontario, 2008), and this was soon followed by several additional provinces (Canadian Nursery Landscape Association, 2017). In 2010, New York passed the "Child Safe Playing Fields Act" for all public and private schools and daycare centers, with restrictions similar to those used in Connecticut (New York State Department of Environmental Conservation, 2010). Within the United States, 10 states have enacted statewide integrated pest management requirements; however, only four of those states emphasize pesticide use as a last resort (Feldman and Hepting, 2007). Concern regarding childhood pesticide exposure is relevant, and legislation can help to reduce this risk; however, the adoption of pesticide-free field management techniques relies on a better understanding of the potential benefits and limitations of these techniques.

Schools and public grounds managers need to address a wide range of issues to maintain safe conditions on playing fields (referred to here as turfgrass). Regulations have decreased pesticide use, but they have also left facilities managers without many common tools to manage their athletic fields, play areas, and public grounds. Adapting management strategies to new regulations can be challenging and may require new tools and information specifically for school playing fields. Both plant and soil characteristics affect the quality and safety of the playing fields; in turn, many management strategies affect both plant and soil characteristics (Aldahir and McElroy, 2014; Waddington et al., 1997). Developing organic field management techniques that provide multifunctional benefits, such as simultaneous weed control, reduced surface hardness, improved soil health, less bare soil, and greater grass cover, are more desirable to managers than relying on single-target strategies, especially considering the growing restrictions against pesticides.

Weed management without herbicides has been a particularly difficult task, but repetitive overseeding is one pesticide-free strategy that was recently developed to control weeds. Repetitive overseeding is the practice of supplementing a grass field with substantial amounts of turfgrass seeds to promote grass density and coverage. More than a decade of trials in Europe and North America have shown that overseeding can be an effective weed suppression strategy. Overseeding with *Lolium perenne* L. (perennial ryegrass) has been found to be effective for increasing turfgrass cover and, in some instances, decreasing weed pressure (Dahl Jensen et al., 2017; Miller and Henderson, 2012), especially for outcompeting *Poa annua* L. (annual bluegrass) (Aamlid et al., 2012). Overseeding ranges in effectiveness depending on the application frequency, rate, location, and climate conditions (Aamlid et al.,

2012; Elford et al., 2008; Larsen et al., 2004). The practice is less effective in cool and droughty conditions that decrease germination rates of broadcast turfgrass seed (Elford et al., 2008; Harper et al., 2016). Furthermore, varying moisture levels alter the dominant competitive weed species, affecting the outcome of overseeding for weed suppression (Aamlid et al., 2012; Elford et al., 2008; Harper et al., 2016). The effectiveness of overseeding increases with moderate trafficking to improve seed–soil contact (Chinery, 2009). However, not all soil disturbance has been found to be equal. Verticutting and overseeding alone can increase weed abundance, but the combination of vertical cutting, overseeding, and topdressing can increase turfgrass cover and decrease weed cover (Larsen et al., 2004).

Although the effectiveness of overseeding as a weed management tool for natural grass fields has been investigated in a variety of systems, large-scale field trials are lacking. Additionally, the effects of overseeding on multiple functional traits of turf and the underlying soil that affect safety, such as surface hardness and percent turfgrass cover, have not been studied. Our objectives were to test the overseeding strategy across a wide range of fields in three states of the United States and to measure the effects of the strategy on both turf and soil traits. We hypothesized that overseeding would decrease weed cover on school athletic fields with increasing efficacy over time as the number of applications increased. In addition to decreasing broadleaf weed cover, we hypothesized that overseeding would improve other turf and soil traits on the athletic fields by decreasing surface hardness and the percentage of bare ground.

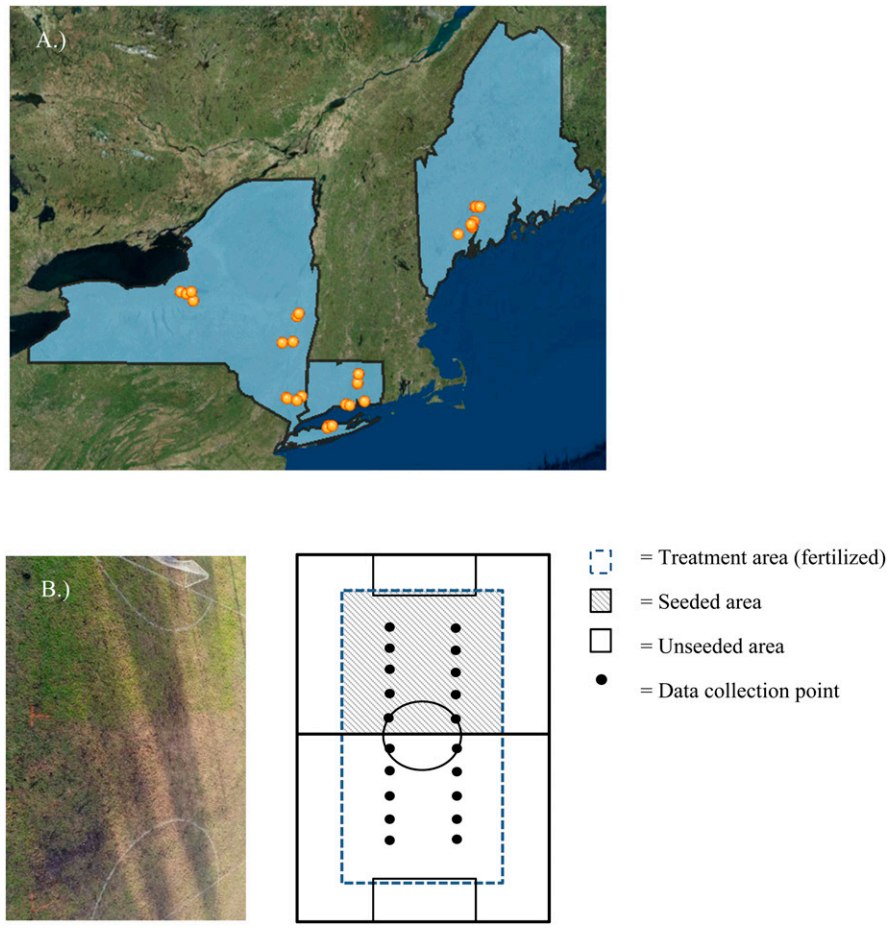

Fig. 1. A map of 22 school locations in both Central New York and the Northeast (New York, Connecticut, and Maine), where overseeding was studied on 48 fields over the 2014, 2015, and 2016 growing seasons (**A**). Most locations included multiple fields. Fields were overseeded with *Lolium perenne* on half of the field and not overseeded on the other half (**B**). The photo on the left shows half of a soccer field overseeded after 9 d. Turf quality data were collected from 10 points on both sides of each field (schematic on the right) before and after overseeding. Figure not to scale.

Materials and Methods

Field setup. Our study was conducted on 48 typical high-use, relatively low-input, public school grass fields that serve athletic functions. These fields spanned 25 different locations across three states in the northeastern United States (New York, Maine, and Connecticut) (Fig. 1A). The research team comprised scientists and turfgrass/landscape educators from Cornell University, Cornell Cooperative Extension, New York Integrated Pest Management, the University of Connecticut, and Maine Department of Agriculture, Conservation, and Forestry; all of them identified school field managers willing to participate in this research. Clusters of fields were located in school districts identified by research team members to facilitate the distribution of materials for the project and supervise or perform data collection. All overseeding and fertilizer applications were performed by field managers at the selected locations and successfully incorporated into field maintenance schedules. The field managers were provided with the same fertilizer spreaders, seed, and fertilizer, which were donated by The Scotts Miracle Gro Company (Marysville, OH). They also received training by our research team regarding application rates and calibration of equipment to ensure the same input and management across fields.

A subset (eight) of the 48 fields located in CNY were repetitively overseeded for 3 years, starting in Summer 2014. The remaining 40 sports fields were located across the Northeast at 22 different municipalities/school districts in New York, Maine, and Connecticut. These Northeast fields were seeded for two seasons across 1 year, starting in Fall 2015. All participating schools were required to commit to following management protocols provided by the team of multistate researchers.

Half of each field was designated as the seeded/treated side, and the other half of the field was the unseeded/untreated control side. The seeded half was broadcast-seeded with a *Lolium perenne* blend (Scotts Miracle-Gro, Marysville, OH) in the high-traffic central area of the field (≈27 m wide and 55 m long), starting at midfield (Fig. 1B). *Lolium perenne* was used because previous studies had found the species to be an effective overseeding grass (Aamlid et al., 2012; Miller and Henderson, 2012). In 2014, the eight CNY fields were seeded weekly at 146 kg·ha^{-1} (3 lb per 1000 ft^2) for 5 weeks between August and September This seeding rate was selected because previous studies had determined that this was an effective overseeding rate (Chinery et al., 2009; Elford et al., 2008; Harper et al., 2016). Between Aug. 2015 and

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J.K.-K. is the corresponding author. E-mail: jtk57@cornell.edu.

Table 1. *P* values of turf quality traits over time in response to repetitively overseeding half of a sports field at schools across Maine, Connecticut, and New York. Forty of the Northeast fields were overseeded in 2015 and 2016, and the eight Central New York fields were overseeded in 2014, 2015, and 2016.

	Change in turf trait	Seeding treatment	Time	Interaction term
Northeast fields	Percent broadleaf weeds	**0.03**[z]	0.79	0.48
	Percent bare ground	0.36	0.70	0.66
	Greenness (DGCI)	0.46	**0.007**	**0.001**
	Percent grass cover	**0.008**	0.88	0.86
	Soil compaction	0.19	**<0.0001**	0.74
	Soil moisture	0.53	**<0.0001**	0.12
	Shear	0.20	**<0.0001**	0.48
Central New York fields	Percent broadleaf weeds	0.32	0.61	0.40
	Percent bare ground	0.16	**0.009**	0.85
	Greenness (DGCI)	0.55	**0.0009**	0.58
	Percent grass cover	0.15	0.27	0.62
	Soil compaction	**0.05**	0.07	**0.02**
	Soil moisture	0.88	**<0.0001**	0.53

[z]*P* values of traits in bold are significantly affected by treatment ($P < 0.05$).

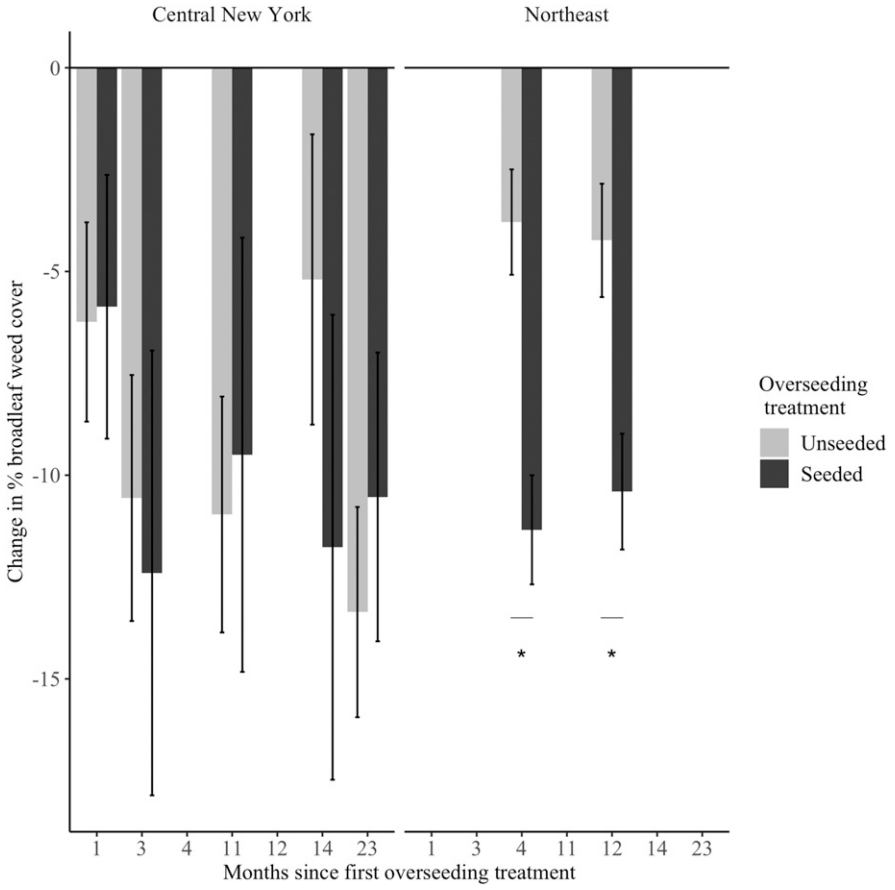

Fig. 2. Change in percent broad leaf weed cover from pretreatment conditions based on overseeding treatment in Central New York fields and Northeast fields. Statistically significant changes in percent broad leaf weed cover based on the overseeding treatment are marked with an asterisk * ($P < 0.05$). Statistical significance was calculated from an analysis of variance (ANOVA) of a linear mixed model with overseeding treatment, sample month, and their interaction as the fixed effects and field as the random effect. Post hoc analyses were conducted using Kenward-Roger degrees of freedom.

