



February 28, 2023

Dear Valued Syngenta Distributor and Retailer Customers,

As many of you may know, the Maine Board of Pesticides Control (BPC) recently voted not to extend the deadline to renew pesticide registrations beyond February 28, 2023, despite its clear authority to do so. The request to extend the deadline was made on several occasions by CropLife America and RISE on behalf of member companies who are registrants in the State of Maine and based on a number of concerns voiced to the BPC over the past year, including regarding the BPC's ability to protect the confidentiality of registrants' proprietary business and ingredient information. CropLife and RISE also raised concerns over the practical challenges and obstacles to compliance given the BPC renewal portal's current design.

Syngenta Crop Protection is concerned about the material risks of disclosure of its highly confidential pesticide ingredient information contained in its Confidential Statements of Formula (CSFs). As part of Maine's new law enacted last year, CSFs are now required to be submitted with any pesticide registration or renewal. Although the BPC confirmed that such information must be held confidential as a matter of law, the BPC has not provided sufficient assurances regarding *how* it could ensure the protection of this information. Without confidence in that process, the potential economic and competitive harm that would result from such a disclosure (inadvertent or otherwise) is too high of a risk.

Accordingly, Syngenta Crop Protection including Syngenta Professional Solutions, is not planning to re-register *any* pesticides in the State of Maine as of February 28, 2023. We will continue to monitor the situation, and will reevaluate if a change in this approach is appropriate. For all existing stocks of Syngenta Crop Protection products in the State of Maine as of March 1, 2023 - under Maine law, "retailers and end users of pesticides no longer registered in Maine may continue to sell and use those [products] provided they were properly registered when obtained...."

We recognize the potential impacts this decision may have on our most critical stakeholders, Maine's growers and applicators. We fully support continued availability of innovative products critical to Maine's agriculture industry. However, absent of adequate, clear, and certain regulatory processes and safeguards in place, we risk not having the confidentiality protections afforded under federal law. We invite and encourage Maine growers and applicators to join in advocating for proper protections that allow Syngenta to continue offering the best products in Maine.

We know you have a wide choice of crop protection products and solutions available to you, and we appreciate your past and continued support of Syngenta.

Sincerely,

A handwritten signature in black ink, appearing to read "Vern R. Hawkins".

Vern Hawkins
President, Syngenta Crop Protection, LLC



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

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JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

Joint Standing Committee on Agriculture, Conservation and Forestry
c/o Legislative Information Office
100 State House Station
Augusta, ME 04333

January 5, 2022

Dear Senator Ingwersen, Representative Pluecker, and members of the Joint Standing Committee on Agriculture, Conservation and Forestry:

In 2022, the 130th Maine Legislature enacted LD 2019 ([PL 2022 c. 673](#)), *An Act To Require the Registration of Adjuvants in the State and To Regulate the Distribution of Pesticides with Perfluoroalkyl and Polyfluoroalkyl Substances*. This law directed the Board of Pesticides Control (Board) to adopt rules regulating pesticide containers as authorized in the Maine Revised Statutes, Title 7, section 606, subsection 2, paragraph H, no later than January 1, 2023.

The Board first discussed LD 2019 and the associated rulemaking responsibilities at its May 6, 2022 meeting. Staff provided a brief overview of the new authorities and responsibilities assigned by LD 2019 and sought guidance from the Board on the rulemaking directive. Following the initial May discussion, the Board has been making a good-faith effort to complete this directive.

The Board has engaged in meaningful discussion of the request at every subsequent public meeting. These discussions are summarized below and are documented, in detail, in the publicly available [meeting minutes](#):

- At the June 17, 2022, Board meeting, LD 2019 was discussed. For Board consideration, staff prepared a memorandum outlining possible actionable items and rulemaking responsibilities. Staff identified that while the Board was directed to conduct rulemaking, staff sought clear guidance on the types of information required by the Board to proceed with informed rulemaking efforts and conceptual discussions. Staff also shared that both Maine state and federal law indirectly and directly address pesticide contamination and the use of pesticide containers. The Board discussed the challenges of potential

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rulemaking and identified several concerns, including possible federal preemption, limited information to aid in decision-making, and the short rulemaking timeline. The Board requested that the staff provide information on existing regulations relative to pesticide containers and research options relative to defining what “contamination” meant in the context of LD 2019.

- At the August 5, 2022, Board meeting, staff invited State Toxicologist, Andrew Smith, to discuss PFAS; however he was unable to attend the meeting. Board members expressed concern about failing to meet the rulemaking deadline in LD 2019. The Assistant Attorney General identified that it was highly likely that any container regulations passed by the Board would be pre-empted by federal law since the EPA has exclusive authority over the regulation of pesticide containers and labeling. Several alternative approaches were suggested, including:
 - Adopt the federal regulation by reference, which would satisfy the legislative directive and bring the federal rule into state law;
 - Reach out to the Legislature and share that the Board has encountered legal issues with federal preemption;
 - Delay rulemaking while researching federal law in an effort to try to find a space that might be available for state regulation;
 - Require registrants to state whether products are stored in containers that contain PFAS; or
 - Possibly create laws about the handling of containers.

Board members expressed concern about inadvertently sidestepping the legislative intent, about failing to complete the directed rulemaking, and asked about the process for informing the Legislature of the identified challenges.

- At the October 21, 2022, Board meeting, staff provided reviews of relevant policy and technical information discussed at the August meeting, including the possible approaches to container regulation. Staff also shared the recently published studies by Lasee et al. and the EPA assessment of fluorinated container leachates. Following staff presentations and Board discussion, the Board members asked staff to send a memo to the Legislature about the progress made.

As noted, the Board has identified federal preemption as a significant challenge to successfully pursuing rulemaking related to pesticide containers. EPA establishes preemptive authority over the regulation of containers in 7 U.S.C. § 136v(b)—Authority of States:

A State may regulate the sale or use of any federally registered pesticide or device in the State, but only if and to the extent the regulation does not permit any sale or use prohibited by this subchapter.

(b)UNIFORMITY

Such State shall not impose or continue in effect any requirements for labeling or packaging in addition to or different from those required under this subchapter.

And EPA further explains that package/packaging is defined in 40 CFR part 152.3 Definitions:

Package or packaging means the immediate container or wrapping, including any attached closure(s), in which the pesticide is contained for distribution, sale, consumption, use, or storage. The term does not include any shipping or bulk container used for transporting or delivering the pesticide unless it is the only such package.

The Board respectfully requests the Committee's guidance on the rulemaking impasse and looks forward to working collaboratively with the Committee on this sensitive and difficult issue.

Sincerely,

A handwritten signature in cursive script that reads "Megan L. Patterson". The signature is written in black ink and is positioned above the printed name.

Megan Patterson

Director, Board of Pesticides Control

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STATE OF MAINE
 ONE HUNDRED AND THIRTY-FIRST LEGISLATURE
 COMMITTEE ON AGRICULTURE, CONSERVATION AND FORESTRY

March 1, 2023

Megan Patterson, Director, Board of Pesticides Control
 Department of Agriculture, Conservation and Forestry
 28 State House Station
 Augusta, ME 04333

Director Patterson,

We are writing as a follow-up to the Agriculture, Conservation and Forestry (ACF) Committee meeting on February 15, 2023 where you and Assistant Attorney General Mark Randlett answered questions about Board of Pesticides (BPC) rulemaking. At a meeting on March 1, 2023, the ACF Committee voted unanimously (of those members present) in support of this letter.

As you know, a letter from you dated January 5, 2023 was received by the ACF Committee via email on February 3, 2023. In the letter you request guidance on a rulemaking that the Legislature directed be completed no later than January 1, 2023. We were surprised to learn that at this late date (a month after the rule was required to be adopted) the board is at an impasse because, as the letter states, "it is highly likely that any container regulations passed by the board would be pre-empted by federal law."

The ACF Committee has discussed this issue at length for the last two years. LD 264, *An Act to Prohibit Aerial Application of Perfluoroalkyl and Polyfluoroalkyl Substances*, was submitted in response to press reports in late 2020 from Massachusetts that the state environmental officials had sprayed millions of acres from the air and ground with pesticides containing perfluoroalkyl and polyfluoroalkyl substances (PFAS) in an effort to control mosquitoes to reduce the spread of Eastern equine encephalitis. According to the manufacturer of the pesticide treatment known as Anvil 10+10, the underlying pesticide formulation does not contain PFAS. However, according to a report you submitted pursuant to LD 264 (Resolve 2021, chapter 83), the high-density polyethylene (HDPE) container that the pesticide is packaged in underwent further fluorination treatment by a third party to prevent container degradation and this process appears to be the source of PFAS compounds in sampled pesticide products.

In addition to directing the board to submit a report, Resolve 2021, chapter 83 directs the board to:

1. amend its rules governing the registration of pesticides in the State to:
 - a. require manufacturers and distributors to provide affidavits stating whether the registered pesticide has ever been stored, distributed or packaged in a fluorinated HDPE container; and

(over)

- b. require manufacturers to provide an affidavit stating whether PFAS is in the formulation of registered pesticide; and
2. conduct a study to determine if fluorinated adjuvants are being used or sold in the State;
3. explore what is needed to regulate fluorinated adjuvants in the State; and
4. explore what is necessary to impose a prohibition on the distribution or application of pesticides or adjuvants containing PFAS in the State.

In response to the report you submitted pursuant to Resolve 2021, chapter 83, the committee developed a committee bill, LD 2019, *An Act To Require the Registration of Adjuvants in the State and to Regulate the Distribution of Pesticides with Perfluoroalkyl and Polyfluoroalkyl Substances*. The minority report became enacted law, PL 2021, chapter 673.

The law provides that “a person may not distribute in this State... a pesticide that has been contaminated by” PFAS and “[a] person may not... use or *caused to be used* any pesticide container inconsistent with rules for pesticide containers adopted by the board.” All the discussions surrounding this legislation had to do with the spreading of PFAS through pesticide application. The rulemaking directive to the board is to address the issue of containers contaminating pesticides or adjuvants with PFAS. This is an issue we believe to be fully within the power of the board to regulate.

We understand there is a uniformity provision in federal law, which the letter cites as the basis for this preemption comment. However, this issue has been discussed with the Attorney General’s Office and it is clear the board is not at a legal impasse. There appear to be a number of options for achieving the legislative intent in a manner the Attorney General will defend as consistent with the federal uniformity provision and these options were presented in your January 2023 letter.

Per the ACF Committee’s discussion with you and the Assistant Attorney General on February 15, 2023, the ACF Committee would like the board to consider rules that do the following:

1. Require applicants and registrants to provide affidavits stating whether a pesticide is or has been stored or otherwise packaged in a container that contains PFAS; and
2. If a pesticide is or has been stored or otherwise packaged in a container that contains PFAS or if a pesticide is or has ever been stored or otherwise packaged in a fluorinated HDPE container, prohibit the pesticide from being registered or distributed in the state, unless there is clear evidence the pesticide can be applied without risk of PFAS contamination from the container or packaging.

As the board is aware, the PFAS contamination is a serious issue in this State and the directive to require the board to have this rulemaking completed by January of this year was imposed to protect the public health, safety and welfare. It was imposed only after consulting the board as to its feasibility. We would like you to report back in person to the ACF Committee as soon as practicable on the rulemaking process, including providing us a date, well before statutory adjournment, by which rules will be adopted.

Sincerely,



Henry Ingwersen
Senate Chair



Bill Pluecker
House Chair



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
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JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

To: Board Members
From: Staff
Re: Review of Rulemaking Concepts
Date: February 24, 2023

At the February 24, 2023 Board meeting, the Board discussed interest in moving forward with rulemaking concepts. Staff have compiled the Board’s responses to rulemaking concepts that had interest in moving forward. Given other urgent rulemaking requests, staff need guidance on when and how the Board would like to address these rulemaking changes. The potential rulemaking are categorized by the following criteria:

Required C&T	Required by federal rule change
Housekeeping	Fairly minor and should require very little discussion.
Incorporate Policy	Will require some discussion on whether and how to incorporate the policy in rule but the objective is already written in policy.
Requires Discussion	Questions have been raised and a decision needs to made on whether the rule needs to be amended. These will probably take the most time.

The fourth column designates type of rulemaking (see Title 7 Section 610(6)):

RT	Routine Technical
MS	Major Substantive

The first column corresponds to the attached reference documents.

The second column details the actionable item.

The third column provides a purpose for the rulemaking.

The fourth column provides notes on the Board’s discussions at the February 24, 2023 Board meeting

The fifth column provides a detailed description of the potential rulemaking concept.

A complete list of possible rulemaking chapters to include 10, 20, 28, 31, 32, 41, 50.

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1	Chapter 10	<p>The Board expressed interest in defining “residential landscapes”. See memo: Summary of potential “residential landscapes” rulemaking concepts for CMR 01-26 Chapter 10: Definitions</p> <ul style="list-style-type: none"> • Define “Residential Landscapes” 	Housekeeping	Review “sensitive areas” in chapter 10	RT
2	Chapter 20, Section 7(A)	<p>The Board expressed interest in incorporating policy into rule.</p> <ul style="list-style-type: none"> • See “Chapter 20: Positive Identification of Proper Treatment Site by Commercial Applicators” Policy. <p>The Board may want to consider also adding additional methods for proper site identification while reviewing this policy.</p>	Incorporating Policy	Yes, may need to discuss additional methods	RT
3	Chapter 28, section 2(E)(2)(d)and (f)	<p>A Board member expressed interest in amending rules regarding notification of rodenticidal baits. Potential actions include:</p> <ul style="list-style-type: none"> • Excluding sections for exemptions under structural (7A) applications and pesticidal baits for the notification registry. Note: Bait stations are used indoors, but rodents may move between indoor and outdoor spaces creating a potential secondary poisoning risk from indoor bait stations. • The Board may want to consider that although there are exemptions for the Maine Notification Registry, there are no exemptions in place for self-initiated notification (see Chapter 28, Section 1). 	Requires Discussion	Yes	MS
4	Chapter 31(2)(VII)(c)(1)(2)(3) and Chapter 31(3)(VII)(c)(1)(2)(3)	<p>Staff have identified issues with 7C category licensure. See memo “Revisions of 7C categories to reflect licensure”. The Board may want to consider changing these categories by:</p>	Housekeeping	Yes, combine all categories into 7C	RT

		<ul style="list-style-type: none"> Combining all categories to 7C: Biocide, Disinfectant, Pools and Spas, Mold Remediation, and Water Damage Restoration <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> Amending category 7C1 to remove disinfectants to “Biocide Treatments” Amending category 7C3 to include disinfectants to “Mold Remediation, Water Damage Restoration, and Disinfectants” <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> Adding new category: 7C4 Disinfectants <p>Currently, there is confusion regarding which certification category is needed for commercial application of disinfectants. If these sections are changed, competency standards should also change to reflect categories.</p>			
6	Chapter 31 section 2 (XI) and section 3 (XI) Chapter 32 section 2 (B)(5)(c)	Staff have identified questions about UAVs that apply pesticides. The board may want to add rules for drones that apply pesticides and requiring FAA certification for both commercial (chapter 31) and private (chapter 32) applicators.	Requires Discussion	Yes	RT
7	Chapter 32, section 2 (A)(1)	<p>This was identified when staff revised the state plan. Excerpt from state plan:</p> <p>To address 40 CFR § 171.201 (see reference document), the State of Maine, Board of Pesticides Control will, at the earliest opportunity, initiate rulemaking to address the minimum age requirements for noncertified applicators who are a minimum of 16 years old and who may apply restricted use pesticides under the direct supervision of a private applicator who is an immediate family member. The State of Maine Board of Pesticides Control will also, at the earliest</p>	Required C&T	Yes	RT

		<p>opportunity, initiate rulemaking to address the minimum age requirements for noncertified applicators who are a minimum of 18 years old and who may apply restricted use pesticides under the direct supervision of a private applicator. Until rulemaking occurs, the Board of Pesticides Control will continue to enforce the above-listed minimum age requirements under their delegated authority to enforce FIFRA.</p> <p>These amendments may require creation of a new section to address noncertified applicators.</p>			
9	Chapter 41, Section 5	<p>A Board member expressed interest in updating and modernizing Chapter 41, Section 5, which addresses plant incorporated protectants. Staff need additional guidance on concepts the Board might want addressed in this section.</p>	Requires Discussion	Staff are looking at Jemison's suggested notes	MS
10	Chapter 41, Section 8 (new)	<p>A Board member proposed adding requirements when using rodenticidal baits to include traps or ways to reduce non-target poisonings.</p> <ul style="list-style-type: none"> • Possibly adding Section 8, Rodenticidal Baits and including language to require applicators to use 'repeating' traps with baits to contain poisoned animals. 	Requires Discussion	"Maybe" – interested in learning more about rodenticides	MS
11	Chapter 50, Section 2(A)	<p>A Board member expressed interest in requiring electronic submission of pesticide annual use reports. The Board could add a clause to require submission of records electronically and may want to include a clause about software.</p>	Requires Discussion	"Maybe" – interested in learning more about logistics	RT

01 DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY

026 BOARD OF PESTICIDES CONTROL

Chapter 10: DEFINITIONS AND TERMS

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

Section 1. Consistent with Statute

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

Section 2. Definitions

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

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

pesticides within the company or agency. Such practices may include equipment maintenance and calibration, employee training, safety and hygiene, pesticide and container disposal, accident mitigation and ensuring that applications are conducted in compliance with all state and federal laws and regulations.

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

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

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

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

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

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

- RR. "Principal place of business" means the principal location, either residence or office, in the State in which an individual, partnership, or corporation applies pesticides.
- SS. "Private Applicator" means any person who uses or supervises the use of any pesticide which is classified for restricted or limited use for purposes of producing any agricultural commodity on property owned or rented by him or his employer or, if applied without compensation other than the trading of personal services between producers of agricultural commodities, on the property of another person. In situations where the applicator is applying pesticides to crops on rented land, there must be a written contract showing that the grower/applicator retains control over the property as well as the disposition or sale of the harvested crop.
- TT. "Private domestic well" means any well used for drinking water other than one which serves a public water system.
- UU. "Project" means, for the purposes of Chapter 51, the aerial application of pesticides to control an individual forest insect pest complex provided by:
1. Any number of applicator businesses for a single person, or
 2. One applicator business on contiguous parcels of land.
- VV. "Public precautions" means those statements which appear on the pesticide label directed towards the non-applicator public. Public precautions may include, but are not limited to, re-entry intervals.
- WW. "Public water system" means any water supply system that provides water to at least 15 service connections or serves water to at least 25 individuals daily for at least 30 days a year.
- XX. "Regulated pest" means a specific organism considered by a State or Federal agency to be a pest requiring regulatory restrictions, regulations, or control procedures in order to protect the host, man and/or his environment.
- YY. "School" means any public or private elementary or secondary school, kindergarten or nursery school that is part of an elementary or secondary school or a tribally funded school.
- ZZ. "School Building" means any structure used or occupied by students or staff of any school.
- AAA. "School Grounds" means:
1. land associated with a school building including playgrounds, athletic fields and agricultural fields used by students or staff of a school, and
 2. any other outdoor area used by students or staff that is under the control of a school.
- BBB. "Self-service sales area" means any area within or immediately outside a retail or wholesale business in which members of the public have direct access to pesticide products. For the purposes of this chapter, self-service sales areas shall be limited to those pesticide products which require a pesticide dealer to be licensed under 22 M.R.S.A. §1471-W, "General Use Pesticide Dealers."

1 (New Definition)

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

located on privately owned lands which are used by permission of the landowner.

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

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

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

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01 DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY

026 BOARD OF PESTICIDES CONTROL

Chapter 20: SPECIAL PROVISIONS

SUMMARY: These provisions regulate the use, storage and disposal of pesticides with specific emphasis on registered pesticides, right of way and aquatic applications and employer/employee requirements.

Section 1. Registered Pesticides

A. Definitions

“Perfluoroalkyl and Polyfluoroalkyl Substances” or “PFAS” means substances that include any member of the class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

- B.** The use of any pesticide not registered by the Maine Board of Pesticides Control in accordance with Title 7 M.R.S.A. §601 is prohibited except as otherwise provided in this chapter or by FIFRA, Section 2(ee).
- C.** The use of registered pesticides for other than registered uses, or at greater than registered dosages, or at more frequent than registered intervals is prohibited, provided that application or use of unregistered pesticides and unregistered applications or uses of registered pesticides may be made for experimental purposes if in accordance with requirements of the Maine Board of Pesticides Control, and the U.S. Environmental Protection Agency.
- D.** Retailers and end users of pesticides no longer registered in Maine may continue to sell and use those items provided they were properly registered when obtained and such distribution and use is not prohibited by FIFRA or other Federal law.
- E.** In conducting review of registration or re-registration pursuant to 7 M.R.S.A. §607-A, the Board may consider the potential for environmental damage by the pesticide through direct application on or off-target or by reason of drift. If the Board finds that the use of the pesticide is anticipated to result in significant adverse impacts on the environment, whether on or off-target, which cannot be avoided or adequately mitigated, registration or re-registration will not be granted unless the Board finds that anticipated benefits of registration clearly outweigh the risks. In any case where the Board may request data in connection with registration or re-registration of any pesticide, such data may include that concerning pesticide residues, propensity for drift and testing therefor. Such data, if requested, shall provide information regarding residues and residue effects on plant tissues, soil and water and other potential deposition sites, and shall take into consideration differences in plants, soils, climatic conditions at the time of application and application techniques.

- F. In conducting review of registration or reregistration pursuant to 7 M.R.S.A §607-A, the Board shall require submission of the confidential statement of formula as defined in 7 M.R.S.A. §607 (5-A) and the following affidavits:
1. a completed and signed form provided by the Board at the time of application for product registration review or reregistration which attests that the pesticide has or has never been stored, distributed, or packaged in a fluorinated container; and
 2. a completed and signed form provided by the Board at the time of application for product registration review or reregistration which attests that the pesticide formulation does or does not contain perfluoroalkyl or polyfluoroalkyl substances as defined by the Board for this purpose of this section.

Section 2. Right-of-Way

Deciduous growth over six feet in height and evergreen growth over three feet in height shall not be sprayed with a herbicide within the right-of-way of any public way except that deciduous growth which has been cut to the ground and which has grown more than six feet during the growing season following the cutting, may be sprayed that following season. In addition, chemical pruning of single limbs of trees over the prescribed heights may be performed.

Section 3. Pesticide Storage and Disposal

- A. Unused pesticides, whether in sealed or open containers, must be kept in a secure enclosure and otherwise maintained so as to prevent unauthorized use, mishandling or loss; and so as to prevent contamination of the environment and risk to public health.
- B. Obsolete, expired, illegal, physically or chemically altered or unusable pesticides, except household pesticide products, shall be either:
1. stored in a secure, safe place under conditions that will prevent deterioration of containers or any contamination of the environment or risk to public health, or
 2. returned to the manufacturer or formulator for recycling, destruction, or disposal as appropriate, or
 3. disposed of in a licensed hazardous waste facility or other approved disposal site that meets or exceeds all current requirements of the Maine Department of Environmental Protection and the U.S. Environmental Protection Agency for facilities receiving such waste.

Section 4. Aquatic Applications

No person, firm, corporation or other legal entity shall, for the purpose of controlling aquatic pests, apply any pesticide to or in any waters of the state as defined in 38 M.R.S.A. §361-A(7) without approval of the Maine Department of Environmental Protection.

Section 5. Employer/Employee Requirements

- A. Any person applying pesticide shall instruct their employees and those working under their direction about the hazards involved in the handling of pesticides to be employed as set forth on the pesticide label and shall instruct such persons as to the proper steps to be taken to avoid such hazards.
- B. Any person applying pesticides shall provide and maintain, for the protection of their employees and persons working under their direction, the necessary safety equipment as set forth on the label of the pesticide to be used.

Section 6. Authorization for Pesticide Applications

- A. Authorization to apply pesticides to private property is not required when a pesticide application is made by or on behalf of the holder of an easement or right of way, for the purposes of establishing or maintaining such easement or right of way.
- B. When the Maine Center for Disease Control and Prevention (CDC) has identified that an organism is a vector of human disease and the vector and disease are present in an area, a government entity shall obtain authorization for ground-based applications by:
 - 1. Sending a written notice to the person(s) owning property or using residential rental, commercial or institutional buildings within the intended target site at least three days but not more than 60 days before the commencement of the intended spray applications. For absentee property owners who are difficult to locate, mailing of the notice to the address listed in the Town tax record shall be considered sufficient notice; and
 - 2. Implementing an “opt out” option whereby residents and property owners may request that their property be excluded from the application by submitting written notice to the government entity at least 24 hours before spraying is scheduled to commence. Authorization is considered given for any property for which written notice was submitted and no “opt out” request was received by the sponsoring government entity.
- C. When the Maine Center for Disease Control and Prevention (CDC) recommends control of disease vectors, government entities are not required to receive prior authorization to apply pesticides to private property, provided that the government entity sponsoring the vector control program:
 - 1. Provides advance notice to residents about vector control programs using multiple forms of publicity which may include, but is not limited to, signs, newspaper, television or radio notices, direct mailings, electronic communication or other effective methods; and
 - 2. Implements an “opt out” option whereby residents and property owners may request that their property be excluded from any ground based control program and the government entity makes a reasonable effort to honor such requests; and

3. If aerial applications are made, takes affirmative steps, to the extent feasible, to avoid applications to exclusion areas as identified by Board policy.

D. **General Provisions.** For any pesticide application not described in Chapter 20.6(A),(B) or (C), the following provision apply:

1. No person may contract with, or otherwise engage, a pesticide applicator to make any pesticide application to property unless that person is the owner, manager, or legal occupant of the property to which the pesticide is to be applied, or that person has the authorization of the owner, manager or legal occupant to enter into an agreement for pesticide applications to be made to that property. The term “legal occupant” includes tenants of rented property.
2. No person may apply a pesticide to a property of another unless prior authorization for the pesticide application has been obtained from the owner, manager or legal occupant of that property. The term “legal occupant” includes tenants of rented property.
3. No commercial applicator may perform ongoing, periodic non-agricultural pesticide applications to a property unless:
 - i. there is a signed, written agreement with the property owner, manager or legal occupant that explicitly states that such pesticide applications shall continue until a termination date specified in the agreement, unless sooner terminated by the applicator or property owner, manager or legal occupant; or
 - ii. the commercial applicator utilizes another system of verifiable authorization approved by the Board that provides substantially equivalent assurance that the customer is aware of the services to be provided and the terms of the agreement.

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Section 7. Positive Identification of Proper Treatment Site

- A. Commercial applicators making outdoor treatments to residential properties must implement a system, based on Board approved methods, to positively identify the property of their customers. The Board shall adopt a policy listing approved methods of positive identification of the proper treatment site.
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STATUTORY AUTHORITY:

Title 22 M.R.S.A., Chapter 258-A

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December 12, 2012 – emergency filing expires, chapter reverts to January 1, 2008 version

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SUMMARY: These regulations establish procedures and standards for informing interested members of the public about outdoor pesticide applications in their vicinity. This chapter sets forth the requirements for requesting notification about pesticide applications, for posting property on which certain commercial pesticide applications have occurred and also establishes the *Maine Pesticide Notification Registry* structure and fees.

Section 1. Requesting Notification About Outdoor Pesticide Applications

The purpose of the following notification requirement is to enable individuals an opportunity to obtain information regarding outdoor pesticide application activities in their vicinity.

A. Requests for Notification; How Made

The owner, lessee or other legal occupant of a sensitive area may make a request to be notified about any outdoor pesticide application(s) which may occur within 500 feet of that sensitive area and any aerial application(s) which may occur within 1,000 feet of the sensitive area.

1. The request may be made in any fashion, so long as it is effective in informing the person receiving the request of the name, address, telephone number, and interest in receiving notification of the person making the request.
2. The request for notification should be made to the person responsible for management of the land on which the pesticide application will take place. If the person making the request for notification is uncertain as to the identity of the person to whom the request should be made, he/she may make the request for notification to the person who owns the land involved, as such ownership is ascertainable from the tax records of the municipality. That landowner shall then be responsible for assuring compliance with provisions of this section.

B. Procedure of Notification

Once a request for notification has been made as provided in Section 1(A), the person receiving the request shall cause notification to be given as follows:

1. General notification of intent to apply pesticides out-of-doors shall be given to the person making the request for notification. Such general notification may be given in any fashion, provided that it is effective in informing the person receiving the notice of the following:
 - a. the approximate date(s) when pesticide(s) may be applied;

- b. the pesticide(s) which may be applied;
- c. in general terms, the manner of application; and
- d. the name, address and telephone number of a person responsible for the pesticide application from whom additional information may be obtained.
- e. If requested, the person responsible for managing the land shall make reasonable efforts to supply a copy of the MSDS(s) and/or the pesticide label(s). However such requests for additional information will not delay nor prohibit the intended pesticide application.