Nov. 2015, all 48 fields were seeded three times to make the process feasible for field managers to fit within their field maintenance schedules. The first overseeding application was 439 kg·ha^{-1} (9 lb per 1000 ft^2) to maintain the overall amount of seed applied; the next two applications were the regular 146 kg·ha^{-1} (3 lb per 1000 ft^2). Each of these applications was spaced 2 weeks apart. The same three overseeding treatments were repeated between Apr. 2016 and July 2016 at all 48 fields. Both halves of the field were fertilized once each year of the study with 48 kg·ha^{-1} (1 lb per 1000 ft^2) nitrogen (N) using 26N–0P–2K fertilizer with 5.2% iron (Green Max; Scotts Miracle-Gro). Each participant was provided with a walk-behind broadcast spreader for seed and fertilizer applications. The research team inspected equipment and checked for proper calibration in situations involving participants who elected to use their own equipment.

Data collection. Measurements were collected at 10 points on each side of each field (seeded and unseeded). Two transects, 9 m apart, starting at 5 m from midfield in each direction were sampled every 6 m (Fig. 1B). At each of the 10 locations, seven variables were measured: percent broadleaf weed cover, percent turfgrass cover, percent bare ground, DGCI (a spectral reference measurement used as an indication of turf health and quality), percent soil moisture, depth to soil compaction zone, and turf shear strength. Turfgrass, weed, and bare groundcover were measured by placing a 1-m square grid divided into twenty-five 0.20-m^2 squares with strings on the ground and either recording the turf cover at each string intersection point or recording the predominant turf cover within each square (different data collectors used different methods). The percent turf cover was calculated from the 16 intersections or the 25 squares. The DGCI was calculated using the Fieldscout GreenIndex App (Spectrum Technologies, Inc., Aurora, IL), which provides the percent green pixels from a photo of the turf. Soil moisture was calculated by taking an average of three readings from a FieldScout TDR 300 soil moisture probe (Spectrum Technologies, Inc.); the depth to soil compaction zone was measured with a penetrometer (AgraTronix Soil Compaction Tester, Streetsboro, OH), which recorded the depth at which 300 psi of penetration resistance was reached (Duiker, 2002). Shear strength was calculated with a TSHEAR2-M Shear Strength Tester (Turf-Tec International, Tallahassee, FL) using the metal cleat attachment according to the standard protocol of stepping on the footplate, twisting the handle, and recording the torque value (Newton-meters) at the point at which the turf begins to tear. Shear strength was measured in 2015 and 2016. In 2014, field measurements were performed 1 week before the seeding treatments began, immediately after the 5-week treatment period, and again 8 weeks after the treatment period. In 2015 and 2016, measurements were performed 1 week before seeding treatments and again 2 weeks after the seeding treatments ended.

Data analysis. All data were analyzed using R version 3.3.3 (R Core Team, 2020). Statistical analyses of the change in each metric relative to the pretreatment level were performed. Broadleaf weed cover, total

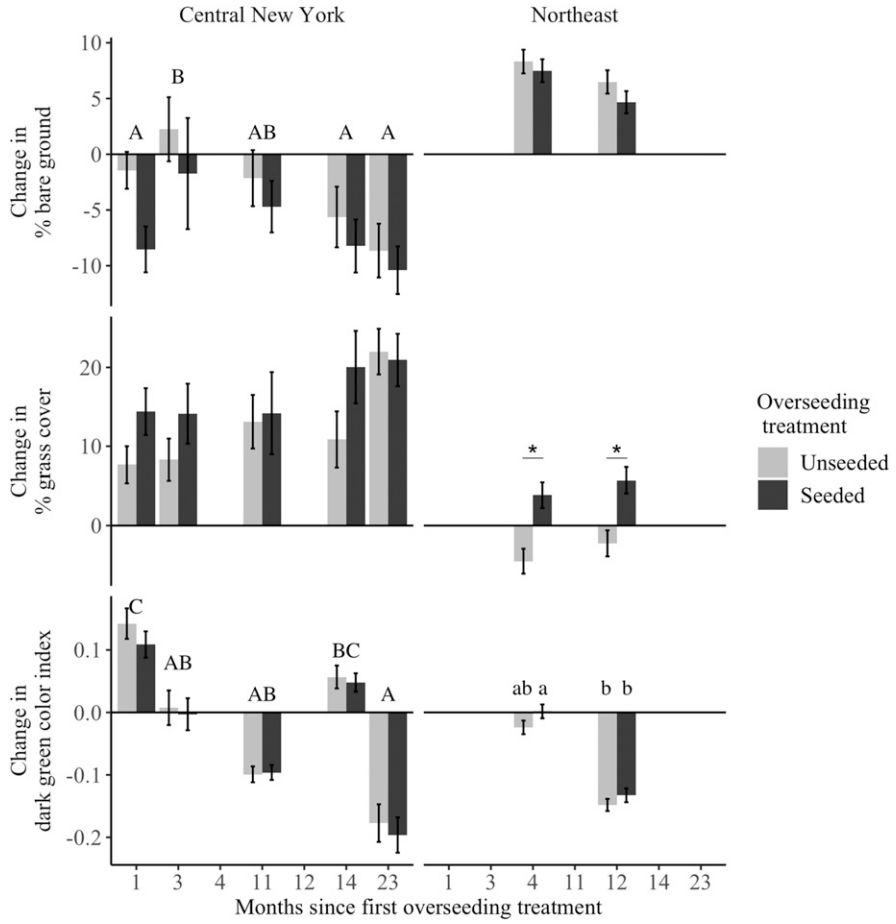

Fig. 3. Change in turf quality traits from pretreatment conditions based on overseeding treatment in Central New York and Northeast fields. Statistically significant changes in turf quality traits based on the overseeding treatment are marked with an asterisk * ($P < 0.05$). Bars with different capital letters have statistically different means at different months ($P < 0.05$), and bars with different lowercase letters have statistically different means at different months based on the overseeding treatment ($P < 0.05$). Statistical significance was calculated from an analysis of variance (ANOVA) of a linear mixed model with overseeding treatment, sample month, and their interaction as the fixed effects and field as the random effect. Post hoc analyses were conducted using Kenward-Roger degrees of freedom.

turfgrass cover, and bare groundcover were analyzed as the change in the percent cover. The DGCI, depth to compaction zone, shear strength, and soil moisture were analyzed as the change in percent greenness, centimeters to 300 psi, torque value in Newton-meters, and percent moisture, respectively.

All field data for the two sets of fields (CNY fields and Northeast fields) were analyzed separately using a generalized linear mixed model with overseeding treatment, time since beginning the first treatment, and their interaction as fixed effects (function *lmer*, in package lme4, version 1.1-13). Each individual field and its interactions with treatment and time were random effects. The dependent variables were the change in each metric relative to the pretreatment value as described previously. Two fields were eliminated from analysis in the CNY data set because data collection was incomplete on the first data collection day (CNY fields: n = 6; Northeast fields: n = 40). Assumptions of homogeneity of variance and normality of residuals were met. In some instances, residuals were outside the predicted range of normal variance; therefore, the model was run both with the data points included and with the data points removed. In all instances, the model predictions were the same; therefore, data were left in the data set. The post hoc estimated marginal means comparisons using the generalized linear mixed models were performed using a Kenward-Roger correction for multiple means comparisons (function *emmeans*, in package emmeans, version 1.4.7). Additionally, all turf and soil metrics were compared using a Pearson correlation matrix (function *rcorr*, in package corrplot, version 0.84).

The change in percent broadleaf weed cover was also analyzed based on an assessment of initial field quality. To define the initial field quality, pretreatment fields were classified as low-quality, medium-quality, and high-quality based on grass cover (≤25% grass cover; between 25% and 75% grass cover; and ≥75% grass cover, respectively). Then, this quality metric was included in the generalized linear mixed model described, with overseeding treatment, time since beginning the first treatment, original field quality, and their interactions as fixed effects. Each individual field and its interactions with treatment, time, and quality remained as random effects, and post hoc estimated marginal means comparisons were performed using the Kenward-Roger correction for multiple means comparisons.

Results

Northeast: 40 fields with two seasons of applications. In the 40 Northeast fields, the overseeding treatment significantly impacted the change in percent broadleaf weed cover ($P = 0.03$); however, the change in percent broadleaf weed cover did not vary over time ($P = 0.79$) and the treatment × time interaction was not significant ($P = 0.48$) (Table 1, Fig. 2). For both timepoints, the change in percent broadleaf weed cover was significantly higher in seeded plots (mean at 4 months, –11.34 and SE, 1.34; mean at 12 months, –10.40 and SE, 1.42) compared with unseeded plots (mean at 4 months, –3.79 and SE, 1.29; mean at 12 months, –4.24 and SE, 1.39) (Fig. 2).

The change in percent bare ground was unaffected by the overseeding treatment, over time, or treatment × time interaction (treatment, $P = 0.36$; time, $P = 0.70$; treatment × time, $P = 0.66$) (Table 1, Fig. 3). However, the overseeding treatment had a significant effect on the change in percent grass cover ($P = 0.008$) (Table 1, Fig. 3), whereas time and the time × treatment interaction had no effect (time, $P = 0.88$; treatment × time, $P = 0.86$) (Table 1, Fig. 3). The change in percent turfgrass cover was significantly higher in treated overseeded plots (mean at 4 months, 3.85 and SE, 1.63; mean at 12 months: 5.72 and SE: 1.66) compared with unseeded plots (mean at 4 months, –4.52 and SE, 1.58; mean at 12 months, –2.26 and SE, 1.66) for both time points. In contrast, overseeding had no effect on the DCGI ($P = 0.46$); however, the DCGI was significantly different over time ($P = 0.007$) and for the treatment × time interaction ($P = 0.001$) (Table 1, Fig. 3).

Central New York: eight fields with three seasons of applications. The overseeding treatment and time did not affect the change in percent broadleaf weed cover in the CNY fields (treatment: $P = 0.32$; time: $P = 0.61$) (Table 1, Fig. 2). The treatment × time interaction also was not significant ($P = 0.40$) (Table 1, Figure 2). The average changes in percent broadleaf weed cover were –6.05, –11.48, –10.34, –8.48, and –11.95 at months 1, 3, 11, 14, and 23, respectively (Fig. 2).

The overseeding treatment had no effect on the change in percent bare ground, the change in percent total grass cover, and the change in the greenness index DGCI (bare ground, $P = 0.16$; grass cover, $P = 0.55$; DGCI, $P = 0.15$) (Table 1, Fig. 3). However, time was significant for the change in percent bare ground and the change in DGCI (bare ground, $P = 0.009$; DGCI, $P = 0.0009$) (Table 1, Fig. 3). The change in percent bare

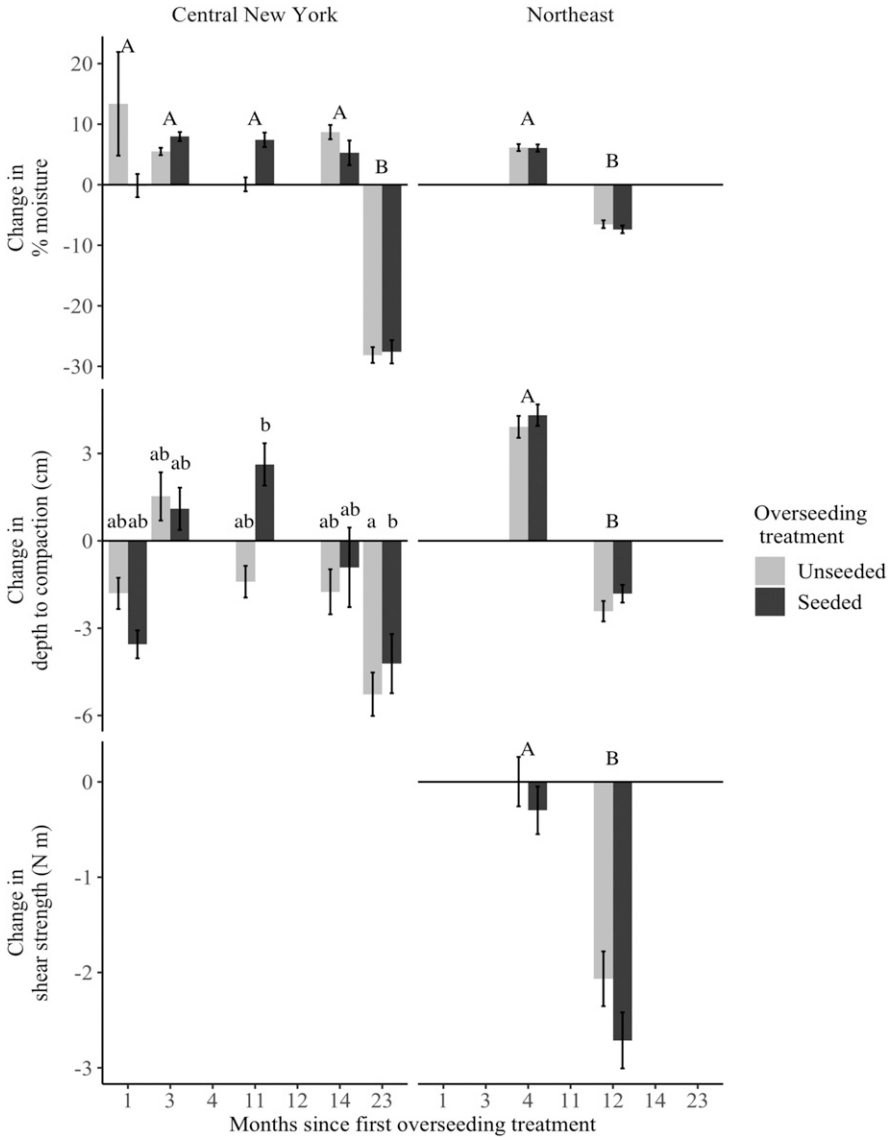

Fig. 4. Change in soil traits from pretreatment conditions based on overseeding treatment in Central New York fields and Northeast fields. Bars with different capital letters have statistically different means at different months ($P < 0.05$) and bars with different lowercase letters have statistically different means at different months based on the overseeding treatment ($P < 0.05$). Statistical significance was calculated from an analysis of variance (ANOVA) of a linear mixed model with overseeding treatment, sample month, and their interaction as the fixed effects and field as the random effect. Post hoc analyses were conducted using Kenward-Roger degrees of freedom.

ground was significantly higher at 3 months (+0.25) compared with 1 month (–4.99), 14 months (–3.42), and 23 months (–9.52) (Fig. 3). The change in DGCI was significantly higher at 1 month (0.13) compared with 3 months (0.00), 11 months (–0.10), and 23 months (–0.19), and it was significantly lower at 23 months (–0.19) compared with 1 month (0.13) and 14 months (0.05) (Fig. 3). The treatment × time interaction was not significant for percent bare ground and DGCI (bare ground: $P = 0.85$; DCGI: $P = 0.58$) (Table 1, Fig. 3). Time and the treatment × time interaction were not significant for the change in percent grass cover ($P = 0.27$ and $P = 0.62$, respectively) (Table 1, Fig. 3).