Where feasible, such general notification shall be given within one week after the request for notification is received and at least one day before any pesticide application is to occur. Such notification may cover outdoor pesticide applications which are planned over a period of up to one growing season.

2. If, following receipt of the general notification as provided by Section 1(B)(1) above, the person seeking notification believes there is a need for additional or updated information regarding impending pesticide application activities, he/she may make a further request for additional information from the person identified in the general notification. This request for additional information must specify the type of information needed, including, for example, more specific information regarding the date or dates on which pesticides will be applied when known. The person responsible for the notification shall make reasonable efforts to comply with such request for additional information.
3. If any person is dissatisfied with the efforts made by any other person at complying with these notification provisions, a complaint may be filed with the Board. The Board shall then make efforts to attempt to reach a reasonable and fair resolution between the parties.

Section 2. *Maine Pesticide Notification Registry for Non-Agricultural Pesticide Applications*

The Board shall maintain a list of individuals who must be notified of outdoor, non-agricultural pesticide applications in their vicinity. This list shall be referred to as the *Maine Pesticide Notification Registry*.

A. *Individuals to be Included on the Registry*

1. Individuals requesting to be listed on the *Maine Pesticide Notification Registry* shall pay all appropriate fees and provide the following information on forms supplied by the Board:

- a. Name;
 - b. Mailing address;
 - c. Listed registry residence, including street or road address and city;
 - d. Daytime and evening telephone number(s), one of which is designated as the primary contact number; and
 - e. The names and addresses of all landowners or lessees within 250 feet of the boundary of the listed registry residence.
2. Individuals may register more than one residence by completing additional forms and paying all appropriate fees.
 3. The effective period of the registry will be from March 1 to February 28 of the following year. Individuals must submit their request for inclusion on the next effective registry by December 31. All submissions received after that date will be included on the following registry. Individuals may notify the Board at any time of changes in their listed registry residence, however, changes will not take effect until the following registry. An individual will not be considered officially included on the *Maine Pesticide Notification Registry* unless their name appears on the current effective registry.
 4. The Board shall mail renewal notices to individuals listed on the *Maine Pesticide Notification Registry* on or before November 1 of each year. An individual must re-apply and pay all appropriate fees annually to remain on the registry for the next twelve month period.

B. Alerting Neighbors to the Presence of an Individual on the Registry

1. All individuals on the *Maine Pesticide Notification Registry* shall annually provide a letter to all landowners and lessees within 250 feet of their property boundary from whom they want to receive notification.
2. This letter, approved and supplied by the Board, must inform neighbors of the existence of the *Maine Pesticide Notification Registry*, the individual's request to be notified in the event of an outdoor pesticide application, the distance from the property boundary which shall cause notification to be given for non-agricultural pesticide applications, and the notification requirements of this chapter.
3. The individual on the registry requesting notification bears the burden of proof for demonstrating that this provision has been met.
4. Failure to distribute the letter will not prohibit an individual from being added to or remaining on the registry.

C. Registry Provided to Commercial Applicators

The *Maine Pesticide Notification Registry* shall be printed and distributed annually to affected licensed Commercial Master Applicators on or before its effective date of March 1. Newly licensed Commercial Master Applicators will be provided a copy of the current effective registry upon licensing.

D. Notification to Individuals on the *Maine Pesticide Notification Registry*

1. Commercial applicators shall notify an individual listed on the registry when performing an outdoor, non-agricultural pesticide application that is within 250 feet of the property boundary of the listed registry residence.
2. A person who receives a letter in accordance with Section 2(B) and who performs any outdoor, non-agricultural pesticide application within 250 feet to the property boundary of the listed registry residence shall notify the individual from whom the letter was given or sent.
3. Notification must consist of providing the following information to the individual on the registry:
 - a. The location of the outdoor pesticide application;
 - b. The date and approximate start time of the pesticide application (within a 24 hour time period) and, in the event of inclement weather, an alternative date or dates on which the application may occur;
 - c. The brand name and EPA registration number of the pesticide product(s) which will be used; and
 - d. The name and telephone number of the person or company making the pesticide application.
4. An individual on the registry who receives notification may request a copy of the pesticide product label or Material Safety Data Sheet. The person or company performing the pesticide application shall make reasonable efforts to comply with such request for additional information. However, such requests for additional information will not delay nor prohibit the person or company from performing the pesticide application as scheduled.
5. Notification must be received between 6 hours and 14 days prior to the pesticide application.
6. Notification must be made by telephone, personal contact or mail.
 - a. In cases where personal contact with the individual listed on the registry is not achieved, notification requirements are met via telephone if:
 - i. the information is placed on a telephone answering device activated by calling the individual's primary contact telephone number; or

- ii. the information is given to a member of the household or workplace contacted by dialing the primary contact telephone number.
 - b. If notification cannot be made after at least two telephone contact attempts and personal contact is not feasible, notification may be made by securely affixing the notification information in written form on the principal entry of the listed registry location.
7. The person or company performing the pesticide application bears the burden of proof for demonstrating that they have complied with this section.

E. Exceptions

1. Any person providing written notices to property owners in accordance with Chapter 51, "Notice of Aerial Pesticide Applications," shall be exempt from this section.
2. The following types of pesticide applications do not require notification under this section:

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- a. The application of pesticides indoors;
- b. Agricultural pesticide applications;
- c. The outdoor commercial application of pesticides to control vegetation in rights-of-way in certification and licensing category 6A (rights-of-way vegetation management);
- d. The outdoor commercial application of pesticides in certification and licensing category 7A (structural general pest control) within five (5) feet of a human dwelling, office building, institution such as a school or hospital, store, restaurant or other occupied industrial, commercial or residential structure which is the intended target site;
- e. The application of general use pesticides by hand or with non-powered equipment to control stinging insects;
- f. The placement of pesticidal baits;
- g. The injection of pesticides into trees or utility poles;
- h. The placement of pesticide-impregnated devices on animals, such as ear tags and flea collars;
- i. The application of pesticidal pet supplies, such as shampoos and dusts;
- j. The application of disinfectants, germicides, bactericides and virucides, such as bleach. The use of disinfectants in the pressure-washing of the exterior of buildings is not exempt under this section;

- k. The application of insect repellents to the human body;
- l. The application of swimming pool products;
- m. The application of general use paints, stains, and wood preservatives and sealants applied with non-powered equipment or by hand or within an enclosure which effectively prevents the escape of spray droplets of the product being applied; and
- n. The injection of pesticides into wall voids.

F. Exemption from this section

If an individual on the current effective registry and a person or company performing pesticide applications subject to this rule can reach an agreement on notification provisions acceptable to both parties other than those described herein, then the requirements as described in this section may be waived. For such an exemption to be in effect, the details of the notification agreement must be placed in writing and signed by both parties. Either party may terminate the notification agreement with a 14-day, written notice.

G. Fee

The annual application fee for an individual requesting to be on the registry will be \$20.00. The Board may waive the fee for individuals who demonstrate an inability to pay, or where other extenuating circumstances exist which justify granting a waiver. Evidence of an individual's inability to pay shall include, but not be limited to, the individual's participation in any of the following programs:

- 1. Food Stamps
- 2. Temporary Assistance for Needy Families (TANF)
- 3. Supplemental Security Income (SSI)
- 4. Social Security Disability (SSD)
- 5. Maine Care (Medicaid)

Requests for a fee waiver must be in writing and be made by the individual at the time of application for listing on the registry. The written request must contain sufficient information for the Board to determine that a basis for granting a fee waiver has been demonstrated in accordance with this rule.

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

A. Sidewalks and Trails

Public notice must be provided consistent with Board policy for the outdoor commercial application of pesticides within category 6B to sidewalks and trails.

B. Posting

1. Categories Requiring Posting

- a. 3A (outdoor ornamentals)
- b. 3B (turf)
- c. 6B (industrial/commercial/municipal vegetation management), except applications to sidewalks, trails, railroad sidings, and power substations
- d. 7A (general pest control)
- e. 7E (biting fly & other arthropod vectors)

2. Posting Requirements

Areas treated under the categories listed in Section 3B(1) shall be posted in a manner and at locations designed to reasonably assure that persons entering such area will see the notice. Such notice shall be posted before application activities commence and shall remain in place at least two days following the completion of the application. The sign shall be sufficient if it meets the following minimum specifications:

- a. The sign must be at least five (5) inches wide and four (4) inches high;
- b. The sign must be made of rigid, weather resistant material that will last at least forty-eight (48) hours when placed outdoors;
- c. The sign must be light colored (white, beige, yellow or pink) with dark, bold letters (black, blue or green);
- d. The sign must bear:
 - i. the word CAUTION in 72 point type;
 - ii. the words PESTICIDE APPLICATION in 30 point type or larger;
 - iii. the Board designated symbol;
 - iv. any reentry precautions from the pesticide labeling;
 - v. the name of the company making the pesticide application and its telephone number;
 - vi. the date and time of the application; and
 - vii. a date and/or time to remove the sign.

C. **Exemption from this section**

1. The placement of marked bait stations in outdoor settings shall be exempt from this section.
 2. Any person providing notice in accordance with Chapter 51 - Notice of Aerial Pesticide Applications, Section III. - Ornamental Plant Applications, shall be exempt from this section.
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01 DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY

026 BOARD OF PESTICIDES CONTROL

Chapter 31: CERTIFICATION AND LICENSING PROVISIONS/COMMERCIAL APPLICATORS

SUMMARY: These regulations describe the requirements for certification and licensing of commercial applicators.

1. Individual Certification and Company/Agency Licensing Requirements

- A. Any commercial applicator must be either:
 - I. licensed as a commercial applicator/master; or
 - II. licensed as a commercial applicator/operator; or
 - III. supervised on-site by either a licensed commercial applicator/master or a commercial applicator/operator who is physically present on the property of the client the entire time it takes to complete an application conducted by an unlicensed applicator. This supervision must include visual and voice contact. Visual contact must be continuous except when topography obstructs visual observation for less than five minutes. Video contact does not constitute visual observation. The voice contact requirement may be satisfied by real time radio or telephone contact. In lawn care and other situations where both the licensed and unlicensed applicator are operating off the same application equipment, the licensed applicator may move to an adjoining property on the same side of the street and start another application so long as he or she is able to maintain continuous visual and voice contact with the unlicensed applicator.
- B. All commercial applicators responsible for the supervision of noncertified applicators of restricted use pesticides must ensure compliance with training, record keeping, and all other requirements as indicated in 40 CFR 171.201(c) "Supervision of Noncertified Applicators" (2017).
- C. All commercial applicator licenses shall be affiliated with a company/agency and shall terminate when the employee leaves the employment of that company or agency.
- D. Individuals certified as commercial applicators are eligible to license with one or more companies/agencies upon submission of the application and fee as described in Section 6 of this regulation. The individual's certification remains in force for the duration of the certification period as described in Section 5 of this regulation.
- E. Each branch office of any company, agency, organization or self-employed individual ("employing entity") required to have personnel licensed commercially under state pesticide law shall have in its employment at least one master applicator. This Master

must be licensed in all categories which the branch office of the company or agency performs applications and any Operators must also be licensed in the categories in which they perform or supervise pesticide applications. This master applicator must actively supervise persons applying pesticides within such employing entity and have the ability to be on site to assist such persons within six (6) hours driving time. Whenever an out-of-state employing entity is conducting a major application project they must have a master applicator within the state.

F. Exemptions

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

2. Categories of Commercial Applicators

A. All commercial applicators shall be categorized according to the type of work performed as outlined below:

I. Agricultural Animal and Plant Pest Control

- a. **Agricultural Animal** - This subcategory includes commercial applicators using or supervising the use of pesticides on animals and to places on or in which animals are confined. Doctors of Veterinary Medicine engaged in the business of applying pesticides for hire as pesticide applicators are included in this subcategory; however, those persons applying pesticides as drugs or medication during the course of their normal practice are not included.
- b. **Agricultural Plant** - This subcategory includes commercial applicators using or supervising the use of pesticides in the production of crops including blueberries, orchard fruit, potatoes, vegetables, forage, grain and industrial or non-food crops.

Option I - Limited Commercial Blueberry - This option includes commercial applicators using or supervising the use of pesticides in the production of blueberries only.

Option II - Chemigation - This option includes commercial applicators using or supervising the use of pesticides applied through irrigation equipment in the production of crops.

Option III - Agricultural Fumigation - This option includes commercial applicators using or supervising the use of fumigant pesticides in the production of crops.

Option IV - Post Harvest Treatment - This option includes commercial applicators using or supervising the use of pesticides in the post harvest treatment of food crops.

II. **Forest Pest Management**

This category includes commercial applicators using or supervising the use of pesticides in forests, forest nurseries, Christmas trees, and forest seed producing areas.

III. **Ornamental and Turf Pest Control**

- a. **Outdoor Ornamentals** - This subcategory includes commercial applicators using or supervising the use of pesticides to control pests in the maintenance and production of outdoor ornamental trees, shrubs and flowers.
- b. **Turf** - This subcategory includes commercial applicators using or supervising the use of pesticides to control pests in the maintenance and production of turf, such as at turf farms, golf courses, parks, cemeteries, athletic fields and lawns.
- c. **Indoor Ornamentals** - This subcategory includes commercial applicators using or supervising the use of pesticides to control pests in the maintenance and production of live plants in shopping malls, businesses, residences and institutions.

IV. **Seed Treatment**

This category includes commercial applicators using or supervising the use of pesticides on seeds.

V. **Aquatic Pest Control**

- a. **General Aquatic** - This subcategory includes commercial applicators using or supervising the use of pesticides applied directly to surface water, including but not limited to outdoor application to public drinking water supplies, golf course ponds, rivers, streams and wetlands. Excluding applicators engaged in public health related activities included in categories VII(e) and VIII below.

- b. **Sewer Root Control** - This subcategory includes commercial applicators using or supervising the use of pesticides applied to sewers to control root growth in sewer pipes.

VI. **Vegetation Management**

- a. **Rights-of-Way Vegetation Management** - This subcategory includes commercial applicators using or supervising the use of pesticides in the management of vegetation on utility, roadside and railroad rights-of-way.
- b. **General Vegetation Management** - This subcategory includes commercial applicators using or supervising the use of pesticides in the management of vegetation (including invasive plants) on sites not included in category VI a including, but not limited to, municipal and other publicly owned properties, industrial or commercial plants and buildings, lumber yards, airports, tank farms, storage areas, parking lots, sidewalks, and trails.