The overseeding treatment had a significant effect on the change in depth to compaction in the CNY fields ($P = 0.05$) (Table 1, Fig. 4). Although time was not significant for the change in depth to compaction, the treatment × time interaction was significant ($P = 0.02$) (Table 1, Fig. 4). The change in depth to compaction was significantly lower in the treated overseeded plots (mean, –4.46; SE, 0.97) compared with unseeded plots at 23 months (mean, –1.85; SE, 0.85) (Fig. 4). The overseeding treatment did not have an effect on the change in percent soil moisture; however, percent soil moisture was significantly lower at 23 months (–15.37) compared with all other months (1.86) in this study ($P < 0.0001$) (Table 1, Fig. 4).

Correlation matrix of combined data sets. A Pearson correlation matrix summarizing all dependent variables across both sets of athletic fields (CNY and Northeast) showed significant correlations for all metrics except for percent moisture–percent broadleaf weeds and shear strength–percent broadleaf weeds ($r = –0.01$ and $P = 0.64$ and $r = 0.02$ and $P = 0.29$, respectively) (Fig. 5). The strongest negative correlations were percent broadleaf weeds–percent grass cover ($r = –0.74$; $P < 0.0001$) and percent bare ground–percent grass cover ($r = –0.55$; $P < 0.0001$). The strongest positive correlations were percent moisture–DGCI ($r = 0.46$; $P < 0.0001$) and percent moisture–depth to compaction ($r = 0.42$; $P < 0.0001$).

Change in broadleaf weeds based on original field conditions. The changes in percent broadleaf weeds for CNY and Northeast fields, respectively, were, on average, –42.44 and –66.61 for high-quality fields, –8.24 and –24.01 for medium-quality fields, and 1.77 and 7.96 for low-quality fields combining both seeded and unseeded plots (Fig. 6).

Discussion

The practice of overseeding a natural grass field repeatedly, or repetitive overseeding, can decrease populations of broadleaf weeds while increasing turfgrass cover, as demonstrated in the Northeast fields in this study, as stated in the first hypothesis. However, although the study was conducted for two seasons, our hypothesis that the efficacy of repetitive overseeding increases over time was not supported. Our second hypothesis regarding the additional improvements of repetitive overseeding for turfgrass and soil traits was partially supported, however. The greenness index, DGCI, and depth to compaction were impacted by the overseeding treatment × time interaction, but these changes may not signal a gradual improvement in turf over time. Soil traits were consistently affected by time, suggesting that environmental and/or field maintenance factors influenced these traits more than overseeding. Overall, changes in broadleaf weed populations, turf cover, and soil traits were variable, indicating that the location, season, maintenance routine, and year affect turf quality in general, as well as the efficacy of repetitive overseeding as a weed management practice on school athletic fields. These results are consistent with those of other studies that also found that field use and environmental factors were sometimes more predictive of turf traits than overseeding treatments (Harper et al., 2016; Larsen et al., 2004; Miller and Henderson, 2012).

Broadleaf weed cover and grass cover were highly negatively correlated, suggesting that overseeded *Lolium perenne* was able to outcompete broadleaf weeds. Bare ground and grass cover were less negatively correlated, suggesting that overseeded *Lolium perenne* showed limitations in establishing on bare ground. Our results indicate that repetitive overseeding should be considered a targeted management strategy to shift vegetation from broadleaf weeds to grass cover, but that it may be less effective for targeting or remediating bare ground unless aggressive

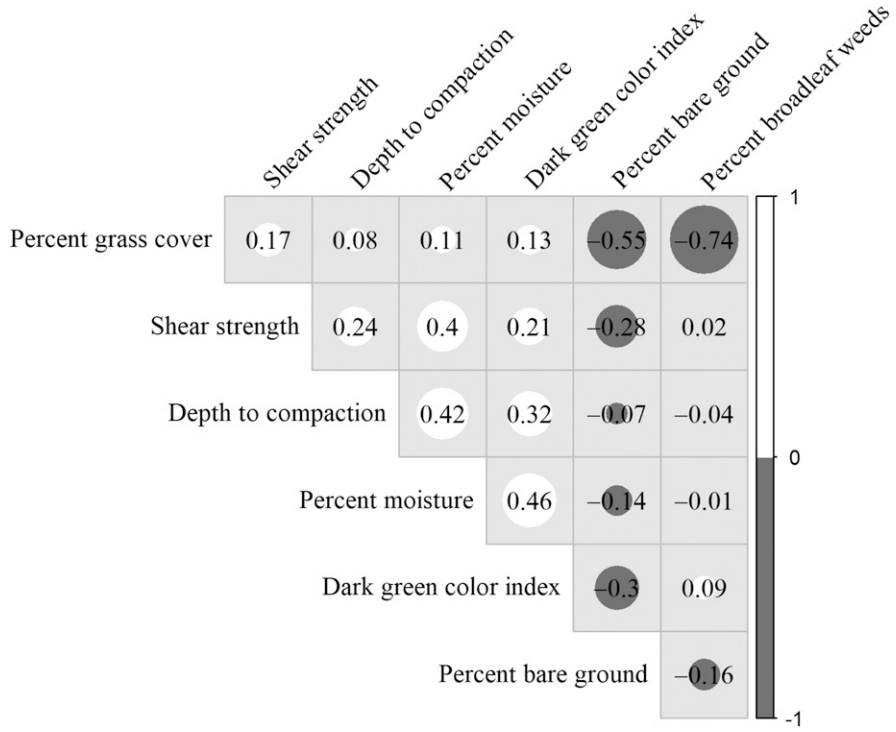

Fig. 5. Pearson correlation matrix of all dependent variables measured at all fields in Central New York and the Northeast across the treatment and sample period in both overseeded and unseeded field plots. Larger circles correspond to stronger correlations and the tone corresponds to whether the correlation is positive or negative.

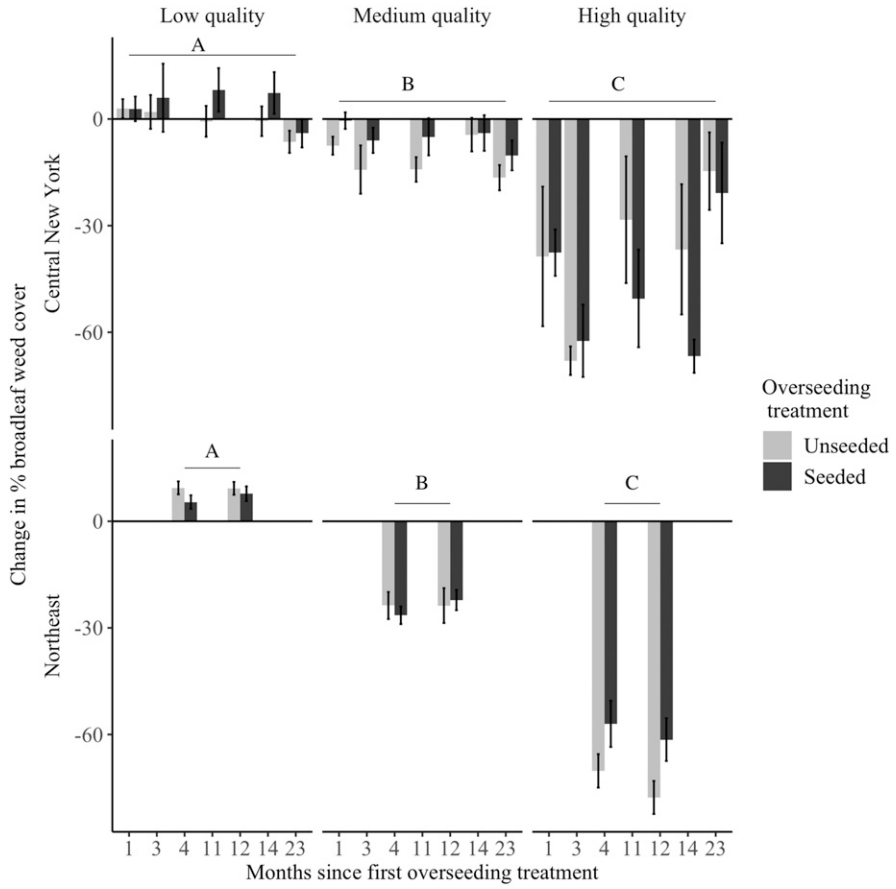

Fig. 6. Change in percent broadleaf weeds from pretreatment conditions based on overseeding treatment and original turf quality in Central New York fields and Northeast fields. Original turf quality was calculated based on the original percent grass cover before any treatments were applied. High-quality fields had ≥75% grass cover, medium quality fields had between 25% and 75% grass cover, and low-quality fields had ≤25% grass cover.

techniques are used to ameliorate the heavy compaction and surface hardness of bare soil. The findings are consistent with those of Larsen et al. (2004), who reported that grass cover improved and broadleaf weed cover declined but that bare ground did not change in response to repetitive overseeding. *Lolium perenne* has a fast germination rate and high tillering rate (Christians et al., 2016; Hunt and Dunn, 1993; Laskey and Wakefield, 1978). These traits make *Lolium perenne* more competitive than other turfgrass species and many broadleaf weeds in the short term (Hunt and Dunn, 1993; Laskey and Wakefield, 1978). However, bare ground in natural turfgrass fields may be the result of excessive traffic, which causes too much stress and disturbance to support any plant growth (Grime, 1977). Excessive traffic can result in compaction, wear, and soil displacement; therefore, management strategies should focus on increasing cultivation, improving soil organic matter with the addition of topsoil or compost before reseeding, and managing play on heavily used fields through rotation rather than overseeding alone (Carrow and Petrovic, 1992; Taylor, 1981).

Weed species were not identified in this study to account for the variable resources and time commitments of collaborators, which limited our abilities to determine changes in weed cover over time. Additionally, grassy weeds were not distinguished from desired turfgrass species, which masked the impact of overseeding on weedy grass species over time. Although school playing field managers can maintain a turfgrass cover with any species mix of cool season turfgrasses, weedy grass species can be problematic. The different textures and colors of turf and weed species make playing surfaces less uniform and uneven (McCarthy and Murphy, 1994). Additionally, annual weeds thin strands of more desirable turfgrass species and create seasonal bare spots when they go dormant (Engel and Ilnicki, 1969). The annual *Poa annua* (annual bluegrass), for example, is problematic because it produces many seedheads while growing, thus reducing the uniformity of the playing surface (McCarthy and Murphy, 1994), and dies quickly in warm weather, leaving many bare spots in the turfgrass canopy (Engel and Ilnicki, 1969). *Digitaria* spp. (crabgrasses) and other annual grassy weeds germinate early in the spring and can dominate sections of a field by rooting at the nodes of prostrate stems. In the fall, the crabgrasses (*Digitaria* spp.) dieback, leaving behind open areas and thin turf (Engel and Ilnicki, 1969). This annual grassy weed presence may have had a role in the percent bare ground on our fields, although it was not measured in this study. Nonetheless, repetitive overseeding can be an effective strategy against *Poa annua* (Aamlid et al., 2012) and other annuals. Future overseeding studies should prioritize both grassy and broadleaf weed identification for a better assessment of the impacts of overseeding on specific species and their phenological development along with field use demands.

Understanding how different weed management strategies affect specific weed species and how they change weed ecology generally will help field managers prioritize when they should invest resources in these overseeding strategies. For example, a field with intense demands for fall football play should target late summer and early fall for repetitive overseeding; however, for fields with intense spring lacrosse schedules and other spring season athletics, overwinter seeding could provide additional benefits to spring overseeding.