VII. **Industrial, Institutional, Structural and Health Related Pest Control**

- a. **General** - This subcategory includes commercial applicators using or supervising the use of pesticides in, on or around human dwellings, office buildings, institutions such as schools and hospitals, stores, restaurants, industrial establishments (other than in Category 6) including factories, warehouses, food processing plants, food or feed transportation facilities and other structures, vehicles, railroad cars, ships, aircraft and adjacent areas; and for the protection of stored, processed or manufactured products. This subcategory also includes commercial applicators using or supervising the use of pesticides to control rodents on refuse areas and to control other pests, including but not limited to birds and mammals.
- b. **Fumigation** - This subcategory includes commercial applicators using or supervising the use of fumigants or fumigation techniques in any type of structure or transportation device.
- c. **Disinfectant and Biocide**

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- 1. **Disinfectant and Biocide Treatments** - This subcategory includes commercial applicators using or supervising the use of pesticides to treat water in manufacturing, industrial cooling towers, public drinking water treatment plants, sewers, and air conditioning systems.
- 2. **Swimming Pool & Spa** - This subcategory includes commercial applicators using or supervising the use of pesticides to treat water in swimming pools and spas.
- 3. **Mold Remediation** - This subcategory includes commercial applicators using or supervising the use of pesticides to treat mold or microbial growth problems.

- d. **Wood Preserving** - This subcategory includes commercial applicators using or supervising the use of restricted use pesticides to treat lumber, poles, railroad ties and other types of wooden structures including bridges, shops and homes. It also includes commercial applicators applying general use pesticides for remedial treatment to utility poles.
- e. **Biting Fly & other Arthropod Vectors** - This subcategory includes commercial applicators and non-public health governmental officials using or supervising the use of pesticides in management and control of biting flies & other arthropod vectors of public health and public nuisance importance including, but not limited to, ticks, mosquitoes, black flies, midges, and members of the horsefly family.
- f. **Termite Pests** - This subcategory includes commercial applicators using or supervising the use of pesticides to control termites.

VIII. **Public Health Pest Control**

- a. **Biting Fly Pests** - This subcategory includes governmental officials using pesticides in management and control of potential disease vectors or other pests having medical and public health importance including, but not limited to, mosquitoes, black flies, midges, and members of the horsefly family.
- b. **Other Pests** - This subcategory includes governmental officials using pesticides in programs for controlling other pests of concern to public health including, but not limited to, ticks and birds and mammal vectors of human disease.

IX. **Regulatory Pest Control**

This category includes governmental employees using pesticides in the control of pests regulated by the U.S. Animal and Plant Health Inspection Service or some other governmental agency.

X. **Demonstration and Research Pest Control**

This category includes all individuals who (1) demonstrate to the public the proper use and techniques of application of pesticides or supervise such demonstration, (2) conduct field research with pesticides, and in doing so, use or supervise the use of pesticides. Individuals who conduct only laboratory-type research are not included. Applicants seeking certification in this category must also become certified in whatever category/subcategory they plan to make applications under; e.g., Categories I - IX.

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XI. **Aerial Pest Control**

This category includes commercial applicators, including pilots and co-pilots, applying or supervising the application of pesticides by means of any aircraft. Applicants seeking certification in this category must also become certified in whatever category/subcategory they plan to make applications under; e.g., Categories I - IX.

3. **Competency Standards for Certification of Commercial Applicators**

- A. Applicants seeking commercial certification must establish competency in the general principles of safe pest control by demonstrating knowledge of basic subjects including, but not limited to, pesticide labeling, safety, environmental concerns, pest organisms, pesticides, equipment, application techniques and applicable laws and regulations. (Core Exam).
- B. Applicants seeking commercial certification must demonstrate competency in each applicable category or subcategory. (Category Exam). Competency in the applicable category or subcategory shall be established as follows:
 - I. **Agricultural Animal and Plant Pest Control**
 - a. **Agricultural Animals.** Applicants seeking certification in the subcategory of Animal Pest Control as described in Section 2(A)(I)(a) must demonstrate knowledge of animals, their associated pests, and methods of pest control. Areas of practical knowledge shall include specific toxicity, residue potential, relative hazards of different formulations, application techniques, and hazards associated with age of animals, stress, and extent of treatment.
 - b. **Agricultural Plant.** Applicants seeking certification in the subcategory of Plant Pest Control as described in Section 2(A)(I)(b) Options I - IV must demonstrate practical knowledge of the crops grown and the specific pests of those crops on which they may be using pesticides. Areas of such practical knowledge shall include soil and water problems, preharvest intervals, reentry intervals, phytotoxicity, potential for environmental contamination, non-target injury, and community problems related to pesticide use in certain areas. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.

II. **Forest Pest Management**

Applicants seeking certification in the category of Forest Pest Management as described in Section 2(A)(II) must demonstrate practical knowledge of forest vegetation management, forest tree biology and associated pests. Such required knowledge shall include population dynamics of pest species, pesticide-organism interactions, integration of pesticide use with other pest control methods, environmental contamination, pesticide effects on non-target organisms, and use of specialized equipment. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.

III. **Ornamental and Turf Pest Control**

- a. **Outdoor Ornamentals.** Applicants seeking certification in the Outdoor Ornamental subcategory as defined in Section 2(A)(III)(a) must demonstrate practical knowledge of pesticide problems associated with the production and maintenance of trees, shrubs and floral plantings. Such knowledge shall include potential phytotoxicity, undue pesticide persistence, and application methods, with particular reference to techniques used in proximity to human habitations. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.
- b. **Turf.** Applicants seeking certification in the Turf subcategory as described in Section 2(A)(III)(b) must demonstrate practical knowledge of pesticide problems associated with the production and maintenance of turf. Such knowledge shall include potential phytotoxicity, undue pesticide persistence, and application methods, with particular reference to techniques used in proximity to human habitations. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.
- c. **Indoor Ornamentals.** Applicants seeking certification in the Indoor Ornamental subcategory described in Section 2(A)(III)(c) must demonstrate practical knowledge of pesticide problems associated with the production and maintenance of indoor ornamental plantings. Such knowledge shall include pest recognition, proper pesticide selection, undue pesticide persistence, and application methods with particular reference to techniques used in proximity to human presence.

IV. **Seed Treatment**

Applicants seeking certification in the category of Seed Treatment as described in Section 2(A)(IV) must demonstrate practical knowledge of seed types and problems requiring chemical treatment. Such knowledge shall include seed coloring agents, carriers and binders which may affect germination, hazards associated with handling, sorting, and mixing in the treatment process, hazards of introduction of treated seed into food and feed channels, and proper disposal of unused treated seeds.

V. **Aquatic Pest Control**

- a. **General Aquatic** - Applicants seeking certification in the subcategory of General Aquatic as described in Section 2(A)(V)(a) must demonstrate practical knowledge of proper methods of aquatic pesticide application, application to limited area, and a recognition of the adverse effects which can be caused by improper techniques, dosage rates, and formulations. Such knowledge shall include basic factors contributing to the development of nuisance aquatic plant growth such as algal blooms, understanding of various water use situations and potential downstream effects from pesticide use, and potential effects of various aquatic pesticides on plants, fish, birds, insects and other organisms associated with the aquatic environment. Also required shall be an understanding of the Department of Environmental Protection laws and regulations pertaining to aquatic discharges and aquatic weed control and a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.
- b. **Sewer Root Control** - Applicants seeking certification in the subcategory of Sewer Root Control as described in Section 2(A)(V)(b) must demonstrate practical knowledge of proper methods of sewer root control pesticide application, application to pipes, and a recognition of the adverse effects which can be caused by improper techniques, dosage rates, and formulations. Such knowledge shall include potential effects on water treatment plants, movement of pesticides into off target pipes or buildings and the hazards of sewer gases.

VI. **Vegetation Management**

Applicants seeking certification in the subcategories under Vegetation Management as described in Section 2(A)(VI) (a-b) must demonstrate practical knowledge of the impact of pesticide use on a wide variety of environments. Such knowledge shall include an ability to recognize target organisms and circumstances specific to the subcategory, awareness of problems of runoff, root pickup and aesthetic considerations associated with excessive foliage destruction and "brown-out", and an understanding of the mode of action of herbicides, and reasons for the choice of particular chemicals for particular problems, importance of the assessment of potential impact of spraying on adjacent public and private properties and activities, and effects of spraying on fish and wildlife species and

their habitat. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.

VII. **Industrial, Institutional, Structural and Health Related Pest**

- a. **General.** Applicants seeking certification in the subcategory of General Pest Control as described in Section 2(A)(VII)(a) must demonstrate a practical knowledge of a wide variety of pests and methods for their control. Such knowledge shall include identification of pests and knowledge of life cycles, formulations appropriate for various indoor and outdoor uses, methods to avoid contamination of food and feed, and damage to structures and furnishings, avoidance of risk to humans, domestic animals, and non-target organisms and risks to the environment associated with structural pesticide use.
- b. **Fumigation.** Applicants seeking certification in the subcategory Fumigation as described in Section 2(A)(VII)(b) must demonstrate a practical knowledge of a wide variety of pests and fumigation methods for their control. Such knowledge shall include identification of pests and knowledge of life cycles, fumigant formulations, methods to avoid contamination of food and damage to structures and furnishings, and avoidance of risks to employees and customers.
- c. **Disinfectant and Biocide Treatments.**
 1. **Disinfectant and Biocide Treatments.** Applicants seeking certification in the subcategory of Disinfectant and Biocide Treatments as described in Section 2(A)(VII)(c)(1) must demonstrate practical knowledge of water organisms and their life cycles, drinking water treatment plant designs, cooling water system designs, labels, and hazards of disinfectants and biocides and proper application techniques to ensure adequate control while minimizing exposure to humans and the environment.
 2. **Swimming Pool & Spa.** Applicants seeking certification in the subcategory of Swimming Pool & Spa as described in Section 2(A)(VII)(c)(2) must demonstrate practical knowledge of water organisms and their life cycles, pool and spa design systems, labels, and hazards of disinfectants and biocides and proper application techniques to ensure adequate control while minimizing exposure to humans and the environment.
 3. **Mold Remediation.** Applicants seeking certification in the subcategory of Mold Remediation as described in Section 2(A)(VII)(c)(3) must demonstrate practical knowledge of mold and problematic microbial organisms, their life cycles, labels, and hazards of disinfectants and biocides and proper application techniques to ensure adequate control while minimizing exposure to humans and the environment.

- d. **Wood Preserving.** Applicants seeking certification in the Wood Preserving Subcategory described in Section 2(A)(VII)(d) must demonstrate practical knowledge in wood destroying organisms and their life cycles, nonchemical control methods, pesticides appropriate for wood preservation, hazards associated with their use, proper handling of the finished product, proper disposal of waste preservatives, and proper application techniques to assure adequate control while minimizing exposure to humans, livestock and the environment.
- e. **Biting Fly and Other Arthropod Vector Pests.** Applicants seeking certification in the subcategory of Biting Fly and Other Arthropod Vector Pest control as described in Section 2(A)(VII)(e) must demonstrate a practical knowledge of the species involved, their potential roles in disease transmission, and the use of pesticides in their control. Such knowledge shall include identification of and familiarity with life cycles and habitat requirements, special environmental hazards associated with the use of pesticides in control programs, and knowledge of the importance of integrating chemical and non-chemical control methods. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.
- f. **Termite Pests.** Applicants seeking certification in this subcategory must demonstrate a practical knowledge of Termite pests and methods for their control. Such knowledge shall include identification of termites and knowledge of life cycles, formulations appropriate for various indoor and outdoor uses, methods to avoid contamination of food and feed, and damage to structures and furnishings, avoidance of risk to humans, domestic animals, and non-target organisms and risks to the environment associated with structural pesticide use.

VIII. **Public Health Pest Control**

- a. **Biting Fly and Other Arthropod Vector Pests.** Applicants seeking certification in the subcategory of Biting Fly and Other Arthropod Vector Pest Control as described in Section 2(A)(VIII)(a) must demonstrate a practical knowledge of the species involved, their potential roles in disease transmission, and the use of pesticides in their control. Such knowledge shall include identification of and familiarity with life cycles and habitat requirements, special environmental hazards associated with the use of pesticides in control programs, and knowledge of the importance of integrating chemical and non-chemical control methods. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.
- b. **Other Pests.** Applicants seeking certification in the subcategory of Other Pest Control as described in Section 2(A)(VIII)(b) must demonstrate a

practical knowledge of the species involved, their potential roles in disease transmission, and the use of pesticides in their control. Such knowledge shall include identification of and familiarity with life cycles and habitat requirements, special environmental hazards associated with the use of pesticides in control programs, and knowledge of the importance of integrating chemical and non-chemical control methods. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.

IX. Regulatory Pest Control

Applicants seeking certification in the category of Regulatory Pest Control as described in Section 2(A)(IX) must demonstrate practical knowledge of regulated pests and applicable laws relating to quarantine and other regulations of pests. Such knowledge shall also include environmental impact of pesticide use in eradication and suppression programs, and factors influencing introduction, spread, and population dynamics of relevant pests. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.

X. Demonstration and Research Pest Control

Applicants seeking certification in the category of Demonstration and Research Pest Control as described in Section 2(A)(X) must demonstrate practical knowledge in the broad spectrum of activities involved in advising other applicators and the public as to the safe and effective use of pesticides. Persons involved specifically in demonstration activities will be required to demonstrate knowledge of pesticide-organism interactions, the importance of integrating chemical and non-chemical control methods, and a grasp of the pests, life cycles and problems appropriate to the particular demonstration situation. Field researchers will be required to demonstrate general knowledge of pesticides and pesticide safety, as well as a familiarity with the specific standards of this Section which apply to their particular areas of experimentation. All individuals certified in this category must also be certified in one or more of the previous categories or subcategories which represent at least 80% of their practice. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.

XI. Aerial Pest Control

Applicants seeking certification in the category of Aerial Pest Control as described in Section 2(A)(XI) must demonstrate at least a practical knowledge of problems which are of special significance in aerial application of pesticides, including chemical dispersal equipment, tank, pump and plumbing arrangements; nozzle selection and location; ultra-low volume systems; aircraft calibration; field flight

patterns; droplet size considerations; flagging methods; and loading procedures. Applicants must also demonstrate competency in the specific category or subcategory in which applications will be made, as described in paragraphs I, II, VI and VIII herein. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans.

4. Competency Standards for Certification of Commercial Applicator/Master

- A. **Regulations Exam.** An applicant seeking certification as a commercial applicator/master must successfully complete a closed book exam on the appropriate chapters of the Board's regulations. The passing grade shall be 80%. An applicant must successfully complete the regulations exam before being allowed to proceed to the master exam. The staff may waive the requirements for the closed book regulation exam if it determines that a pest management emergency exists necessitating the issuance of a nonresident license pursuant to Section 6 B. of this chapter, provided that the staff verbally reviews the pertinent regulations with the applicant prior to issuing a nonresident license.
- B. **Master Exam.** An applicant seeking certification as a commercial applicator/master must also demonstrate practical knowledge in ecological and environmental concerns, pesticide container and rinsate disposal, spill and accident mitigation, pesticide storage and on site security, employee safety and training, potential chronic effects of exposure to pesticides, pesticide registration and special review, the potential for groundwater contamination, principles of pesticide drift and measures to reduce drift, protection of public health, minimizing public exposure and use of non pesticide control methods. In addition, applicant must demonstrate the ability to interact with a concerned public.

5. Certification Procedures for Commercial Applicators

- A. **Initial Certification.** Individuals attempting to certify as a commercial applicator must be at least 18 years of age.
 - I. **Application for Exams.** Individuals applying to take exams must submit a completed application and associated fees. All fees are waived for governmental employees.
 - a. Information shall include name, home address, company address, name and telephone number of supervisor and categories for which certification is desired.
 - b. A non-refundable fee of \$10.00 for each core, category or subcategory exam shall accompany the application.
 - c. Study materials for other than the regulations exam are available through the University of Maine Cooperative Extension Pest Management Office for a fee.

- d. A non-refundable fee of \$10.00 for the regulations exam and \$40.00 for the Master exam shall accompany the application for Master exams. Study material for the regulations exam will be sent to the applicant upon receipt of their application and the required fees.

II. **Appointment for Exams**

- a. Exams will be scheduled by Board staff. It is the responsibility of the applicant to reschedule if necessary.
- b. All exam fees shall be forfeited if an applicant fails to notify the Board that he/she cannot sit for the exams on the scheduled date at least 24 hours in advance of the scheduled exam. Applicants who cancel their exam appointment two times in a row shall also forfeit their exam fees. Re-application shall require an additional \$15.00 fee.
- c. Exams will be available year-round on an appointment basis at the Board's office in Augusta.
- d. Exams may also be offered at other locations designated by the Board staff. Appointments for these exams should be arranged by application with the Board's office in Augusta.

III. **Exams**

- a. Applicants shall take a closed book core exam plus a closed book category technical exam on each applicable category or subcategory for which they anticipate making pesticide applications.
- b. In addition to the exams described above in sections (a), applicants for commercial applicator/master certification must complete a closed book written regulations exam as well as a master exam. Applicants for commercial applicator/master must successfully complete the core and at least one category exam or the combined exam before being eligible to take the master exams. Applicants must also successfully complete the regulations exam before being allowed to commence on the master exam.

IV. **Examination Procedures.** All applicants shall comply with these rules or forfeit their opportunity to complete the exams at a specified appointment.

- a. Applicant shall present a government issued identification to the moderator prior to commencement of exams.
- b. Applicants should be present and ready to take the exams at the appointed time.
- c. Applicants shall not talk during the examination period.
- d. Applicants shall not be allowed to bring any books, papers, cellular telephones, calculators or electronically stored data into the examining

room. Pencils and work sheets will be provided and all papers shall be collected at the end of the period.

- e. Applicants shall not make notes of the exams and shall not leave the table during an exam unless authorized by the staff.

V. **Qualification Requirements.** An applicant must achieve a passing score of 80 percent on each exam.

- a. An applicant who fails the core exam must re-apply and pay all required fees and may not retake that examination prior to 6 days after the date of such failed examination. If an applicant fails again the applicant must reapply and pay all required fees and wait 6 more days before retaking again.
- b. An applicant who fails a category exam must re-apply and pay all required fees and may not retake that examination prior to 6 days after the date of such failed examination. If an applicant fails again the applicant must reapply and pay all required fees and wait 6 more days before retaking again.
- c. An applicant who passes the core and one category exam shall be considered eligible for operator level licensing in that particular category so long as that person will be working under the supervision of a Master applicator. If at a later date the applicant wishes to add another category, only the appropriate category exam shall be required.
- d. An applicant who fails a master exam must re-apply and pay all required fees and may not retake the examination prior to 6 days after the date of such failed examination.
- e. Any applicant must pass both the core and at least one category exam by December 31 of the third year from the date on which the first exam was passed.
- f. Any applicant who violates any of the rules pertaining to examinations shall wait a minimum of 60 days before retaking.

VI. **Expiration.** Certification under this Section will expire on December 31st of the third year after the date of successful completion of required exams and on December 31st of every third year thereafter unless a special restricted certification period is assigned by the Board or Board staff.

VII. An applicant's original certification period shall not be extended due to the applicant qualifying for another category or upgrading to the master level.

B. **Recertification of Applicators**

- I. Persons with current valid certification may renew that certification by either providing documentation from a substantially equivalent professional

certification program approved by the board or by accumulating recertification credits during the certification period described in Section 5(A)VI according to the following schedule:

- a. **Master level** - 9 credit hours in subject areas applicable to the categories/subcategories in which the licensee is certified.
 - b. **Operator level** - 6 credit hours in subject areas applicable to the categories/subcategories in which the licensee is certified.
- II. Recertification credits will be available through Board-approved meetings including but not limited to industry and trade organization seminars, workshops where pesticide topics are presented and approved home study courses.
- a. Board staff will review program agendas and monitor programs as time permits.
- III. Credit will be allowed for topics including, but not limited to:
- a. Applicable laws and regulations.
 - b. Environmental hazards.
 - c. Calibration and new application techniques.
 - d. Label review.
 - e. Applicator safety.
 - f. Storage and disposal.
 - g. Pest identification and control.
 - h. Integrated pest management.
- IV. Persons organizing meetings for which they want credits awarded must contact the Board in writing at least 15 days in advance of the meeting with details of the agenda. Board staff will review program agendas and assign credit values.
- a. One credit will be assigned for each 1 hour of presentation on appropriate topics.
 - b. An individual who conducts a meeting for which the Board does assign recertification credits will be eligible for two credits for each 1 hour of presentation on appropriate topics.
 - c. An individual who organizes a meeting shall be required to maintain a sign up sheet and supervise the signing of the sheet by all applicators attending the program. That individual shall submit the sign up sheet to the Board at the same time the verification attendance forms are collected and submitted to the Board.

- V. For in state programs, applicants must submit verification of attendance at approved programs to the Board. For out of state programs, applicators must submit verification of attendance; they may also be asked to provide documentation such as an agenda or descriptions of the presentations attended.
- VI. A person who fails to accumulate the necessary credits during their first three year certification period will have to retake and pass all exam(s) required for initial certification. If a person fails to accumulate the necessary credits again that person must retake and pass all exam(s) required for initial certification and within one year thereafter, obtain the balance of the recertification credits which that person failed to accumulate during the previous certification period. If that person does not obtain the balance of credits needed, the Board will not renew their license until the make- up credits are accrued.
- VII. Applicants must attend the entire approved program(s) for which recertification credit is sought. No other person may complete or sign a verification form on another applicator's behalf. Any form that is completed or signed by a person other than the applicator will be deemed a fraudulent report and will not be approved by the Board for recertification credit(s). Any credit(s) approved by the Board pursuant to an attendance verification form which is subsequently determined by the Board to have been completed or signed by a person other than the applicator shall be void and may not be counted towards the applicator's recertification requirements; and any recertification issued on the basis of such credits shall be void.

6. Licensing

- A. All Commercial Applicators required to be certified under this chapter and state pesticide law shall be licensed before using or supervising the use of pesticides as described in Section 1(A).
- B. **Nonresident licenses.** When the staff determines that a pest management emergency exists which necessitates the use of aerial application and for which there are not sufficient qualified Maine licensees, it may issue a license without examination to nonresidents who are licensed or certified by another state or the Federal Government substantially in accordance with the provisions of this chapter. Nonresident licenses issued pursuant to this section are effective until December 31 of the year in which they are issued.
- C. **Application.** Application for a commercial applicator license shall be on forms provided by the Board.
 - I. The completed application must include the name of the company or agency employing the applicant.
 - II. Unless the applicant is the owner of a company, the completed application must be signed by both the applicant and that person's supervisor to verify the applicant is an employee of the company/agency.
- D. **Fee.** At the time of application, the applicant must tender the appropriate fee as follows:

- I. For a commercial applicator license - \$105.00 per person.
- E. Commercial applicators who apply pesticides for hire (custom applicators) and operate a company that is incorporated or which employs more than one applicator (licensed or unlicensed) must comply with Chapter 35, *Certification & Licensing Provisions/Spray Contracting Firms* which requires an additional Spray Contracting Firm License.
- F. **Insurance.** Commercial applicators who spray for hire (custom applicators) shall be required to have liability insurance in force at any time they make a pesticide application.
 - I. Applicators shall submit a completed and signed form provided by the Board at the time they apply for their license which attests that they will have the required amounts of insurance coverage in effect when they make pesticide treatments. The information submitted on the form must be true and correct.
 - II. Insurance coverage must meet or exceed the following minimum levels of liability:
 - a. **Ground applicators**

Public liability	\$100,000 each person	\$300,000 each occurrence
Property damage	\$100,000 each occurrence	
 - b. **Aircraft applicators**

Public liability	\$100,000 each person	\$300,000 each occurrence
Property damage	\$100,000 each occurrence	
- G. **Reports.** Annual Summary Reports described in Chapter 50, Section 2(A) must be submitted for each calendar year by January 31 of the following year. In the event a required report is not received by the due date, the person's license is temporarily suspended until the proper report is received or until a decision is rendered at a formal hearing as described in 22 MRSA §1471-D (7).
- H. **Expiration**
 - I. All licenses will expire at the end of the certification period as determined in Section 5(A)VI or when an individual licensee terminates employment with the company/agency with which the individual's license is affiliated.
 - II. The licensee or a company/agency representative shall notify the Board in writing within 10 days after a licensee is terminated from employment.
 - III. Also, all licenses within a company/agency are suspended if the licensed Master is terminated from employment or dies.

- I. **Decision.** Within 60 days of receipt of application by the Board, unless the applicant agrees to a longer period of time, the Director shall issue, renew or deny the license. The Director's decision shall be considered final agency action for purposes of 5 M.R.S.A. §11001 *et seq.*

 - J. **Credentials Contact.** Licenses issued under this rule will include the following information:
 - I. Full name of applicator
 - II. License number
 - III. Categories
 - IV. Expiration date
 - V. Maine statute under which license is issued.
-

STATUTORY AUTHORITY: 22 M.R.S.A., Section 1471-D

EFFECTIVE DATE:

January 1, 1983 (filed with Secretary of State August 13, 1982)

AMENDED:

December 29, 1982

January 1, 1984

January 1, 1984 - Section 7

May 20, 1984 - Section 6

May 13, 1985 - Section 5

Emergency amendment effective April 18, 1986 - Section 6

August 3, 1986 - Section 6

November 30, 1986 - Section 3

May 23, 1987 - Section 1

April 27, 1988

April 29, 1990

January 1, 1996 (adopted by Board October 7, 1994 - see Section 8 for transition dates)

October 2, 1996

EFFECTIVE DATE (ELECTRONIC CONVERSION):

March 1, 1997

AMENDED:

December 28, 1999 -- also converted to MS Word

March 5, 2003

July 3, 2005 – filing 2005-267

March 4, 2007 – filing 2007-69

July 2, 2009 – filing 2009-318 (EMERGENCY, later reverted to pre-emergency status)

CORRECTIONS:

February, 2014 – agency names, formatting

AMENDED:

December 9, 2014 – filing 2014-280

September 23, 2015 – filing 2015-168

July 23, 2019 – filing 2019-131

SUMMARY: These regulations describe the requirements for certification and licensing of private applicators.

1. Competency Standards for Certification - Private Applicator

- A. No person shall be certified as a private applicator unless he has fulfilled requirements demonstrating his knowledge of basic subjects including pesticide label comprehension, ability to read and understand pesticide labeling, safety, environmental concerns, stewardship, pest organisms, pesticides, equipment, application techniques, responsibilities for supervisors of non-certified applicators, and applicable laws and regulations. Also required shall be knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans (core exam).
- B. No person shall be certified as a private applicator unless he has demonstrated knowledge of the general principles of pest control for his major commodity, including specific pests of the crop, their life cycle, and proper timing of control measures to be efficacious (Commodity Exam).

2. Certification Procedures for Private Applicators

A. Initial Certification

- 1. Any person attempting to certify as a private applicator must be at least 18 years of age.
- 2. Any person seeking to be certified as a private applicator must pass a written core exam and a written exam in the area of his primary commodity. Both exams shall be closed book.
- 3. Exams may be taken at cooperating County University of Maine Cooperative Extension offices. Exams may also be offered at other locations designated by the Board staff or available on an appointment basis at the office of the Board.
- 4. **Examination Procedures.** All applicants shall comply with these rules or forfeit their opportunity to complete the exams at a specified appointment.
 - a. Applicant shall present a government issued identification to the moderator prior to commencement of exams.

- b. Applicants should be present and ready to take the exams at the appointed time.
- c. Applicants shall not talk during the examination period.
- d. Applicants shall not be allowed to bring any books, papers, calculators or electronically stored data into the examining room. Pencils and work sheets will be provided and all papers shall be collected at the end of the period.
- e. Applicants shall not make notes of the exams and shall not leave the table during an exam unless authorized by the staff.

5. **Qualification Requirements.** An applicant must achieve a passing score of 80 percent on each exam.

- a. An applicant who fails the core exam may not retake that examination prior to 6 days after the date of such failed examination. If an applicant fails again the applicant must wait 6 more days before retaking the exam again.
- b. An applicant who fails the exam in the area of his primary commodity may not retake the that examination prior to 6 days after the date of such failed examination. If an applicant fails again the applicant must wait 6 more days before retaking the exam again.
- c. Any applicant must pass both the core and at least one commodity exam within 12 months before qualifying for certification.
- d. Any applicant who violates any of the rules pertaining to examinations shall wait a minimum of 60 days before retesting.