Environmental shifts may have also played a large role in variations in turf traits during this study. In May 2016, when overseeding treatments were being applied to all fields, large portions of the northeastern United States were experiencing a severe drought. New York, for example, experienced its ninth driest year on record in Fall 2016. This drought continued into June 2017, and it affected much of the region, with 53% of the Northeast experiencing an abnormally dry month (Northeast Regional Climate Center, 2017). Field managers in this study were asked not to irrigate their fields to reduce confounding factors in the experiment. The regional drought experienced in the northeastern United States in 2016 resulted in dry soil, which is reflected in our soil moisture measurements. Without water, turfgrass seeds were unable to germinate; therefore, they were unable to outcompete weed species. The importance of irrigation in the success of repetitive overseeding has been noted in other studies (Elford et al., 2008; Harper et al., 2016). The dry soil also led to very hard playing surfaces, which were reflected in our soil compaction measurements when the depth to 300 psi of resistance decreased in 2016. This high positive correlation between soil moisture and soil compaction is common (Filho et al., 2017). Therefore, the practice of overseeding as a weed management strategy and as a tool to improve turf quality should consider climate, soil moisture, and access to irrigation before being implemented.

The greenness index, DGCI, may have also been affected by the drought. DGCI is a spectral reference measurement used as an indicator of overall turf quality by quantifying green pixels. Many factors affect turf greenness, including plant density, plant health (Leinauer et al., 2014), mineral nutrition, and the dominant plant species that compose the turf, regardless of desirability (Miller and Henderson, 2012). We found that DGCI was affected by the interaction of overseeding and time. Overseeding may have improved turfgrass cover, increasing its greenness in 2015, but the drought may have extended dormancy in 2016, resulting in a decrease in DGCI that dwarfed any positive effects of overseeding.

Visualizing the change in percent broadleaf weed cover by original turf quality further highlights the difficulty of shifting the balance in weed competitiveness without changing other environmental and management factors. Regardless of overseeding treatments, fields with 25% or less grass cover before treatments had a slight increase in broadleaf weed cover. However, fields with 75% or more grass cover before treatments had a large decrease in broadleaf weed cover. The environmental or management factors that influenced the higher-quality fields to continue developing greater grass coverage may also explain why the low-quality fields with thin grass cover proceeded to be populated by weed species.

Weed management in turf is tightly linked to creating the best environment for desirable turf species to grow; therefore, sound overall turf management protocols with proper mowing, irrigation, and fertilization are often the most effective weed management strategy (Busey 2003; Engel and Ilnicki, 1969; Hahn et al., 2020). Supplementation of turfgrass seed may only further enhance these high-quality fields. Turfgrass species will be more competitive than many broadleaf weeds in mown fields because mowing repeatedly removes the apical meristem or flowers of broadleaf weeds while grass growth is stimulated (Fry and Huang, 2004). For example, mowing promotes tillering of grass species, thus increasing their density (Fry and Huang, 2004). However, mowing turfgrass too low can contribute to weed establishment and infestations because it reduces carbohydrate reserves and stresses the turfgrass (Abu-Dieyeh and Watson, 2006; Busey, 2003; Fry and Huang, 2004). Proper irrigation will also help with weed management. Too little water will prevent seed germination and growth, as we may have seen in our experiment, and too much water will encourage the growth of water-tolerant weeds such as annual bluegrass, nutsedges, and weeds that can spread by rooting at nodes, such as *Digitaria* spp. (crabgrasses) and *Stellaria* spp. (chickweeds) (Engel and Ilnicki, 1969). Too little fertilization can cause turfgrass species to grow slowly and leave ground open for weeds to emerge (Busey, 2003; DeBels et al., 2012; Johnson and Bowyer, 1982), but too much nutrition can cause weed species to proliferate if turfgrass species are struggling (Busey, 2003). There is some evidence that many grass species are more competitive than broadleaf plants at high rates of nitrogen fertilizer; however, some of the grass species that are most competitive, such as *Poa annua* (annual bluegrass), are undesirable; finding the correct balance of fertilization is also critical (Hahn et al., 2020). High-quality athletic fields with more turfgrass cover and fewer weeds may respond more effectively to overseeding compared with lower-quality fields with little turf and an abundance of weeds.

The economic reality of school budgets is also an important aspect of the sustainability of overseeding as a tool. Importantly, field managers in our study were able to successfully apply overseeding treatments within defined schedules, demonstrating the feasibility of incorporating this management strategy into their field maintenance schedules. Therefore, we believe this is a feasible weed management tool for school grounds. However, repetitive overseeding did not consistently decrease weed cover to improve field aesthetics or safety over time for each field; therefore, it is not always the most effective method of weed control on school sports fields.

Overseeding can, within months, reduce weed populations and increase grass cover, but it is not the sole predictor of turfgrass weed pressure. Access to irrigation, especially in years of drought, is an important factor in its success; therefore, field managers without access to irrigation may find other management practices more beneficial in dry years. Additionally, some undesirable field traits, such as bare ground and compaction, may be the result of other environmental or management decisions, and overseeding alone will not remedy those issues. If a field is well-managed, then weed pressure is likely to be less of a concern regardless of overseeding treatment; if it is being poorly managed, then it is likely to increase. Overseeding may be an important weed management strategy in sports fields, especially where legislation prevents the use of other weed management tools. However, one strategy involving a pesticide-free or integrated pest management program should be used along with cultural practices such as cultivation, mowing, irrigation, and fertilization to improve overall turf quality and field safety.

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130th MAINE LEGISLATURE

FIRST REGULAR SESSION-2021

Legislative Document **No. 125**

S.P. 58 In Senate, January 21, 2021

An Act To Prohibit the Aerial Spraying of Glyphosate and Other Synthetic Herbicides for the Purpose of Silviculture

Received by the Secretary of the Senate on January 19, 2021. Referred to the Committee on Agriculture, Conservation and Forestry pursuant to Joint Rule 308.2 and ordered printed.

DAREK M. GRANT
Secretary of the Senate

Presented by President JACKSON of Aroostook.
Cosponsored by Speaker FECTEAU of Biddeford and
Senators: BENNETT of Oxford, MAXMIN of Lincoln, Representatives: O'NEIL of Saco, PLUECKER of Warren.

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

Sec. 1. 7 MRSA §606, sub-§3 is enacted to read:

3. Aerial spraying of glyphosate and other synthetic herbicides. A person may not conduct an aerial application of glyphosate or other synthetic herbicides for the purpose of silviculture, including reforestation, regeneration or vegetation control after any timber harvest.

Sec. 2. 12 MRSA §8869, sub-§1, as enacted by PL 1989, c. 555, §10, is amended to read:

1. Standards for regeneration after harvests. The commissioner shall adopt rules to ensure adequate regeneration of commercial tree species on a site within 5 years of completion of any timber harvest. Rules to implement this requirement ~~shall~~ must include identification of commercial tree species, minimum stocking standards ~~and~~, methods to mitigate inadequate regeneration and a prohibition on the aerial application of glyphosate or other synthetic herbicides pursuant to Title 7, section 606, subsection 3. In developing regeneration standards, the commissioner shall take into consideration regional differences in forest types, tree species and physiographic conditions.

Sec. 3. 12 MRSA §8869, sub-§7-A, as amended by PL 2013, c. 542, §5, is further amended to read:

7-A. Exemption for outcome-based forestry areas. An outcome-based forestry area designated under section 8003, subsection 3, paragraph Q is exempt from the requirements of this section if specifically exempted in the agreement establishing the outcome-based forestry area. The agreement may not provide an exemption from the prohibition on the aerial application of glyphosate or other synthetic herbicides pursuant to Title 7, section 606, subsection 3.

SUMMARY

This bill prohibits the aerial application of glyphosate or other synthetic herbicides for the purpose of silviculture, including reforestation, regeneration or vegetation control after a timber harvest.

6c

130th MAINE LEGISLATURE

FIRST REGULAR SESSION-2021

Legislative Document **No. 155**

H.P. 111 House of Representatives, January 21, 2021

Resolve, Directing the Board of Pesticides Control To Prohibit the Use of Certain Neonicotinoids for Outdoor Residential Use

Received by the Clerk of the House on January 19, 2021. Referred to the Committee on Agriculture, Conservation and Forestry pursuant to Joint Rule 308.2 and ordered printed pursuant to Joint Rule 401.

Robert B. Hunt

ROBERT B. HUNT
Clerk

Presented by Representative GROHOSKI of Ellsworth.
Cosponsored by Senator MAXMIN of Lincoln and
Representatives: DODGE of Belfast, MILLETT of Cape Elizabeth, O'NEIL of Saco, PEBWORTH of Blue Hill, PLUECKER of Warren, ZEIGLER of Montville.

Sec. 1. Prohibit the use of certain neonicotinoids for outdoor use. Resolved: That, pursuant to the Maine Revised Statutes, Title 7, section 610, the Department of Agriculture, Conservation and Forestry, Board of Pesticides Control shall prohibit the use of any product containing the active ingredient dinotefuran, clothianidin, imidacloprid or thiamethoxam used for application in outdoor residential landscapes such as on lawn, turf or ornamental vegetation. Products used for preserving wood, controlling or treating indoor insects and treating pets, as defined under Title 7, section 712, subsection 16, are specifically exempt from the prohibition under this section. Rules adopted pursuant to this section are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

SUMMARY

This resolve directs the Department of Agriculture, Conservation and Forestry, Board of Pesticides Control to prohibit the use of any product containing certain neonicotinoids used for application in outdoor residential landscapes such as on lawn, turf or ornamental vegetation. The resolve also provides that products used for preserving wood, controlling or treating indoor insects and treating pets are specifically exempt from the prohibition.

6d

130th MAINE LEGISLATURE

FIRST REGULAR SESSION-2021

Legislative Document **No. 226**

H.P. 161 House of Representatives, January 27, 2021

An Act To Limit the Use of Hydrofluorocarbons To Fight Climate Change

Submitted by the Department of Environmental Protection pursuant to Joint Rule 204.

Received by the Clerk of the House on January 25, 2021. Referred to the Committee on Environment and Natural Resources pursuant to Joint Rule 308.2 and ordered printed pursuant to Joint Rule 401.

ROBERT B. HUNT
Clerk

Presented by Representative TUCKER of Brunswick.

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

Sec. 1. 38 MRSA §1612 is enacted to read:

§1612. Hydrofluorocarbon use restrictions

1. Definitions. As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Substance" means any chemical or blend intended for an end use.

2. Prohibition. In order to reduce greenhouse gas emissions by substituting or reducing the use of the hydrofluorocarbons with the highest global warming potential, a person may not sell, lease, rent, install, use or enter into commerce in the State any product or equipment that uses or will use a substance that is a hydrofluorocarbon with high global warming potential intended for any air conditioning, refrigeration, foam or aerosol propellant end use as determined by the department in rules.

3. Rulemaking. The department shall adopt rules to implement this section. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

Sec. 2. Rulemaking. The Department of Environmental Protection shall adopt rules to implement the Maine Revised Statutes, Title 38, section 1612 in accordance with this section. In adopting the initial rules pursuant to Title 38, section 1612, the department shall regulate each substance and end use as provided for in this section and may not regulate any substance or end use not addressed in this section. In the future, the department may adopt rules adding or removing substances from the list of prohibited substances or adding or removing end uses.

1. Definitions. As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Aerosol propellant" means a compressed gas or vapor in a container that, upon release of pressure and expansion through a valve, carries another substance from the container as a mist or spray.

B. "Air conditioning equipment" means chillers used exclusively for comfort cooling of occupied spaces.

C. "Built-in household refrigerators and freezers" means any refrigerators, refrigerator-freezers or freezers intended for residential use that have 7.75 cubic feet or greater total volume and 24 inches or less depth not including doors, handles and custom front panels; that have sides that are not finished and not designed to be visible after installation; that are designed, intended and marketed exclusively to be installed totally encased by cabinetry or panels that are attached during installation and securely fastened to adjacent cabinetry, walls or floor; and that are equipped with an integral factory-finished face or that accept a custom front panel.

D. "Capital cost" means an expense incurred in the production of goods or in rendering services, including, but not limited to, the cost of engineering; the cost of the purchase and installation of components or systems and instrumentation; and contractor and construction fees.

E. "Centrifugal chiller" means air conditioning equipment that uses a centrifugal compressor in a vapor-compression refrigeration cycle. A centrifugal chiller is a chiller intended for comfort cooling and does not include chillers used for industrial process cooling and refrigeration.

F. "Cold storage warehouse" means a cooled facility designed to store meat, produce, dairy products and other products prior to their delivery to other locations for sale to the ultimate consumer.

G. "Compact household refrigerators and freezers" means any refrigerators, refrigerator-freezers or freezers intended for residential use that have a total refrigerated volume of less than 7.75 cubic feet (220 liters).

H. "Component" means a part of a refrigeration system, including, but not limited to, a condensing unit, compressor, condenser, evaporator and receiver, and all of the system's connections and subassemblies without which the refrigeration system would not properly function or would be subject to failure.

I. "Department" means the Department of Environmental Protection.

J. "End use" means processes or classes of specific applications within industry sectors, including, but not limited to, those listed in subsection 2.

K. "Flexible polyurethane" means a nonrigid synthetic foam containing polymers of urethane radicals, including, but not limited to, foam used in furniture, bedding, chair cushions and shoe soles.