6. Certification under this section will expire on October 31st of the third year after the date of successful completion of the exams and on October 31st of every third year thereafter unless a special restricted certification period is assigned by the Board or Board staff.

B. **Supplemental Certification.** Private applicators who are certified as described in Section 2(A), and intend to conduct soil fumigation, non-soil fumigation or aerial applications must be certified in the appropriate supplemental category. Certification is obtained by passing a written exam with a minimum score of 80.

- 1. Supplemental category exams shall be closed book.
- 2. Supplemental category exams will be available year-round on an appointment basis at the Board's office in Augusta.
- 3. Examination and qualification requirements described in Section 2(A)(4-6) pertain to supplemental certification.

4. **Categories for Supplemental Certification of Private Applicators**

- a. **Soil Fumigation.** This category includes private applicators using or supervising the use of pesticides to fumigate crops in production including blueberries, orchard fruit, potatoes, vegetables, forage, grain and industrial or non-food crops.
- b. **Non-soil Fumigation.** This category includes private applicators using or supervising the use of fumigant pesticides or fumigation techniques in any type of structure or transportation device.
- c. **Aerial.** This category includes private applicators, including pilots and co-pilots, applying pesticides by means of any aircraft.

5. **Competency Standards for Supplemental Certification of Private Applicators**

Applicants seeking supplemental private certification must demonstrate competency in each applicable category (Category Exam). Competency in the applicable category shall be established as follows:

- a. **Soil Fumigation.** Applicants seeking supplemental certification in the category of Soil Fumigation as described in Section 2(B)(4)(a) must demonstrate practical knowledge of the crops grown and the specific pests of those crops on which they may be using pesticides. Areas of such practical knowledge shall include soil and water problems, preharvest intervals, reentry intervals, phytotoxicity, potential for environmental contamination, non-target injury, and community problems related to pesticide use in certain areas. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans. In addition to the above competencies, private applicators obtaining supplemental certification in this category must demonstrate practical knowledge of topics indicated in 40 CFR 171.105 (d) (2017).
- b. **Non-soil Fumigation.** Applicants seeking supplemental certification in the category of Structural Fumigation as described in Section 2(B)(4)(b) must demonstrate a practical knowledge of a wide variety of pests and fumigation methods for their control. Such knowledge shall include identification of pests and knowledge of life cycles, fumigant formulations, methods to avoid contamination of food and damage to structures and furnishings, and avoidance of risks to employees. In addition to the above competencies, private applicators obtaining supplemental certification in this category must demonstrate practical knowledge of topics indicated in 40 CFR 171.105 (e) (2017).
- c. **Aerial Pest Control.** Applicants seeking supplemental certification in the category of Aerial Pest Control as described in Section 2(B)(4)(c) must demonstrate at least a practical knowledge of problems which are of special significance in aerial application of pesticides, including chemical

dispersal equipment, tank, pump and plumbing arrangements; nozzle selection and location; ultra-low volume systems; aircraft calibration; field flight patterns; droplet size considerations; flagging methods; and loading procedures. Also required shall be a knowledge of current methodology and technology for the control of pesticide drift to non-target areas, the proper meteorological conditions for the application of pesticides, and the potential adverse effect of pesticides on plants, animals or humans. In addition to the above competencies, private applicators obtaining supplemental certification in this category must demonstrate practical knowledge of topics indicated in 40 CFR 171.105 (f) (2017).

B. Recertification

1. Any person with current valid certification may renew that certification by accumulating 6 recertification credits during the certification period described in Section 2(A)6.
2. Recertification credits will be available through Board-approved meetings including but not limited to industry and trade organization seminars, workshops where pesticide topics are presented and approved home study courses.
3. Credit will be allowed for topics including, but not limited to:
 - a. Applicable laws and regulations.
 - b. Environmental hazards.
 - c. Calibration and new application techniques.
 - d. Label review.
 - e. Applicator safety.
 - f. Storage and disposal.
 - g. Pest identification and control.
 - h. Integrated pest management.
4. Persons organizing meetings for which they want credits awarded must contact the Board in writing at least 15 days in advance of the meeting and submit details of the pesticide topics, including titles and length of time devoted to them. Board staff will review program agendas and assign credit values. Board staff will monitor programs as time permits.
 - a. A minimum credit of one hour shall be assigned for each one hour of presentation on appropriate topics.
 - b. An individual conducts a meeting for which the Board does assign recertification credits will be eligible for two credits for each 1 hour of presentation on appropriate topics.

5. For in state programs, each participant will complete a form to verify attendance at each program for which credit is allowed at the site. For out of state programs, applicators must notify the Board about attendance and send a registration receipt or other proof of attendance and a copy of the agenda or other description of the presentations attended. The agenda must show the length of each presentation and describe what was covered.
6. A person who fails to accumulate the necessary credits will have to re-apply to take the exams required for initial certification.

3. **Licensing**

- A. **Application.** Application for a private applicator license, shall be on forms provided by the Board. Information shall include name; Social Security number; mailing address; farm name, location and telephone number; and major crop(s).
- B. **Fee.** At the time of application, the applicant must tender the appropriate fee as follows:
 1. For a private applicator license - \$15.00 per person.
 2. For replacement or alteration - \$5.00.
- C. **Expiration.** Private applicator licenses are issued on a three-year period and will expire on October 31st of the third year. Any person who has accumulated the required number of recertification credits must apply for license renewal within one year of the expiration date of the license or the recertification credits are forfeited and that person must retake and pass both the core and commodity exams to again be eligible for licensing.
- D. **Decision.** Within 60 days of receipt of application by the Board, unless the applicant agrees to a longer period of time, the Director shall issue, renew or deny the license. The Director's decision shall be considered final agency action for purposes of 5 M.R.S.A. §11001 *et seq.*

- E. **License Issued.** Licenses issued under this rule will include the following information:
- I. Full name of applicator
 - II. License number
 - III. Commodities and categories
 - IV. Expiration date
 - V. Maine statute under which license is issued
-

STATUTORY AUTHORITY: 22 M.R.S. §1471-D

EFFECTIVE DATE:

January 1, 1983

AMENDMENT EFFECTIVE:

December 6, 1987

August 17, 1996

EFFECTIVE DATE (ELECTRONIC CONVERSION):

March 1, 1997

AMENDED:

August 25, 1997 – fees

January 4, 2005 – filing 2004-605, Section 3.C.

CORRECTIONS:

February, 2014 – agency names, formatting

AMENDED:

December 9, 2014 – Section 2(A)(4)(a, b), filing 2014-281

July 23, 2019 – filing 2019-132

SUMMARY: This chapter describes special limitations placed upon the use of (1) aldicarb (Temik 15G) in proximity to potable water bodies; (2) trichlorfon (Dylox, Proxol); (3) hexazinone (Velpar, Pronone), (4) aquatic herbicides in the State of Maine; (5) plant-incorporated protectants; (6) neonicotinoids (dinotefuran, clothianidin, imidacloprid, thiamethoxam); and (7) chlorpyrifos (Dursban, Lorsban).

Section 1. ALDICARB (TEMIK®)

The registration of aldicarb (Temik 15G) is subject to the following buffer zone requirements:

- A. Aldicarb (Temik 15G) shall not be applied within 50 feet of any potable water source if that water source has been tested and found to have an aldicarb concentration in the range of one to ten parts per billion (ppb). The 50 foot buffer would be mandatory for one year with a required retesting of the water at the end of the period.
- B. Aldicarb (Temik 15G) shall not be applied within 100 feet of any potable water source if that water source has been tested and found to have an aldicarb concentration in excess of 10 ppb. The 100 foot buffer would be mandatory for one year with a required retesting of the water at the end of this period.

Section 2. TRICHLORFON (DYLOX, PROXOL)

The registration of trichlorfon (Dylox, Proxol) is subject to the following requirements:

- A. Trichlorfon shall only be used for control of subsurface insects on turf.
- B. Prior to application the target pest must be identified and the severity of the infestation must be determined, including the extent of the damage.
- C. Only infested areas shall be treated with trichlorfon. Broadcast treatments of the entire turf area are prohibited.
- D. Following application, the trichlorfon must be watered into the soil with at least ½ inch of water and according to the label directions. The applicator must assure that the appropriate watering will take place prior to re-entry by any unprotected person.

Section 3. HEXAZINONE (VELPAR, PRONONE)

The registration of hexazinone is subject to the following limitations and conditions.

A. Licenses Required

No person shall use or supervise the use of any pesticide containing the active ingredient hexazinone unless they have obtained an applicators license in accordance with 22 M.R.S. §1471-D.

Section 4. AQUATIC HERBICIDES

The registration of pesticides for which there is an aquatic herbicide use on the product label shall be subject to the following limitations and conditions.

A. Board Publication of List

The Board of Pesticides Control will publish by May 23, 2003 and by March 15th of each year thereafter a list of herbicide products registered in Maine for which the manufacturer has verified that there is an aquatic use on the pesticide label. Based on available information, the Board may exempt from this list pesticides that it determines are not for use in the control of aquatic vegetation. Pesticides labeled solely for use in aquariums and antifouling paints, are specifically exempt from this list.

B. Licenses Required

- I. Unless exempted under Chapter 41, Section 4 (B) (III), no person shall purchase, use or supervise the use of any aquatic herbicides identified on the Board's annual listing unless they have obtained a private or commercial pesticide applicator's license from the Board.
- II. No person shall:
 - a. Distribute any aquatic herbicides identified on the Board's annual listing without a restricted use pesticide dealer's license from the Board; or
 - b. Unless exempted under Chapter 41, Section 4 (B) (III), distribute any aquatic herbicides identified on the Board's annual listing to any person who is not licensed as a private or commercial applicator by the Board.
- III. Registered herbicides containing only the active ingredients erioglaucline (Acid Blue 9 or FD&C Number 1, CAS Registry No. 1934-21-0) and/or tartrazine (Acid Yellow 23 or FD&C Yellow Number 5, CAS Registry No. 2650-18-2 (trisodium salt) or 3844-45-9 (triammonium salt)) are exempt from the applicator licensing requirements described in Chapter 41, Section 4 (B) (I) and Chapter 41, Section 4 (B) (II) (b).

C. **Disclosure**

The Board will make a disclosure form available to dealers distributing any aquatic herbicides identified on the Board's annual listing. The Board requests that dealers present to customers the disclosure form that advises purchasers that, (1) an aquatic discharge license must be obtained from the Maine Department of Environmental Protection before any application may be made to any surface waters of the State as defined in 38 M.R.S.A. Section 361-A(7) including any private ponds that may flow into such a body of water at any time of year, (2) that Best Management Practices developed jointly by the Board and the Maine Department of Environmental Protection on the use of aquatic herbicides are available.

D. **Records and Reporting**

Dealers distributing any aquatic herbicides identified on the Board's annual listing shall keep records of such sales and provide reports to the Board as described for restricted use pesticides in Chapter 50, "Record Keeping and Reporting Requirements."

E. **Use of Best Management Practices**

Aquatic herbicides applied to private ponds and not subject to an aquatic discharge permit may only be applied consistent with Best Management Practices developed jointly by the Board and the Maine Department of Environmental Protection.

Section 5. PLANT-INCORPORATED PROTECTANTS

The registration, distribution and use of plant-incorporated protectants are subject to the following limitations and conditions:

A. **Definitions**

"Plant-incorporated protectant" means a pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and the genetic material necessary for the production of such a pesticidal substance.

B. **License Required**

No person shall distribute any plant-incorporated protectant without either a general use pesticide dealer license or a (restricted or limited use) pesticide dealer license from the Board.

C. **Dealer Requirements**

Dealers distributing plant-incorporated protectants are subject to the following requirements:

- I. General use and (restricted or limited use) pesticide dealers shall notify the Board of their intent to distribute plant-incorporated protectants on all initial license and license renewal application forms provided by the Board.
- II. General use and (restricted or limited use) pesticide dealers shall maintain sales records showing the list of the names and addresses of all purchasers of plants, plant parts or seeds containing plant-incorporated protectants. These records must be made available to representatives of the Board for inspection at reasonable times, upon request, and must be maintained for two calendar years from the date of sale.
- III. Any general use and (restricted or limited use) pesticide dealer who discontinues the sale of plant-incorporated protectants shall notify the Board in writing and shall provide the Board, upon request, with all records required by Section 5(C)II of this chapter.

D. Grower Requirements

- I. All users of plant-incorporated protectants shall maintain the records listed below for a period of two years from the date of planting. Such records shall be kept current by recording all the required information on the same day the crop is planted. These records shall be maintained at the primary place of business and shall be available for inspection by representatives of the Board at reasonable times, upon request.
 - a. Site and planting information, including town and field location, a map showing crop location and refuge configuration in relation to adjacent crops within 500 feet that may be susceptible to cross-pollination;
 - b. Total acres planted with the plant-incorporated protectant and seeding rate;
 - c. Total acres planted as refuge and seeding rate;
 - d. Detailed application information on any pesticide applied to the refuge as described in Section 1(A) of Chapter 50, "Record Keeping and Reporting Requirements"; and
 - e. Planting information for each distinct site including:
 - i. date and time of planting; and
 - ii. brand name of the plant-incorporated protectant used.
- II. There are no annual reporting requirements for growers.

E. Product-Specific Requirements

- I. Requirements for plant-incorporated protectant corn containing *Bacillus thuringiensis* (Bt) protein and the genetic material necessary for its production.
 - a. Prior to planting plant-incorporated protectant corn containing any *Bacillus thuringiensis* (Bt) protein and the genetic material necessary for

its production, the grower must have completed a Board-approved training course and possess a valid product-specific training certificate.

- b. Product-specific training certificates shall be issued following each Board-approved session. The certificates will remain valid until December 31 of the third year after issuance.
- c. Non-Bt-corn growers whose crops are or will be located within 500 feet of a prospective Bt-corn planting site can request that the Bt-corn grower protect the non-Bt-corn crop from pollen drift.
 - i. the request must be made prior to planting of the Bt-corn crop;
 - ii. the request must identify the non-Bt-corn crop to be protected; and
 - iii. the growers may agree on any method for protection but, if an agreement cannot be reached,
 - 1. the Bt-corn grower must plant any refuge required by the Bt-corn grower agreement, grower guide or product label in a configuration that provides maximum protection from pollen drift onto the adjacent non-Bt-corn crop; or
 - 2. if no refuge is required, the Bt-corn grower shall maintain at least a 300-foot Bt-corn-free buffer to non-Bt-corn crops.
- d. Bt-corn growers are encouraged to follow all best management practices developed by the Board or the Department of Agriculture, Conservation and Forestry.

- II. Dealers distributing Bt-sweet corn shall only sell the seed in quantities large enough to plant one acre or more.

F. Confidentiality

Any person providing information to the Board in connection with the record-keeping and reporting requirements of Section 5 of this chapter may designate that information as confidential in accordance with 7 M.R.S.A. §20.

Section 6. NEONICOTINOIDS (DINOTEFURAN, CLOTHIANIDIN, IMIDACLOPRID, OR THIAMETHOXAM)

The registration of pesticides containing dinotefuran, clothianidin, imidacloprid, or thiamethoxam for which there is an outdoor ornamental plant or turf use on the product label shall be subject to the following limitations and conditions.

A. Definitions

- I. “Emerging Invasive Invertebrate Pests” means any invertebrate, including its eggs or other biological material capable of propagating that species that occurs outside of its eco-region and its introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health, to include:
 - a. Species both known now and unknown now but showing up at a later date;
 - b. Species that occur outside of their eco-region (level III) as defined by EPA; and
 - c. Species on a Board approved list.
- II. “Ornamental Plants” means shrubs, trees and related vegetation excluding turf and lawn, in and around residences.

B. Board Publication of Product List

The Board of Pesticides Control will publish within 30 days of adoption and by March 15th of each year thereafter a list of insecticide products containing dinotefuran, clothianidin, imidacloprid, or thiamethoxam registered in Maine for which the manufacturer has verified that there is an outdoor ornamental plant or turf use on the pesticide label. Based on available information, the Board may exempt from this list pesticides that it determines are not for use in the control of invertebrate pests on outdoor ornamental plants or turf. Pesticides labeled solely for use in preserving wood, managing indoor pests, managing structural pests within five (5) feet of a human dwelling, and treating pets are specifically exempt from this list.

C. Licenses Required

- I. No person shall purchase, use, or supervise the use of any pesticides containing dinotefuran, clothianidin, imidacloprid, or thiamethoxam identified on the Board's annual listing unless they have obtained a private or commercial pesticide applicator's license from the Board.
- II. Unless exempted under Chapter 41, Section 6 (C) (IV) no person shall purchase, use or supervise the use of any pesticides containing dinotefuran, clothianidin, imidacloprid, or thiamethoxam in outdoor residential landscapes to include ornamental plants and turf.
- III. No person shall distribute any pesticides containing dinotefuran, clothianidin, imidacloprid, or thiamethoxam identified on the Board's annual listing without a restricted use pesticide dealer's license from the Board.
- IV. Registered pesticides containing dinotefuran, clothianidin, imidacloprid, or thiamethoxam and identified on the Board's annual listing are exempt from the prohibition of use described in Chapter 41, Section 6 (C) (II) where by:

- a. The applicator obtains an emergency permit from the Board; or
 - b. The use of these products is for management of emerging invasive invertebrate pests on ornamental plants in outdoor residential landscapes.
- V. No person shall use any pesticides containing dinotefuran, clothianidin, imidacloprid, or thiamethoxam identified on the Board's annual listing for the purposes of managing turf and lawn in outdoor residential landscapes.

D. Records and Reporting

Dealers distributing any pesticides containing dinotefuran, clothianidin, imidacloprid or thiamethoxam identified on the Board's annual listing shall keep records of such sales and provide reports to the Board as described for restricted use pesticides in Chapter 50, "Record Keeping and Reporting Requirements."

E. Emergencies

The Board's staff may grant an emergency permit authorizing neonicotinoid use in compliance with Sections 6(C) of this chapter if the restrictions in this chapter prevent efficacious application of pesticide(s) and the staff determines that an emergency situation exists as outlined in Chapter 51(VII)(B)(1).

- I. No variance may be granted if the emergency is the result of an unjustifiable delay created by the person seeking the variance or the person requesting the pesticide application.
- II. If the staff does not grant the variance, the applicator or the person requesting the pesticide application may petition the Board for exemption following the requirements set forth in 22 M.R.S.A. §1471-T, "Exemption".

F. Emergency Use Permits

Emergency use permit applications shall be made on such forms as the Board provides and shall include at least the following information:

- I. The name, address and telephone number of the applicant;
- II. The area(s) where pesticides will be applied;
- IV. The purpose for which the pesticide application(s) will be made;
- V. The approximate application date(s);
- VI. The type(s) of application equipment to be employed;
- VII. The approved pest species for which the application is being made as defined in policy or by the board; and
- VIII. The particular reasons why the applicant seeks a variance from the requirements of this section, including a detailed description of the techniques to be employed

to assure that a reasonably equivalent degree of protection of surrounding nontarget vegetation will be obtained.

Within 30 days after a complete application is submitted, the Board or its staff shall issue a permit if it finds that the application meets requirements of Section 6 (E). The Board may place conditions on any such permit, and the applicant shall comply with such conditions. Except as required by the permit, the applicant shall undertake the application in accordance with all of the conditions described in their request and all other applicable legal standards. Permits issued by the Board under this section shall not be transferable or assignable except with further written approval of the Board and shall be valid only for the period specified in the permit.

Section 7. CHLORPYRIFOS (DURSBAN, LORSBAN)

The registration of chlorpyrifos (Dursban, Lorsban) is subject to the following limitations and conditions.

- A. No person shall use or supervise the use of any pesticide containing the active ingredient chlorpyrifos unless they have obtained a private or commercial applicator's license from the Board, possess the pesticide in the State before January 1, 2022, and obtain a temporary use authorization permit from the Board.
- B. Permit applications shall be made on such forms as the Board provides and shall include at least the following information:
 - I. The name, address and telephone number of the applicant;
 - II. The brand name of the pesticides to be applied;
 - III. The date on which the pesticides were purchased;
 - IV. The approximate quantity of the pesticides possessed;
 - V. The purpose for which the pesticide application(s) will be made; and
 - VI. The duration for which the applications will take place or until the product is gone.
- C. Within 30 days after a complete application is submitted, the Board or its staff shall issue a permit if:
 - I. The permit application is received prior to December 31, 2022;
 - II. The applicant possesses a valid pesticide applicator license issued by the State;
 - III. The pesticides proposed for use were purchased prior to January 1, 2022;

The Board may place conditions on any such permit, and the applicant shall comply with such conditions. Except as required by the permit, the applicant shall undertake the application in accordance with all of the conditions described in their request and all

10 (New Section)

other applicable legal standards. Permits issued by the Board under this section shall not be transferable or assignable except with further written approval of the Board and shall be valid only for the period specified in the permit.

STATUTORY AUTHORITY:

5 M.R.S.A. §§ 8051 *et seq.*

7 M.R.S.A. §§ 601-610

22 M.R.S.A. §§ 1471-A, 1471-B, 1471-C, 1471-D, 1471-M

EFFECTIVE DATE:

March 8, 1981 (Captan)

AMENDED:

May 7, 1981 (Trichlorfon)

January 2, 1984 (Aldicarb)

May 8, 1988 (Trichlorfon)

August 5, 1990 (Captan)

August 17, 1996 (Hexazinone)

October 2, 1996

EFFECTIVE DATE (ELECTRONIC CONVERSION):

March 1, 1997

AMENDED:

May 7, 1997 - Section 3(B)(II)

CONVERTED TO MS WORD:

March 11, 2003

AMENDED:

May 12, 2003 - Section 4 added

NON-SUBSTANTIVE CORRECTIONS:

June 24, 2003 - summary only

AMENDED:

February 2, 2004 - Section 4, 1st paragraph and sub-section A, filing 2004-31

April 30, 2007 – filing 2007-154

February 3, 2008 – filing 2008-36

July 16, 2009 – filing 2009-253 (final adoption, major substantive)

May 3, 2012 – filing 2012-99 (final adoption, major substantive)

CORRECTIONS:

February, 2014 – agency names, formatting

AMENDED:

December 9, 2014 – Section 3, filing 2014-283

September 20, 2022 – filing 2022-181

01 DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY

026 BOARD OF PESTICIDES CONTROL

Chapter 50: RECORD KEEPING & REPORTING REQUIREMENTS

SUMMARY: These regulations describe the types of records and reports which commercial applicators, commercial agricultural producers, limited/restricted use pesticide dealers, spray contracting firms and monitors must maintain and submit to the Board.

Section 1. Records

A. Pesticide Application Records

- I. Commercial agricultural producers and commercial applicators shall maintain pesticide application records consistent with paragraph II. below for a period of two years from the date of application. Such records shall be kept current by recording all the required information on the same day the application is performed. These records shall be maintained at the primary place of business and available for inspection by representatives of the Board at reasonable times, upon request.
- II. Pesticide application records shall include, at a minimum:
 - a. Site information including town and location, crop or site treated, target organism, customer and customer address_(where applicable); and
 - i. for broadcast applications, size of treated area (when completed);
 - ii. for volumetric applications as described on the label, the volume treated;
 - iii. for non-broadcast applications (such as spot treatments, crack and crevice or stump treatments) a practical description of the scope or extent of the application (such as number of trees, stumps or rooms treated).
 - b. **Application information.** For each distinct site, records must include date and time of application(s), brand name of pesticide(s) applied, EPA registration number(s), active ingredient(s), restricted entry interval(s) and/or ventilation period(s) (where applicable), method of application (type of equipment), dilution agent(s) (other than water), the licensed applicator's name and certification number, the name of any noncertified applicator that made the application (where applicable), and spray contracting firm (where applicable).

- c. **Rate information.** For each distinct site, application rate information must be maintained as follows:
 - i. **Restricted Use Pesticides.** For restricted use pesticides, applicators shall record the total amount of pesticide applied (undiluted).
 - ii. **General Use Pesticides.** For general use pesticides, applicators shall record:
 - (1) rate information as described in (i.) above; or
 - (2) the mix ratio and the total mix applied; or
 - (3) the mix ratio and the mix per unit area applied.
- d. For outdoor applications, except those listed below, weather conditions including wind speed and direction, air temperature and sky conditions recorded such as sunny, partly cloudy, overcast, foggy or rainy. No weather condition records need be kept for outdoor applications involving:
 - i. pesticides placed in bait stations;
 - ii. pesticide-impregnated devices placed on animals, such as ear tags; or
 - iii. pesticides injected into trees or utility poles.
- e. For TBT applications to marine vessels, applicators must also record the vessel identification and size, and the disposition of TBT wastes including chips/dust removed prior to application and empty containers.

B. Limited Use/Restricted Use Pesticide Sales Records

- I. Licensed pesticide dealers shall maintain records of each sale of a restricted/limited use pesticide on their sales slips and the customer's name, and license number must be recorded on every invoice or electronic record involving that individual. Licensed pesticide dealers must also maintain records to verify that sales of restricted/limited use pesticides to unlicensed purchasers are only made where a licensed applicator is employed to supervise the use of the restricted/limited use products. These records must include the name, address, license number, issuing agency, expiration date, and categories of certification (if applicable) of each person to whom the restricted use pesticide was distributed or sold. These records are to be available for inspection by representatives of the Board at reasonable times, upon request, and are to be maintained for two calendar years from the date of sale.
- II. Pesticide dealer records shall also include the signature of purchaser or his/her agent, the product name, the EPA registration number, state special local need registration (SLN) number (if applicable), the quantity and size of containers purchased, and the date of purchase.

- III. Any pesticide dealer who discontinues the sales of restricted/limited use pesticides shall notify the Board in writing and shall provide the Board, upon request, with all required records including a final sales report up to the date of discontinuance.

Section 2. Reports

11

- A. **Annual Summary Reports by Commercial Applicators.** Annual summary reports must be submitted for each calendar year by January 31 of the following year. In the event a required report is not received by the due date, the person's license may be temporarily suspended until the proper report is received or until a decision is tendered at a formal hearing as described in 22 M.R.S.A. §1471-D(7). The report filed with the Board by or on behalf of commercial applicators shall contain the following information for each site or crop treated: quantity of each pesticide used, EPA registration number and total area treated (where applicable) for each pesticide.
- B. **Annual Pesticide Sales Reports.** Pesticide dealers licensed to sell limited and restricted use pesticides must provide the Board with a calendar year-end report of total sales of all limited, restricted and general use pesticides before their pesticide dealer license can be renewed. The Board will furnish report forms.
- C. **Spray Incident Reports**
- I. Commercial agricultural producers, commercial applicators, spray contracting firms and licensed pesticide dealers shall be responsible for telephoning a spray incident report to the Board as soon as practicable after emergency health care has been obtained for injured parties and efforts have been initiated to contain any spills.
- II. A reportable spray incident is any significant misapplication or accidental discharge of a pesticide. Such incidents shall include: fires involving pesticides; vehicle and aircraft accidents resulting in a spill or human contamination; failure to turn off spray booms or other spray equipment resulting in application to sensitive areas (such as water bodies, accidentally applying pesticides to the wrong site or places of human habitation) when such application is a violation of label instructions or other law; overfilling of spray equipment resulting in risk of contamination of water; and any other equipment breakage or malfunction or pesticide handling activity which causes a pesticide release which may result in a threat to human health or the environment.
-

STATUTORY AUTHORITY: Title 22 M.R.S. Chapter 258-A §1471-G, M and R

EFFECTIVE DATE:

July 6, 1979 - as "Reporting Requirements," filing 79-338

AMENDED:

August 12, 1985 - filing 85-275

REPEALED AND REPLACED:

April 5, 1995 - as "Record Keeping and Reporting Requirements," filing 95-149

AMENDED:

October 2, 1996

EFFECTIVE DATE (ELECTRONIC CONVERSION):

March 1, 1997

AMENDED:

November 11, 2001 - filing 2001-483

March 5, 2003 - filing 2003-61

January 4, 2005 – filing 2004-606 affecting Section 1.A.I.

December 23, 2012 – filing 2012-348 affecting Section 1.B.II.