L. "Foam-blowing agent" or "foam" means a product or substance used to produce a product with a cellular structure formed via a foaming process, including materials that undergo hardening or phase transition, such as polymers and plastics.

M. "Heat pump" means a device used for comfort heating or cooling of residential and commercial spaces, including, but not limited to, a mini-split heat pump. Heat pumps may be air sourced, water sourced or ground sourced. "Heat pump" does not include air conditioning equipment.

N. "Household refrigerators and freezers" means any refrigerators, refrigerator-freezers, freezers or miscellaneous residential refrigeration appliances intended for residential use. "Household refrigerators and freezers" does not include compact household refrigerators and freezers or built-in household refrigerators and freezers.

O. "Integral skin polyurethane" means a synthetic self-skinning foam containing polymers of urethane radicals, including, but not limited to, foam used in shoe soles and automobile steering wheels and dashboards.

P. "Light duty vehicle" means a car or light duty truck as defined in the Maine Revised Statutes, Title 5, section 1812-E.

Q. "Metered dose inhaler" means a device that delivers a measured amount of medication as a mist that a patient can inhale, typically used for bronchodilation to treat symptoms of asthma, chronic obstructive pulmonary disease, chronic bronchitis, emphysema and other respiratory illnesses, and consists of a pressurized canister of medication in a case with a mouthpiece.

R. "Miscellaneous residential refrigeration appliance" means a residential refrigeration appliance smaller than a refrigerator, refrigerator-freezer or freezer for use in a

household and includes coolers, cooler compartments and combination cooler-refrigeration or cooler-freezer products.

S. "New" means, with regard to a product or equipment, a product or equipment that is manufactured after the effective date of this section or equipment substantially expanded or modified after the effective date of this section such that the capital cost of the expansion or modification exceeds 50% of the cost of replacing the whole system.

T. "Person" means an individual, firm, association, organization, manufacturer, distributor, partnership, business trust, corporation, limited liability company, company, state or local governmental agency or public district.

U. "Phenolic insulation board" means phenolic insulation, including, but not limited to, insulation used for roofing and walls.

V. "Phenolic insulation bunstock" means phenolic insulation that is a large solid box-like structure formed during the production of polystyrene insulation that can be cut into specific custom lengths and shapes.

W. "Polyolefin" means foam sheets and tubes made of polyolefin.

X. "Polystyrene extruded boardstock and billet" means a foam formed from polymers of styrene and produced on extruding machines in the form of continuous foam slabs that can be cut and shaped into panels used for insulation of roofing, walls, flooring and pipes.

Y. "Polystyrene extruded sheet" means polystyrene foam including foam used for packaging and buoyancy or flotation. "Polystyrene extruded sheet" includes foam made into food-service items, including hinged polystyrene containers, food trays, plates, bowls and retail egg containers.

Z. "Positive displacement chiller" means a vapor compression cycle chiller that uses a positive displacement compressor, typically used for commercial comfort air conditioning. "Positive displacement chiller" does not include a chiller used for industrial process cooling and refrigeration.

AA. "Refrigerant gas" or "refrigerant" means any substance, including blends and mixtures, that is used for heat transfer purposes.

BB. "Refrigerated food processing and dispensing equipment" means retail food refrigeration equipment that is designed to process and dispense food and beverages that are intended for immediate or near-immediate consumption, including, but not limited to, chilled and frozen beverages, ice cream and whipped cream. "Refrigerated food processing and dispensing equipment" excludes water coolers and units designed solely to cool and dispense water.

CC. "Refrigeration equipment" means any stationary device that is designed to contain and use refrigerant gas to establish or maintain colder than ambient temperatures in a confined space, including, but not limited to, retail food refrigeration equipment, household refrigerators and freezers and cold storage warehouses.

DD. "Remote condensing unit" means retail food refrigeration equipment that has a central condensing portion and may consist of one or more compressors, condensers and receivers assembled into a single unit, which may be located outside the sales area. "Remote condensing unit" includes units that are commonly installed in convenience

stores, specialty shops such as bakeries or butcher shops, supermarkets, restaurants and other locations where food is stored, served or sold.

EE. "Residential use" means use by an individual of a substance, or a product containing the substance, in or around a permanent or temporary household, during recreation or for any personal use or enjoyment. "Residential use" does not include use within a household for commercial or medical applications or use in automobiles, watercraft or aircraft.

FF. "Retail food refrigeration equipment" means equipment designed to store and display chilled or frozen goods for commercial sale, including, but not limited to, stand-alone units, refrigerated food processing and dispensing equipment, remote condensing units, supermarket systems and vending machines.

GG. "Retrofit" means to replace the refrigerant used in refrigeration equipment with a different refrigerant and includes related changes to the refrigeration equipment required to maintain its operation and reliability following refrigerant replacement.

HH. "Rigid polyurethane and polyisocyanurate laminated boardstock" means laminated board insulation made with polyurethane or polyisocyanurate foam, including insulation for roofing and walls.

II. "Rigid polyurethane appliance foam" means polyurethane insulation foam used in domestic appliances.

JJ. "Rigid polyurethane high-pressure 2-component spray foam" means a foam product that is pressurized to 800 to 1,600 pounds per square inch during manufacture; is sold in pressurized containers as 2 parts; and is blown and applied in situ using high-pressure pumps to propel the foam, and may use liquid blowing agents without an additional propellant.

KK. "Rigid polyurethane in commercial refrigeration" means polyurethane insulation for pipes, walls and metal doors in retail food refrigeration equipment.

LL. "Rigid polyurethane low-pressure 2-component spray foam" means a foam product that is pressurized to less than 250 pounds per square inch during manufacture, sold in pressurized containers as 2 parts and typically applied in situ using a gaseous foam-blowing agent that also serves as a propellant so pumps typically are not needed.

MM. "Rigid polyurethane marine flotation foam" means buoyancy or flotation foam used in boat and ship manufacturing for both structural and flotation purposes.

NN. "Rigid polyurethane one-component foam sealant" means a foam packaged in aerosol cans that is applied in situ using a gaseous foam-blowing agent that is also the propellant.

OO. "Rigid polyurethane sandwich panels" means polyurethane insulation sandwiched between outer structural layers and used as insulation for walls and metal doors, including garage doors.

PP. "Rigid polyurethane slabstock" means a rigid closed-cell foam containing polymers of urethane radicals formed into slabstock insulation for panels and pipes.

QQ. "Stand-alone low-temperature unit" means a stand-alone unit that maintains food or beverages at temperatures at or below 32 degrees Fahrenheit.

RR. "Stand-alone medium-temperature unit" means a stand-alone unit that maintains food or beverages at temperatures above 32 degrees Fahrenheit.

SS. "Stand-alone unit" means a retail refrigerator, freezer and reach-in cooler, either open or with doors, that has fully integrated refrigeration components and a refrigeration circuit that may be entirely brazed or welded. Stand-alone units are fully charged with refrigerant at the factory and typically require only an electricity supply to begin operation.

TT. "Substance" means any chemical or blend intended for an end use listed in subsection 2.

UU. "Supermarket systems" means multiplex or centralized retail food refrigeration equipment systems designed to cool or refrigerate that operate with racks of compressors installed in a machinery room. "Supermarket systems" includes both direct and indirect systems.

VV. "Use," with regard to any use of a compound or any substance, includes, but is not limited to, use in a manufacturing process or product in the State, consumption for an end use in the State and use in intermediate applications in the State, such as formulation or packaging for other subsequent applications, and excludes residential use, but does not exclude manufacturing for the purpose of residential use.

WW. "Vending machine" means self-contained retail food refrigeration equipment that dispenses goods that must be kept cold or frozen.

2. End use prohibitions. The rules must provide that a person may not sell, lease, rent, install, use or enter into commerce in the State any product or equipment that uses or will use a listed substance intended for any air conditioning, refrigeration, foam or aerosol propellant end use listed as prohibited in this subsection, unless an exemption is provided for that end use in subsection 3.

For the following end uses, the listed hydrofluorocarbon substances are prohibited as of the date indicated for each end use.

A. For aerosol propellants in new products, HFC-125, HFC-134a, HFC-227ea and blends of HFC-227ea and HFC-134a are prohibited as of January 1, 2022.

B. For new centrifugal chillers, FOR12A, FOR12B, HFC-134a, HFC-227ea, HFC-236fa, HFC-245fa, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-423A, R-424A, R-434A, R-438A, R-507A, RS-44 (2003 composition) and THR-03 are prohibited as of January 1, 2024.

C. For new positive displacement chillers, FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-424A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 composition), SP34E and THR-03 are prohibited as of January 1, 2024.

D. For light duty vehicles, HFC-134a, SP34E, R-426A and RS-24 (new formulation) are prohibited for all newly manufactured vehicles as of model year 2022.

E. For new cold storage warehouses, HFC-227ea, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-423A, R-424A, R-428A, R-434A, R-438A, R-507A and RS-44 (2003 composition) are prohibited as of January 1, 2023.

F. For new household refrigerators and freezers, FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E and THR-03 are prohibited as of January 1, 2022.

G. For new compact household refrigerators and freezers, FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E and THR-03 are prohibited as of January 1, 2022.

H. For new built-in household refrigerators and freezers, FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E and THR-03 are prohibited as of January 1, 2023.

I. For retrofitted supermarket systems, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A and R-507A are prohibited as of January 1, 2022.

J. For new supermarket systems, HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A and R-507A are prohibited as of January 1, 2022.

K. For retrofitted remote condensing units, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A and R-507A are prohibited as of January 1, 2022.

L. For new remote condensing units, HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A and R-507A are prohibited as of January 1, 2022.

M. For retrofitted stand-alone units, R-404A and R-507A are prohibited as of January 1, 2022.

N. For new stand-alone medium-temperature units, FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E and THR-03 are prohibited as of January 1, 2022.

O. For new stand-alone low-temperature units, HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A and RS-44 (2003 formulation) are prohibited as of January 1, 2022.

P. For new refrigerated food processing and dispensing equipment, HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A and RS-44 (2003 formulation) are prohibited as of January 1, 2022.

Q. For retrofitted vending machines, R-404A and R-507A are prohibited as of January 1, 2022.

R. For new vending machines, FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-426A, R-437A, R-438A, R-507A, RS-24 (2002 formulation) and SP34E are prohibited as of January 1, 2022.

S. For new rigid polyurethane and polyisocyanurate laminated boardstock, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof are prohibited as of January 1, 2022.

T. For new flexible polyurethane, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof are prohibited as of January 1, 2022.

U. For new integral skin polyurethane, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof; Formacel TI; and Formacel Z-6 are prohibited as of January 1, 2022.

V. For new polystyrene extruded sheet, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof; Formacel TI; and Formacel Z-6 are prohibited as of January 1, 2022.

W. For new phenolic insulation board and new phenolic insulation bunstock, HFC-143a, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof are prohibited as of January 1, 2022.

X. For new rigid polyurethane slabstock and other new rigid polyurethane, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof; Formacel TI; and Formacel Z-6 are prohibited as of January 1, 2022.

Y. For new rigid polyurethane appliance foam, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof; Formacel TI; and Formacel Z-6 are prohibited as of January 1, 2022.

Z. For new rigid polyurethane in commercial refrigeration and new rigid polyurethane sandwich panels, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof; Formacel TI; and Formacel Z-6 are prohibited as of January 1, 2022.

AA. For new polyolefin, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof; Formacel TI; and Formacel Z-6 are prohibited as of January 1, 2022.

BB. For new rigid polyurethane marine flotation foam, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof; Formacel TI; and Formacel Z-6 are prohibited as of January 1, 2022.

CC. For new polystyrene extruded boardstock and billet, HFC-134a, HFC-245fa, HFC-365mfc and any blends thereof; Formacel TI; Formacel B; and Formacel Z-6 are prohibited as of January 1, 2022.

DD. For new rigid polyurethane high-pressure 2-component spray foam, HFC-134a, HFC-245fa and any blends thereof; blends of HFC-365mfc with at least 4% HFC-245fa; commercial blends of HFC-365mfc with 7% to 13% HFC-227ea and the remainder HFC-365mfc; and Formacel TI are prohibited as of January 1, 2022.

EE. For new rigid polyurethane low-pressure 2-component spray foam, HFC-134a, HFC-245fa and any blends thereof; blends of HFC-365mfc with at least 4% HFC-245fa; commercial blends of HFC-365mfc with 7% to 13% HFC-227ea and the remainder HFC-365mfc; and Formacel TI are prohibited as of January 1, 2022.

FF. For new rigid polyurethane one-component foam sealants, HFC-134a, HFC-245fa and any blends thereof; blends of HFC-365mfc with at least 4% HFC-245fa; commercial blends of HFC-365mfc with 7% to 13% HFC-227ea and the remainder HFC-365mfc; and Formacel TI are prohibited as of January 1, 2022.

3. Exemptions. The rules must include the following exemption provisions:

A. Heat pumps are exempt from end use prohibitions under this section; and

B. The following exemptions to the prohibitions in subsection 2 apply in the end use categories indicated.

(1) HFC-134a is allowed as an aerosol propellant in new cleaning products for removal of grease, flux and other soils from electrical equipment; new refrigerant flushes; new products for sensitivity testing of smoke detectors; new lubricants and freeze sprays for electrical equipment or electronics; new sprays for aircraft maintenance; new sprays containing corrosion preventive compounds used in the maintenance of aircraft, electrical equipment, electronics or military equipment; new pesticides for use near electrical wires, in aircraft, in total release insecticide foggers or in certified organic use pesticides for which the federal Environmental Protection Agency has specifically disallowed all other lower global warming potential propellants; new mold release agents and mold cleaners; new lubricants and cleaners for spinnerets for synthetic fabrics; new duster sprays specifically for removal of dust from photographic negatives, semiconductor chips, specimens under electron microscopes and energized electrical equipment; new adhesives and sealants in canisters for commercial use; new document preservation sprays; new wound care sprays; new topical cooling sprays for pain relief; and new products for removing bandage adhesives from skin. HFC-134a, HFC-227ea and blends of HFC-227ea and HFC-134a are allowed as aerosol propellants for new metered dose inhalers approved by the United States Department of Health and Human Services, Food and Drug Administration for medical purposes.

(2) HFC-134a is allowed as a new air conditioning refrigerant for military marine vessels when the department has determined that reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements. HFC-134a and R-404A are allowed as new air conditioning refrigerants in spacecraft intended for human occupancy and related support equipment when the department has determined that reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements.

(3) For all new foams other than rigid polyurethane one-component foam sealants, all substances listed in subsection 2 are allowed, until January 1, 2023, in military applications when the department has determined that reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements; and, until January 1, 2025, in space-related and aeronautics-related applications when the department has determined that reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements.

(4) For new rigid polyurethane 2-component spray foams, all substances listed in subsection 2 are allowed, until January 1, 2025, in military or space-related and aeronautics-related applications when the department has determined that reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements.

4. Disclosure statements. The rules must require any person who manufactures, sells, leases, rents or enters into commerce in the State a product or equipment intended for air

conditioning, refrigeration, foam or aerosol propellant end use, if the product or equipment uses or is intended to use any substance listed as prohibited for that end use in subsection 2, to provide a written disclosure to the buyer as part of the sales transaction and invoice.

A. The required written disclosure must state:

(1) For refrigeration equipment and air conditioning equipment: "This equipment is prohibited from use in Maine with any refrigerant on the list in Maine Department of Environmental Protection rules of prohibited substances for that specific end use. This disclosure statement has been reviewed and approved by [THE ENTITY], and [THE ENTITY] attests, under penalty of perjury, that these statements are true and accurate.";

(2) For foam: "This foam system is prohibited from use in Maine with any foam-blowing agent on the list in Maine Department of Environmental Protection rules of prohibited substances for that specific end use. This disclosure statement has been reviewed and approved by [THE ENTITY], and [THE ENTITY] attests, under penalty of perjury, that these statements are true and accurate."; and

(3) For aerosol propellants: "This product is prohibited from use in Maine with any aerosol propellant on the list in Maine Department of Environmental Protection rules of prohibited substances for that specific end use. This disclosure statement has been reviewed and approved by [THE ENTITY], and [THE ENTITY] attests, under penalty of perjury, that these statements are true and accurate."

B. At the point of sale, the disclosure statement requirement may be met alternatively with a label on the product or equipment reading: "Not for sale in Maine." The label must be displayed on the product or equipment so that it is readily observable without removing or disassembling any portion of the packaging. The label must be in a font size as large as or larger than the font size of all other words on the principal display panel, excluding the company name, brand name and logo.

C. The disclosure statement under paragraph A or label under paragraph B must remain with the product or equipment while it is in the State.

5. Record keeping. The rules must include a provision requiring any person who manufactures any product or equipment for the end uses listed in subsection 2 for sale or entry into commerce in the State to maintain for 5 years, and make available upon request by the department, records sufficient to demonstrate that the product or equipment does not contain any substances listed in subsection 2 as prohibited for that end use or that the product is exempt in accordance with subsection 3.

6. Venting prohibition. The rules must provide that a person maintaining, servicing, repairing or disposing of any product or equipment containing or using a substance intended for an end use listed in subsection 2 may not knowingly vent or otherwise release into the environment any substance contained or used in that product or equipment. De minimis releases associated with good faith attempts to recycle or recover such substances are not subject to this prohibition.

SUMMARY

This bill prohibits the sale, lease, rent, installation, use or entering into commerce of any product or equipment that uses or will use a substance that is a hydrofluorocarbon with

high global warming potential intended for any air conditioning, refrigeration, foam or aerosol propellant end use as determined by the Department of Environmental Protection in rules. It directs the department to adopt rules to implement the prohibition and specifies the substances and end uses that are to be addressed in the rules. In adopting the initial rules, the department must regulate each substance and end use as specifically provided for in the bill and may not regulate any substance or end use not addressed in the bill. In the future, the department may adopt rules adding or removing substances from the list of prohibited substances or adding or removing end uses.

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130th MAINE LEGISLATURE

FIRST REGULAR SESSION-2021

Legislative Document **No. 264**

H.P. 185 House of Representatives, January 29, 2021

An Act To Prohibit Aerial Application of Perfluoroalkyl and Polyfluoroalkyl Substances

Received by the Clerk of the House on January 27, 2021. Referred to the Committee on Environment and Natural Resources pursuant to Joint Rule 308.2 and ordered printed pursuant to Joint Rule 401.

ROBERT B. HUNT
Clerk

Presented by Representative PLUECKER of Warren.

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

Sec. 1. 7 MRSA §606, sub-§2, ¶F, as amended by PL 2005, c. 620, §5, is further amended to read:

F. Refuse or otherwise fail to comply with the provisions of this subchapter, the rules adopted under this subchapter~~,~~ or any lawful order of the board; ~~or~~

Sec. 2. 7 MRSA §606, sub-§2, ¶G, as amended by PL 2005, c. 620, §5, is further amended to read:

G. Apply pesticides in a manner inconsistent with rules for pesticide application adopted by the board~~.~~;

Sec. 3. 7 MRSA §606, sub-§2, ¶H is enacted to read:

H. Conduct an aerial application of a pesticide unless the board has determined that the pesticide has been analyzed by a 3rd-party entity not associated with the manufacturer of the pesticide who has determined that PFAS are not part of the formulation of the pesticide; or

Sec. 4. 7 MRSA §606, sub-§2, ¶I is enacted to read:

I. Conduct an aerial application of a pesticide if PFAS are part of the formulation of the pesticide.

Sec. 5. 7 MRSA §606, sub-§2, as amended by PL 2005, c. 620, §5, is further amended by enacting at the end a new blocked paragraph to read:

For purposes of this subsection, "perfluoroalkyl and polyfluoroalkyl substances" or "PFAS" means any member of the class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

SUMMARY

This bill prohibits the aerial application of a pesticide unless the Board of Pesticides Control has determined that the pesticide has been analyzed by a 3rd-party entity not associated with the manufacturer of the pesticide who has determined that perfluoroalkyl and polyfluoroalkyl substances, also known as PFAS, are not part of the formulation of the pesticide. The bill also prohibits the aerial application of a pesticide if perfluoroalkyl and polyfluoroalkyl substances are part of the formulation of the pesticide.

130th MAINE LEGISLATURE

FIRST REGULAR SESSION-2021

Legislative Document **No. 316**

H.P. 220 House of Representatives, February 8, 2021

An Act To Prohibit the Use of Chlorpyrifos

Received by the Clerk of the House on February 4, 2021. Referred to the Committee on Agriculture, Conservation and Forestry pursuant to Joint Rule 308.2 and ordered printed pursuant to Joint Rule 401.

ROBERT B. HUNT
Clerk

Presented by Representative DOUDERA of Camden.
Cosponsored by Senator MIRAMANT of Knox and
Representatives: GRAMLICH of Old Orchard Beach, GROHOSKI of Ellsworth, O'NEIL of Saco, OSHER of Orono, PEBWORTH of Blue Hill, Senator: MAXMIN of Lincoln.

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

Sec. 1. 7 MRSA §606, sub-§1, ¶E, as amended by PL 2005, c. 620, §5, is further amended to read:

E. A pesticide that is adulterated or misbranded or any device that is misbranded; ~~or~~

Sec. 2. 7 MRSA §606, sub-§1, ¶F, as amended by PL 2005, c. 620, §5, is further amended to read:

F. A pesticide in containers that are unsafe due to damage~~.~~; or

Sec. 3. 7 MRSA §606, sub-§1, ¶G is enacted to read:

G. Beginning January 1, 2022, a pesticide containing chlorpyrifos as an active ingredient.

Sec. 4. Temporary permit for use of pesticide containing chlorpyrifos. Notwithstanding the Maine Revised Statutes, Title 7, section 606, subsection 1, paragraph G, from January 1, 2022 to December 31, 2022 the Board of Pesticides Control may grant a temporary permit authorizing a pesticides applicator licensed by the State to use or apply a pesticide containing chlorpyrifos as an active ingredient, as long as that licensed pesticides applicator possessed the pesticide in the State before January 1, 2022. The Board of Pesticides Control shall post on its publicly accessible website information on the temporary permits issued under this section.

SUMMARY

This bill prohibits the use of pesticides containing chlorpyrifos as an active ingredient beginning January 1, 2022. From January 1, 2022 to December 31, 2022 the Board of Pesticides Control may grant a temporary permit authorizing a pesticides applicator licensed by the State to use or apply a pesticide containing chlorpyrifos as an active ingredient, as long as that licensed pesticides applicator possessed the pesticide in the State before January 1, 2022. The board is required to post on its publicly accessible website information on the temporary permits issued.

6g

130th MAINE LEGISLATURE

FIRST REGULAR SESSION-2021

Legislative Document **No. 355**

H.P. 253 House of Representatives, February 8, 2021

An Act To Require Pest Disclosure in All Real Estate Transactions

Received by the Clerk of the House on February 4, 2021. Referred to the Committee on Judiciary pursuant to Joint Rule 308.2 and ordered printed pursuant to Joint Rule 401.

Robert B. Hunt

ROBERT B. HUNT
Clerk

Presented by Representative CONNOR of Lewiston.

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

Sec. 1. 33 MRSA §173, sub-§4, as amended by PL 2019, c. 234, §§1 to 3, is further amended to read:

4. Hazardous materials; pest or wildlife infiltration. The presence or prior removal of hazardous materials or elements, or pests or wildlife as described in paragraph F, on the residential real property, including, but not limited to:

A. Asbestos;

B. Lead-based paint for pre-1978 homes in accordance with federal regulations;

C. Radon;

D. Underground oil storage tanks as required under Title 38, section 563, subsection 6; ~~and~~

E. Methamphetamine; and

F. Pest or wildlife infiltration within the last 5 years and any steps taken to remedy the infiltration.

SUMMARY

This bill requires the seller of residential real property to provide to the purchaser a property disclosure statement containing information regarding the presence or prior removal of pests or wildlife within the last 5 years and any steps taken to remedy the infiltration.

130th MAINE LEGISLATURE

FIRST REGULAR SESSION-2021

Legislative Document **No. 519**

H.P. 382 House of Representatives, February 19, 2021

An Act To Protect Children from Exposure to Toxic Chemicals

Received by the Clerk of the House on February 17, 2021. Referred to the Committee on Agriculture, Conservation and Forestry pursuant to Joint Rule 308.2 and ordered printed pursuant to Joint Rule 401.

ROBERT B. HUNT
Clerk

Presented by Representative GRAMLICH of Old Orchard Beach.
Cosponsored by Senator MAXMIN of Lincoln and
Representatives: DOUDERA of Camden, DUNPHY of Old Town, GROHOSKI of Ellsworth, LOOKNER of Portland, O'NEIL of Saco, OSHER of Orono, PLUECKER of Warren, Senator: DAUGHTRY of Cumberland.

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

Sec. 1. 7 MRSA §606, sub-§3 is enacted to read:

3. Unlawful use. A person may not apply herbicides as defined by Title 22, section 1471-C, subsection 13 that are synthetic, including, but not limited to, glyphosate, within 75 feet of school grounds. This subsection does not apply to residential property or land used for commercial farming.

For purposes of this subsection, unless the context otherwise indicates, the following terms have the following meanings:

A. "Commercial farming" has the same meaning as in section 52, subsection 3;

B. "Residential property" means real property located in this State that is used for residential dwelling purposes;

C. "School" means any public, private or tribally funded elementary school as defined in Title 20-A, section 1, subsection 10, secondary school as defined in Title 20-A, section 1, subsection 32 or a nursery school that is part of an elementary or secondary school; and

D. "School grounds" means:

(1) Land associated with a school building including playgrounds and athletic fields used by students or staff of a school. "School grounds" does not include land used for a school farm; and

(2) Any other outdoor area used by students or staff including property owned by a municipality or a private entity that is regularly used for school activities by students and staff but not including land used primarily for nonschool activities, such as golf courses, farms and museums.

Sec. 2. Environmental risk advisory committee; glyphosate. The Department of Agriculture, Conservation and Forestry, Board of Pesticides Control, within existing resources from Other Special Revenue Funds accounts, shall establish an environmental risk advisory committee to evaluate the environmental and human health risks associated with the use of glyphosate. The advisory committee shall submit an interim report no later than February 1, 2024 and a final report no later than February 1, 2025, with findings and recommendations, including suggested legislation, to the joint standing committee of the Legislature having jurisdiction over agricultural matters. Each report must include an analysis of the use, on an annual basis, of all products with glyphosate listed as an active ingredient on the label by licensed applicators in the State. Following receipt and review of the final report, the joint standing committee of the Legislature having jurisdiction over agricultural matters may submit a bill concerning the subject matter of the report to the First Regular Session of the 132nd Legislature.

SUMMARY

This bill bans the use of synthetic herbicides, including, but not limited to, glyphosate, within 75 feet of school grounds. The prohibition does not apply to agricultural land or residential property.

The bill also directs the Department of Agriculture, Conservation and Forestry, Board of Pesticides Control to establish an environmental risk advisory committee to assess the environmental and human health risks associated with the use of glyphosate. The advisory committee is required to submit an interim report no later than February 1, 2024 and a final report no later than February 1, 2025 with findings and recommendations to the joint standing committee of the Legislature having jurisdiction over agricultural matters. The joint standing committee of the Legislature having jurisdiction over agricultural matters has the authority to submit a bill relating to the subject matter of the report during the First Regular Session of the 132nd Legislature.

130th MAINE LEGISLATURE

FIRST REGULAR SESSION-2021

Legislative Document **No. 524**

S.P. 209 In Senate, February 24, 2021

An Act To Require Schools To Submit Pest Management Activity Logs to the Board of Pesticides Control and the Posting of Inspection Results for the Purpose of Providing Information to the Public

Received by the Secretary of the Senate on February 22, 2021. Referred to the Committee on Agriculture, Conservation and Forestry pursuant to Joint Rule 308.2 and ordered printed.

DAREK M. GRANT
Secretary of the Senate

Presented by Senator DAUGHTRY of Cumberland.
Cosponsored by Representative PLUECKER of Warren and
Representatives: McCREIGHT of Harpswell, MILLETT of Cape Elizabeth, O'NEIL of Saco.

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

Sec. 1. 22 MRSA §1471-CC is enacted to read:

§1471-CC. School pesticide data collection; public posting

A school shall maintain and provide to the board by January 15th of each year a pest management activity log for the previous calendar year that includes a list of pesticide applications on school property. The log must include the date and location of each application, the species of pest being managed, the trade name of the pesticide applied, the United States Environmental Protection Agency registration number if the pesticide is subject to registration, the name and license or certification number of the applicator and other pertinent information required by the board by rule to be included in the log. Rules adopted pursuant to this section are routine technical rules pursuant to Title 5, chapter 375, subchapter 2-A.

The board shall post on its publicly accessible website all information provided by each school under this section. The board shall also post and maintain on its publicly accessible website a current list of all board inspections pursuant to section 1471-H of pesticide use by each school and the results of those inspections.

For purposes of this section, "school" means a public, private or tribally funded kindergarten, elementary school, secondary school or nursery school that is part of an elementary or secondary school.

SUMMARY

This bill establishes in law certain requirements of the Department of Agriculture, Conservation and Forestry, Board of Pesticides Control related to pest management on school property. It requires a school to maintain a pest management activity log related to the application of pesticides. It requires this information to be provided annually to the board and requires the board to post the information on its publicly accessible website. It also requires that the board post on its publicly accessible website a list of all board inspections of a school's use of pesticides and the results of those inspections.

6j

From: Samantha Warren <samantha.warren@maine.edu>
Sent: Wednesday, February 10, 2021 11:38 AM
To: Nadeau, Karen <karen.nadeau@legislature.maine.gov>; ACF@legislature.maine.gov; Patterson, Megan L <Megan.L.Patterson@maine.gov>
Cc: Hannah Carter <hcarter@maine.edu>
Subject: Submission of report required by P.L. 2019, Ch. 243

Good morning,

Hope this finds you well. As part of the bill last session that clarified the funding arrangement between the BPC and UMaine Extension for pesticides safety education and outreach, the university agreed to send an annual report to the ACF Committee and BPC outlining our funded activities.

I must confess I misread the bill and thought our report was due annually by Feb. 15 when in fact, it is due by Jan. 15 and then BPC in-turn is expected to report to the Committee by Feb. 15 about whether the funding for the university is adequate. I apologize for my error, which I realize could delay the BPC's report.

A brief memo outlining the robust activities of the UMaine Extension-based, BPC-supported pesticides safety education expert is attached. Please let me know if there are any questions.

-Sam

Samantha Warren, Director of Government & Community Relations
University of Maine System
(207) 632-0389 (cell)
samantha.warren@maine.edu

DATE: February 10, 2021
TO: Joint Standing Committee on Agriculture, Conservation & Forestry
Megan Patterson, Director of the Board of Pesticides Control
FROM: Samantha Warren, UMS Director of Government & Community Relations
RE: **Report on Use of Funds Provided By P.L. 2019, Chapter 243**

For more than three decades, University of Maine Cooperative Extension has provided science-based pesticides safety education and outreach through a memorandum of understanding with the Board of Pesticides Control (BPC). Maine's pesticides safety program is recognized as a national leader, in part because of this long-standing partnership that the BPC supports with an annual $65,000 grant to UMaine Extension.

In 2019, the Joint Standing Committee on Agriculture, Conservation & Forestry and ultimately the full Legislature supported LD 1273, which clarified the funding arrangement and created flexibility that would allow for expanding funding and the scope of work.

As part of our commitment to public accountability and transparency, the university made a friendly amendment to that bill (which became P.L. 2019, Chapter 243) creating an annual requirement to report to both the BPC and this Committee about our funded activities of the prior year. This serves as the first report.

Supported by the $65,000 BPC funding, UMaine Extension employs a pesticide safety expert as part of its larger Pest Management Unit. This professional writes and regularly updates the Maine-specific pesticide application manuals that guides those seeking to become licensed in how to appropriately apply pesticides in a way that minimizes impacts to public and environmental health while preserving the quality and quantity of the crop being treated. In the past year, several applicator training manuals have been developed or revised, including those pertaining to vegetable pesticide application (private), microbial pest control (commercial) and non-soil/structural fumigation (private and commercial), with revisions of others in progress.

The BPC-supported pesticide safety expert also provided multiple in-person and virtual trainings, including applicator recertification trainings in Orono, Brewer, Portland and at the Agricultural Trades Show in Augusta (2020) and online (2021). Topics ranged from browntail moth management to ticks and mosquitos and allowed participants to earn between one and four credits per course. In the past year, online training videos with corresponding recertification quizzes on ticks and invasive plant management were also released. In total, nearly 500 individuals took advantage of our online recertification opportunities in 2020 and more than 1,500 individuals participated in trainings offered last month as part of the online 2021 Ag Trade Show. All applicator manuals were also digitalized and can now be purchased through UMaine Extension's website.

Offering online synchronous and video trainings for potential and licensed applicators was not the only way UMaine Extension's pesticides safety education and outreach program adapted

during the COVID-19 pandemic. As traffic to Extension's website soared during the pandemic thanks to innovative initiatives like the online farm and seafood directory or Farmer Zooms, the pesticide safety expert transitioned a number of printed documents online and created new web-based content to serve new audiences and emerging needs for public information. For example, pages were added about disinfectant safety, pesticide use at home and respirators, and the expert assisted with editing content on integrated pest management for the Plant Something Maine awareness campaign website. The pesticide safety expert also has helped restructure the pesticides portion of the Master Gardener program delivered by UMaine Extension across the state and contributed content to the Maine Home Garden News.

The new methods of education and outreach utilized during the pandemic to respond to changing needs of both commercial and home users were possible in part thanks to the flexibility allowed by P.L., Chapter 243. We are proud of the ways the pesticides safety education and outreach program and Cooperative Extension continues to bring university research and technical assistance to tens of thousands of Maine homes, businesses, farms and communities each year. We look forward to continued collaboration with the BPC and the ACF Committee in 2021.

Maine's Public Universities
UNIVERSITY OF MAINE SYSTEM

6k

DATE: January 15, 2021
TO: Joint Standing Committee on Agriculture, Conservation & Forestry
Megan Patterson, Director of the Board of Pesticides Control
FROM: Samantha Warren, UMS Director of Government & Community Relations
RE: **Report on Use of Funds Provided By P.L. 2020, Ch. 548**

In June 2019, the Maine Legislature overwhelmingly passed LD 1518, "An Act To Establish a Fund for Portions of the Operations and Outreach Activities of the University of Maine Cooperative Extension Diagnostic and Research Laboratory."

This legislation sought to establish a 15-cent container fee on most registered pesticides purchased in the state, charged to consumers at the point-of-sale. Retailers who collected the fee were allowed to retain 3-cents per container to defray their costs for doing so and for remitting the remaining revenue to the Maine Revenue Service. The majority of the proceeds were to be directed to the University of Maine and its Cooperative Extension Diagnostic and Research Laboratory in Orono.

As part of our commitment to public accountability and transparency, the university made a friendly amendment that an annual reporting requirement overviewing our use of these funds be added to LD 1518. The first report would be due on Jan. 15, 2021, approximately 18 months after the legislation was expected to be enacted and presumably fully implemented, and submitted to the Joint Standing Committee on Agriculture, Conservation & Forestry and the Board of Pesticides Control (BPC).

As BPC leaders and returning members of this esteemed committee may recall, consistent with her commitment to impose no new taxes or fees, Governor Mills decided to hold the bill for further review, and ultimately, let it become law without her signature on Jan. 12, 2020. It went into effect June 16, 2020, placing added responsibilities on retailers three months into an unexpected global pandemic that has deeply disrupted their operations and necessitated new regulatory requirements to protect public health and slow the spread of the virus. A further complication is that the State's list of registered products subject to the container fee does not currently contain the UPC codes that retailers often program into their electronic systems to trigger the fee charge at the point-of-sale.

As a result, initial implementation of the new law has been challenging, and despite record sales on pesticides products including disinfectant due to COVID-19, less than $40,000 in container fee revenue has been remitted to MRS as of December 10, 2020. To date, the University of Maine System has not drawn down any of these funds, and thus, has no funded activities to report.

We understand there may be legislation taken up this session to clarify some aspects of the new law in part to make it easier for retailers to comply, which the university welcomes. In that event, we would also encourage changes in how the funds are dispersed so that MRS and the BPC receive their appropriate administrative fees "off the top" as is common, rather than the university having to reimburse them after-the-fact as was written in this law. We are currently working to negotiate a memorandum of understanding to address these issues in the short-term, but correction in law would create greater predictability and process. In the meantime, the university remains committed to the fair and reasonable statewide implementation of the container fee established by P.L. 2020, Ch. 548, and more importantly, to research, education and outreach activities that protect public, environmental and economic health. To advance both, we are grateful for our ongoing partnership with this Committee, the BPC, the MRS, and Maine retailers and consumers.

Report to the Joint Standing Committee on Agriculture, Conservation and Forestry 130th Maine State Legislature

Pursuant to 7 M.R.S. § 607(6), Grants Funded, Adequacy of the Product Registration Fee

Submitted by the
Maine Board of Pesticides Control
February 15, 2021

INTRODUCTION

7 M.R.S. § 607(6) requires the Maine Board of Pesticides Control (BPC) to monitor revenue and expenditures in the Pesticide Control Fund and to provide an annual report to the joint standing committee of the Legislature having jurisdiction over agriculture, conservation and forestry by February 15. The report must detail any grants provided by the BPC and include a recommendation about whether the pesticide product registration fee is adequate to fund the operation of the BPC and related programs, and to fund the annual grants outlined under 7 M.R.S. § 607(6).

SUMMARY OF GRANTS PROVIDED AND ADEQUACY OF THE FEE FOR ALL PURPOSES

During 2020, the BPC provided the following grants:

- The annual legislature transfer to the University of Maine Cooperative Extension of $135,000 pursuant to Title 7 Section 607(6)
- The annual grant to the University of Maine Cooperative Extension of $65,000 for pesticide education
- A $50,000 grant to the Maine CDC for mosquito borne disease surveillance pursuant to Title 7 Section 607(6)
- A $6,501 grant to the Integrated Pest Management Program for mosquito borne disease surveillance and habitat modeling/mapping pursuant to Title 7 Section 607(6)
- A grant to the Maine Mobile Health Program for $5,360 for providing pesticide safety training to migrant farm workers

CURRENT HEALTH OF THE PESTICIDES CONTROL FUND

Funding appears adequate to provide the annual grants to the University of Maine Cooperative Extension by April 1, 2021. Whether any additional grants may be funded during the 2020 calendar year has yet to be determined.

ADEQUACY OF THE PESTICIDE PRODUCT REGISTRATION FEE

Maine's pesticide product registration fee is slightly higher than the national average while the population and market potential are below the national average. Currently, the fee appears adequate to fund Department programs and the three grant areas outlined in Title 7 Section 607(6). While no change in the fee is recommended at this time, increasing programmatic costs may require a fee change in the future.

Direct Hire Career Opportunity Bulletin

DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

28 State House Station, Augusta, ME 04333

*Offices Located at Harlow, Williams Pavilion and Deering Buildings - AMHI Complex, Augusta

ENVIRONMENTAL SPECIALIST III

Opening Date:	January 08, 2021	**Closing Date:**	February 5, 2021
Location:	Augusta	**Position #:**	00500-0703
Position Type:	Full Time	**Class Code:**	9253
Grade/Salary:	23 $42,556.80 - $57,387.20/Annually		

The Department of Agriculture, Conservation and Forestry is recruiting to fill the position of Environmental Specialist III in Augusta, Maine.

BRIEF JOB DESCRIPTION: The Department of Agriculture, Conservation and Forestry, Maine Board of Pesticides Control (BPC), has a current full-time vacancy based in Augusta. The position's primary purpose is to provide technical assistance to the regulated community and the public to promote best practices and ensure compliance with pesticide policies, laws, and regulations.

The position will oversee several components of the BPC's pesticide education and outreach initiatives including management of the Board's three websites and the existing obsolete pesticide collection program. Additionally, this position will oversee two new efforts to include overseeing an Integrated Pest Management outreach initiative and developing digital education modules summarizing key concepts of pesticide use, risk and state and federal regulation. The ability to collaborate with program staff, partners and the public will be essential.

The position works closely with the BPC director to draft policies, laws, regulations, position papers and reports. This position will determine whether legislative and rulemaking procedures comply with legislative requirements and the Administrative Procedures Act and will assist in compilation and timely submission of documentation. Maintaining relevant knowledge of environmental science and program management of pesticides will be essential to assuring applicable laws and regulations are protecting public health and the environment.

This position will work with colleagues to create opportunities for community engagement on pest and pesticide science, laws, and regulations.

As needed, this position may also conduct studies, research, provide public presentations and testify as an expert witness in board and at administrative proceedings.

MINIMUM QUALIFICATIONS: A six (6) year combination of education and/or experience in environmental, biological, physical science, entomology or engineering which includes two (2) years of environmental experience. Qualifying education must include at least 15 credit hours of science or engineering coursework from an accredited educational institution.

DESIRED QUALIFICATIONS: Experience in agricultural production, pesticide application, risk communication and public relations. Excellent written and verbal communication skills and experience. Aptitude to explore creative approaches to communication challenges. Comfort giving presentations in various forums including presentations to the public, pesticide applicators, departmental staff, elected officials, and to the BPC public policy board. Demonstrated ability to work effectively in a team environment.

Make a difference MAINE State Government

http://www.maine.gov/dacf

Public Service	*Career Diversity*
Retirement	*Promotional Opportunities*
Benefits	*Over 10,000 Employees*
Paid Holidays	*Statewide Locations*
Training	*Seasonal Jobs*
Full Time	*Part Time*

HOW TO APPLY: Interested candidates need to complete and submit an online State of Maine Direct Hire Application at http://www.maine.gov/nrsc/jobs/index.shtml#acf along with a detailed resume and cover letter.

APPLICATIONS MUST BE RECEIVED BY:
February 5, 2021

Direct Hire Application *forms can be obtained by contacting the NRSC Personnel Office at (207) 624-6370 or by accessing the NRSC website at http://www.maine.gov/nrsc/jobs/application.shtml*

BENEFITS:
The bi-weekly dollar values of some State-paid benefits for full-time employees include: $14.60 for dental insurance; 14.11% of employee's pay towards retirement; and, depending on the employee's annual pay, at least 85% ($400.34) of health insurance premiums (more information is available here). Participation in the Health Premium Credit Program can decrease the employee's cost of health insurance by 5%.

Demonstrated ability in science communication with a public audience, including website design and maintenance.

WRITING PROMPT: If selected for an interview, applicants will need to complete the following writing prompt and submit the finished writing piece at the scheduled interview.

Find a recent popular media article discussing pesticides, identify three arguments made by the article. Draft a response on behalf of the Board of Pesticides Control to this article and the identified arguments. The intended audience for this response is the public. The response must be less than 500 words.

PAUL R. LEPAGE
GOVERNOR

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

WALTER E. WHITCOMB
COMMISSIONER

HENRY S. JENNINGS
DIRECTOR

MAINE BOARD OF PESTICIDES CONTROL POLICY RELATING TO THE ENVIRONMENTAL RISK ADVISORY COMMITTEE (ERAC)

Adopted June 25, 1999
Amended September 29, 2000
Amended March 28, 2014

Background

The Maine BPC recognizes the potential impact of some pesticides on the environment from their federally approved label uses. Evaluation of risks specific to Maine situations and conditions is critical to reducing potential adverse effects on the environment. The Board needs impartial scientists, knowledgeable in the fields of biology, environmental toxicology, environmental chemistry, and ecology, who can provide expert assessments of environmental risks and provide guidance and recommendations to the Board.

Establishing an Environmental Risk Advisory Committee

The Board will select scientists with the appropriate expertise to serve voluntarily on the Board's Environmental Risk Advisory Committee (ERAC) on an ad hoc basis when the Board deems it is necessary to seek outside scientific expertise. The Board will provide a clear charge to the ERAC regarding the purpose and scope of the committee's work.

Membership

The ERAC will be chaired by a Board member. Additional committee members will be determined by the Board based on the current issue. The Board should appoint persons whose disciplines in aggregate are suitable for evaluating potential adverse environmental effects, and, where appropriate, for recommending courses of action to mitigate potential adverse effects.

Term

The committee will serve until it has issued a final report to the Board.

Meetings

The Committee will meet on an as needed basis at the invitation of the ERAC chair.

Compensation

The ERAC is voluntary and no compensation for services is available. However, all reasonable travel expenses will be reimbursed, subject to the approval of the staff director, in a manner consistent with State Travel Policy.

JOHN ELIAS BALDACCI
GOVERNOR

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, FOOD AND RURAL RESOURCES
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0028

SETH H. BRADSTREET III
COMMISSIONER

HENRY JENNINGS
DIRECTOR

MAINE BOARD OF PESTICIDES CONTROL POLICY RELATING TO THE MEDICAL ADVISORY COMMITTEE

Adopted August 1, 2008

Background

The Maine Board of Pesticides Control recognizes the potential impact of some pesticides on human health, as well as the importance of protecting the beneficial uses of most pesticides when used carefully by responsible applicators. In order to separate potentially harmful chemicals from the essentially safe ones, the Board needs expert advisors, knowledgeable in the field of human health research or clinical practice, who can add their assessments to the economic and benefit recommendations of others prior to the Board initiating and ruling on pesticide restrictions.

These persons will be established as a volunteer Medical Advisory Committee to the Board of Pesticides Control.

Membership

The MAC will be composed of three standing members and *ad hoc* members. One standing member will be the Board member appointed with medical expertise. This member will also chair the committee. The other two standing members will be the State Toxicologist or their designee, from the Environmental Toxicology Program at the Maine Centers for Disease Control and the Medical Director of the Northern New England Poison Center or their designee. In addition, up to six members may be chosen *ad hoc* with expertise specific to the issue at hand. The Board will solicit and review resumes for positions on the MAC.

The Board should appoint as members persons whose disciplines in aggregate are suitable for identifying and evaluating health hazards or risks. Members are not required to be physicians, but should be qualified professionals in a related health care or medical research discipline.

Term

Ad hoc MAC members will be appointed by the Board for the duration of specific reviews.

Meetings

The Committee will meet on an as needed basis at the invitation of the MAC chairman.

Compensation

The MAC is voluntary and no compensation for services is available. However, all reasonable travel expenses will be reimbursed, subject the approval of the staff director, in a manner consistent with State Travel Policy.

News Releases from Headquarters › Chemical Safety and Pollution Prevention (OCSPP)

EPA Takes Action to Investigate PFAS Contamination

01/14/2021

Contact Information:
EPA Press Office (press@epa.gov)

WASHINGTON (January 14, 2021) — As part of the U.S. Environmental Protection Agency's (EPA) extensive efforts to address PFAS, today the agency is making new information available about EPA testing that shows PFAS contamination from fluorinated containers.

Through a coordinated effort with both the Commonwealth of Massachusetts and a pesticide manufacturer, the agency has determined that fluorinated high-density polyethylene (HDPE) containers that are used to store and transport a mosquito control pesticide product contain PFAS compounds that are leaching into the pesticide product.

While the agency is early in its investigation and assessment of potential impacts on health or the environment, the affected pesticide manufacturer has voluntarily stopped shipment of any products in fluorinated HDPE containers and is conducting its own testing to confirm EPA results and product stability in un-fluorinated containers. In addition, EPA has issued a request for information under the Toxics Substance Control Act (TSCA) to the company that fluorinates the containers used by certain pesticide manufacturers. The TSCA subpoena requests information about the fluorination process used to treat the containers.

As EPA evaluates this issue, the agency asks that pesticide and other companies using fluorinated containers, and entities that provide container fluorination services, engage in good product stewardship and examine their distribution chains to identify potential sources of contamination. EPA will also continue to work closely with the entities involved and their supply and distribution chains, mosquito control districts, the pesticide and packaging industry, federal partners, states, and tribes that may be affected to provide information and guidance on next steps. EPA understands the need to

provide guidance to states, tribes, and other users as they prepare to purchase mosquito control products for 2021 and will provide more information as it continues its investigation.

EPA will update the following webpage with information as it becomes available: https://www.epa.gov/pesticides/pfas-packaging

Background

Since first becoming aware of the PFAS contamination issue in early September 2020 through citizen science testing of a pesticide product for mosquito control, EPA has been working to investigate the source of the contamination. Throughout October and November 2020, EPA has worked diligently in conjunction with the Massachusetts Department of Environmental Protection to request samples of the pesticide product and analyze the identified product at different steps of production and manufacturing to determine whether PFAS are present, including issuing an information request to the pesticide registrant on October 5, 2020 seeking information on the affected pesticide's production, sales, and distribution.

In late December 2020, EPA studied the fluorinated HDPE containers used to store and transport the product and determined the containers are a possible source of PFAS contamination. EPA has been in close contact with Massachusetts, the pesticide registrant and the fluorinated HDPE container treatment company to discuss the issue, as well as to obtain the materials needed to test for PFAS in the product and the fluorinated HDPE containers.

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA is charged with approving active and inert ingredients in the registered pesticide products sold in the United States. EPA has confirmed that PFAS is not a known ingredient or additive in the company's affected product and is collaboratively working with the registrant as EPA laboratories test samples of the product at different steps of production and manufacturing, in addition to the agency's study of the containers themselves.

LAST UPDATED ON JANUARY 14, 2021

Additional Q&As for ECOS and NASDA

Who is Clarke Mosquito? What kind of products do they design and manufacture?
Clarke Mosquito Control Products, Inc. is a global public health products and services company, located in St. Charles, Illinois serving both public and private consumers. Along with developing and manufacturing Anvil 10+10 ULV (EPA Reg. No. 1021-1688-8329), Clarke offers a broad selection of adulticides and larvicides for use in public health mosquito control. Clarke is providing a dedicated hotline for questions: 1-630-671-3100.

What is Anvil 10+10 ULV?
Anvil 10+10 ULV (EPA Reg. No. 1021-1688-8329) is a pesticide product manufactured by Clarke Mosquito. It is used for mosquito control to protect public health by reducing transmission of mosquito-borne diseases like Zika, West Nile virus and Eastern Equine Encephalitis (EEE), a rare but deadly disease carried by mosquitos. The Anvil product is a supplemental distribution ("distributor product") of EPA Reg. No. 1021-1688 (Multicide Mosquito Adulticiding Concentrate 2705, McLaughlin Gormley King Company D/B/A MGK).

Where is Anvil 10+10 ULV used?
According to Clarke, the states that purchased Anvil 10+10 ULV between 2018 and 2020 are the following:
Alabama
Arkansas
California
Delaware
Florida
Illinois
Indiana
Louisiana
Massachusetts
Maine
Michigan
Minnesota
Mississippi
North Carolina
Nebraska
New Hampshire
Nevada
New York
Ohio
Oregon
Pennsylvania
Rhode Island
South Carolina
Texas
Virginia
Washington

Who is Inhance Technologies?
Inhance Technologies is a container treatment company based in Texas. They offer a wide range of surface technologies and barrier packaging, including the fluorination of HDPE containers. Inhance has reported to EPA locations in Georgia, Iowa, Illinois, Missouri, and Pennsylvania.

How common is the use of fluorinated containers for storage of pesticides and other products?
It is estimated that roughly 20-30% of all rigid agriculture chemical packaging in North America sold into the crop protection market are packaged in fluorinated HDPE containers.

Does EPA have a comprehensive list of pesticides stored in these fluorinated containers?
Fluorinated HDPE containers are widely used as chemical-resistant containers for laboratory and industrial chemicals storage. Although registrants are required to provide details regarding the type of container in which their pesticide product is distributed commercially, this is the first time that EPA has been aware of fluorinated HDPE container use as a potential source of PFAS contamination in a pesticide. EPA is using its authorities under FIFRA and TSCA to work with other federal agencies, the pesticide industry, states and localities to gather more information about the potential scope of this contamination and to evaluate whether other regulated products may be affected.

What are EPA's regulations on the type of containers that may be used for pesticide storage?
EPA established requirements for containers used to sell or distribute pesticides to ensure that containers are strong, to minimize human exposure to pesticides while handling containers and to facilitate the disposal and recycling of pesticide containers. The specific requirements vary according to the type of container. Portable refillable containers must meet certain Department of Transportation (DOT) design, construction and marking requirements; be marked with a serial number or other identifying code; and have a one-way valve and/or a tamper-evident device on all openings. Nonrefillable containers must meet certain DOT design, construction and marking requirements; have standard closures; allow the contents to pour in a continuous stream and meet a cleanability standard. For more information about EPA's pesticide container regulations, see EPA's Pesticide Container web page.