CORRECTIONS:

February, 2014 – agency names, formatting

AMENDED:

July 23, 2019 – filing 2019-133

MAJOR SUBSTANTIVE RULEMAKING TIMELINE

STEP	Documents	Timeline	Date	Notes	
SEND FORMS TO DON TO INITIATE	<ul style="list-style-type: none"> • Notice of rulemaking proposal (MAPA-3) • Rule-Making Fact Sheet • Proposed Rule – legislative format 	Monday prior to week of posting	3/20/2023	**This timeline has several estimates of document turnaround and legislative adjournment, dates subject to change. To correct these, change D12 through D15 to reflect actual dates. To start, change D/E3 to the posting date. Other dates should automatically fill.	
NOTIFY CONSITUENTS OF RULEMAKING	<ul style="list-style-type: none"> •PDF of rule on website •GovDelivery/email to constituents 	20 days prior to hearing	3/17/2023	3/24/2023	
HEARING	<ul style="list-style-type: none"> •List of attendees •List of comments •Commenters w/ affiliations 	17 - 24 days after posting	4/6/2023	4/13/2023	
ONLINE RULEMAKING PORTAL SUBMISSION	<ul style="list-style-type: none"> • Rule-Making Fact Sheet 	2 days after submitting notice to SOS	3/22/2023		
LAST DAY OF WRITTEN COMMENTS	<ul style="list-style-type: none"> • Comments received, must be summarized 	10 days after public hearing	4/16/2023	4/23/2023	If proposed rule needs substantial revisions based on comments received see MRS 5 §8052 Section 5-B and do step 10. Must reopen Proposal, Advertise new 30-day comment period. If you need to do this step, see step 10 from rulemaking guidance document.
FORMAL PROVISIONAL ADOPTION (4 DOCUMENTS ARE APPROVED (VOTED ON) BY BOARD: AMENDED RULE-LEG VERSION, IMPACT ON SMALL BUSINESS, MAPA-1, SUMMARY OF COMMENTS & RESPONSES)	<ul style="list-style-type: none"> • Rule-Making Cover Sheet (MAPA-1) – with “Provisional Adoption” checked Shannon gets Commissioner’s signature on MAPA-1 before submitting 	Must be within 120 days from comment deadline. Provisional adoption date is date representative signs the Certification Statement on MAPA-1	8/14/2023	8/21/2023	

POLICY DIRECTOR'S APPROVAL NEEDED, THEN TO COMMISSIONER FOR SIGNATURE ON MAPA-1

- Rule-Making Fact Sheet
- Amended Rule – Legislative Version
- Basis Statement
- Impact on Small Business
- Summary of Comments and Responses
- Cover Sheet (MAPA 1**) w/Provisional Adoption checked. Type AAG’s name/title below where they sign on MAPA 1.
- Checklist
- Amended Rule – Clean Copy

January or earlier

12/31/2023

ONCE SIGNED BY COMMISSIONER, SENT TO DON WISMER/SOS

- Rule-Making Fact Sheet
- Amended Rule – Legislative Version
- Basis Statement
- Impact on Small Business
- Summary of Comments and Responses
- Cover Sheet (MAPA 1**) w/Provisional Adoption checked. Type AAG’s name/title below where they sign on MAPA 1.
- Checklist
- Amended Rule – Clean Copy

AAG signature on MAPA-1 must be within 150 days of comment deadline, send package by second Friday of January or earlier. First column is signature, second is January deadline

9/13/2023 9/20/2023 1/12/2024 deadline here

EMAIL DON/SOS WORD FORMAT OF OTHER DOCUMENTS

- Amended Rule – Legislative Version
- Amended Rule – Clean Copy
- Rule-Making Fact Sheet
- Basis Statement

9/13/2023 9/20/2023

<p>EMAIL 20 COPIES TO EXECUTIVE DIRECTOR OF LEGISLATIVE COUNCIL</p>	<ul style="list-style-type: none"> • Amended Rule – Legislative Version • Copy of the old rule • Rule-making Fact Sheet • Information in Support of Provisional Adoption of Major Substantive Rules... • Statutory Authority • Concise summary of the content of new or amended rule • Description of the old rule • A statement of the circumstances that require the new or amended rule (basis statement) • A statement of the economic impact of the rule on the state and its residents • Compliance certification • Agency contact 	<p>Second Friday of January or earlier</p>	<p>1/12/2024</p>	<p>1/12/2024</p>
<p>SUBMITS 1 COPY TO EXECUTIVE DIRECTOR OF THE LEGISLATIVE COUNCIL</p>	<ul style="list-style-type: none"> • Summary of Comments and Responses • Cover Sheet (MAPA-1) • Checklist • Information in Support of Provisional Adoption... • Transcript of public hearing if one exists • Copy of any federal law or regulation that governs content of rule 	<p>Second Friday of January or earlier</p>	<p>1/12/2024</p>	<p>1/12/2024</p>

<p>E-FILE W/ LEGISLATIVE COUNCIL/OPLA (INCLUDE ON CD OR THEY WILL CALL AND TELL YOU WHERE TO SEND IT)</p>	<ul style="list-style-type: none"> • Amended Rule – Legislative Version • Digital version should be in Word 2010 if possible 	<p>Second Friday of January or earlier</p>	<p>1/12/2024 1/12/2024</p>
<p>RESPOND TO LAF SENT FROM GOVERNOR’S OFFICE TO DEPARTMENT RULEMAKING LIAISON (EMILY HORTON) KEEP CHECKING WEBSITE TO SEE WHEN RESOLVE IS SIGNED BY GOVERNOR</p>			<p>6/15/2024</p>
<p>FORMAL ADOPTION OF RULES (SIGNATURE ON MAPA-1) (4 DOCUMENTS ARE APPROVED (VOTED ON) BY BOARD: AMENDED RULE-LEG VERSION, IMPACT ON SMALL BUSINESS, MAPA-1, SUMMARY OF COMMENTS AND RESPONSES)</p>	<ul style="list-style-type: none"> • NEW Cover Sheet (MAPA-1) – with “Final Adoption” checked • Add Legislature Authority (Resolve) to Basis Statement • Fact Sheet amended 	<p>Within 60 days after effective date of the legislation approving that rule (date stamped on top of final pdf) or of adjournment of the Legislature if no legislation is enacted (5 8072 section 8)</p>	<p>8/14/2024</p>
<p>OBTAIN ATTORNEY GENERAL’S APPROVAL (SIGNATURE ON MAPA-1)</p>	<ul style="list-style-type: none"> • Cover Sheet (MAPA-1) with “Final Adoption” checked 		

<p>SUBMITS 2 HARD COPIES OF <u>FINAL ADOPTION PACKAGE</u> TO SECRETARY OF STATE OF MAINE ATTN: DON WISMER</p>	<ul style="list-style-type: none"> • Rule-Making Fact Sheet • Amended Rule – Legislative Version • Basis Statement • Impact on Small Business • Summary of Comments and Responses • Cover Sheet MAPA-1 w/Final Adoption checked • Checklist • Amended Rule – Clean Copy • Notice of Rule-Making Adoption (MAPA-4) • Legislative Resolve 	<p>Rule becomes effective 30 days after filing or later as specified in the rule filing.</p>	<p>9/13/2024</p>
<p>E-FILE TO SECRETARY OF STATE IN .DOCX FORMAT BY EMAILING TO DON.WISMER@MAINE.GOV</p>	<ul style="list-style-type: none"> • Amended Rule – Legislative Version • Amended Rule – Clean Copy • Notice of Agency Rule-Making Adoption (MAPA-4) • Fact Sheet • Basis Statement 		<p>9/13/2024</p>
<p>E-FILE WITH LEGISLATIVE COUNCIL? OPLA</p>			<p>9/13/2024</p>

**Note: This table is an excel spreadsheet and dates can be entered and calculated as needed.

EMERGENCY RULEMAKING 2023 -- TIMELINE FOR ROUTINE TECHNICAL RULES

EMERGENCY RULEMAKING DATE		3/15/2023	Effective until (90 days)	6/13/2023
STEP	Documents	Timeline	Date	
SEND FORMS TO DON TO INITIATE	<ul style="list-style-type: none"> • Notice of rulemaking proposal (MAPA-3) • Rule-Making Fact Sheet • Proposed Rule – legislative format 	Monday prior to week of posting	3/20/2023	
NOTIFY CONSITUENTS OF RULEMAKING	<ul style="list-style-type: none"> •PDF of rule on website •GovDelivery/email to constituents 	20 days prior to hearing	3/17/2023	3/24/2023
HEARING	<ul style="list-style-type: none"> •List of attendees •List of comments •Commenters w/ affiliations 	17 - 24 days after posting	4/6/2023	4/13/2023
ONLINE RULEMAKING PORTAL SUBMISSION	<ul style="list-style-type: none"> • Rule-Making Fact Sheet 	2 days after submitting notice to SOS	3/22/2023	
LAST DAY OF WRITTEN COMMENTS	<ul style="list-style-type: none"> • Comments received, must be summarized 	10 days after public hearing	4/16/2023	4/23/2023
REVIEW COMMENTS WITH AAG AND THE BOARD TO MOVE FORWARD	Discuss changes, comments, summary of comments	Likely an emergency meeting	4/23/2023	4/30/2023
AAG REVIEWS AND SIGNS FOR FINAL ADOPTION	<ul style="list-style-type: none"> • Rule Making Fact Sheet • Amended Rule – Legislative Format • Basis Statement • Impact on Small Business • Summary of Comments and Responses • Cover Sheet (MAPA-1) **signed by AAG • Checklist • Amended Rule – Clean Copy • Notice of Agency Rule-Making Adoption (MAPA-4) 	150 days from comment deadline (within 90 for emergency)	6/13/2023	6/13/2023

**Note: last dates are the absolute max of AAG approval date. More likely (given enough time to compile comments) to be in May or early June. This table is an excel spreadsheet and dates can be entered and calculated as needed.

From: Robert Searle <rsearleimt105@yahoo.com>
Sent: Thursday, March 2, 2023 7:27:59 AM
To: Patterson, Megan L (AGR) <Megan.L.Patterson@maine.gov>
Subject: Syngenta and others

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Megan,

I became aware yesterday that Syngenta will not be registering any products this year due to the requirement of submitting the confidential formula. Also hearing from Nufarm and BASF that they are not registering select products this year for the same reason. This will create real challenges for golf course managers, not to mention the Ag and other green industries.

What if anything can be done about this? And can the BOPC alert licensed applicators of this evolving situation? Many of these products are in our agronomic plans for the coming year and we need clear guidance on what is happening. A list of products that were previously registered which are not anymore would be very helpful.

I'd like to chat about this at your convenience if that is possible.

Thanks,
Bob

Robert Searle
Class A Golf Course Superintendent
Abenakee Club
(w)207-283-4964
(c)207-523-0826
@Searle_Turf

Sent from my iPhone

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From: Eric Venturini <eric.venturini@maine.edu>
Sent: Monday, February 27, 2023 9:11:37 PM
To: Patterson, Megan L (AGR) <Megan.L.Patterson@maine.gov>
Subject: Meeting

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Megan,

I heard that there will be a BPC meeting tomorrow? If an emergency meeting has been scheduled, can you share the info with me?

By our estimation, at best, the list of registered pesticides as of Friday includes only about 10% of the products used by wild blueberry producers. This has quickly become the most pressing issue facing our industry.

I am hopeful that the board can adopt a reasonable solution that will allow Maine farmers to access the tools they need.

Best,
Eric

--

Executive Director
Wild Blueberry Commission of Maine
Office: (207) 581-1475
Cell: (207) 478-7612



www.wildblueberrycommissionofmaine.org

From: Matt Pellerin <matt@treworgyorchards.com>
Sent: Tuesday, February 28, 2023 12:24 PM
To: Patterson, Megan L (AGR) <Megan.L.Patterson@maine.gov>
Subject: Letter to the BPC

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Megan,

This is the finished version of my letter. Please submit this to the Board of Pesticide Control for their review.

Thanks,
Matt

I am writing today in response to what appears to be a crisis regarding pesticide registrations in the State of Maine. At the Board of Pesticide Control meeting that was held on Friday February 24th, it became clear that many products that Maine farmers rely on to produce food may not be available for the 2023 growing season. The following things were made clear during the meeting.

1. As of the writing of this letter, there are approximately 4000 materials that were registered in Maine last year that are not currently registered for 2023. After perusing a spreadsheet provided to me by the BPC on Friday, it seems that the registration status of agricultural pesticides is particularly dire. For an example, I compared a list of chemicals purchased and utilized annually on one diversified fruit and vegetable farm in central Maine, to the list of registered chemicals. The following materials used in 2022 had not yet been registered for 2023:

Fungicides:

Bravo
Manzate
Pristine
Switch
Vivando
Proline
Topsin M

Insecticides:

Assail
Danitol
Baythroid

Asana
Delegate
Mustang Maxx

Herbicides:

Credit
Chateau
Venue
Sanda

Bactericide:

Harbour

Growth Regulators:

Retain
Fruitone
Maxcell

This list of unavailable chemicals accounts for 88% of the typical pesticide order for this farm. That is 22 materials unavailable and 3 available in this example. This is well beyond simply pivoting application strategies and looking at different products to meet a pest management niche. The current situation represents a dysfunctional pest control situation for any IPM or conventional farm in the state. A lack of material options on this scale could be economically devastating, potentially resulting in significant crop damage/failure and significantly increased risk of pesticide resistance development.

2. There are two new requirements for chemical companies that wish to renew pesticide licenses for 2023. The first is an affidavit that attests to whether or not the product contains a PFAS. This is required by Maine State law.

The second new requirement is that the chemical companies must provide a Confidential Statement of Formula (CSF) for every product. This rule is not required under Maine law. The BPC has long had the authority to require a CSF from a registrant, but has never before made that a blanket requirement for all pesticide registration. Making a CSF submission a requirement for 2023 was a decision enacted at the discretion of the Board of Pesticide Control.

3. There was a representative for Rise and Croplife America present at the BPC meeting. He represented several pesticide manufacturing companies attempting to renew registrations in Maine. He stated the requirement to provide a CSF for every material was a "problem" and he asked that that requirement be waived.

Based on what occurred in Friday's BPC meeting and the current state of pesticide registration in Maine, I am requesting that the Board of Pesticide Control take emergency action to remove the requirement to provide CSF documents for 2023 pesticide registrations. There is no guarantee that this action will result in registration of necessary agricultural materials. However, in light of the

extreme situation the Maine agricultural industry is currently facing with regard to available pesticides, any action that can help at all should be pursued. Maine's farmers represent hundreds of families producing food safely and responsibly. Please do your part to protect this essential part of the Maine economic and social fabric.

Respectfully,

--

Matthew Pellerin

Agricultural Manager

Treworgy Family Orchards

3876 Union St

Levant, ME 04456

www.treworgyorchards.com

207-884-8354



March 9, 2023

Director Megan Patterson
Maine Board of Pesticides Control
28 State House Station
Augusta, ME 04333-0028

Dear Director Patterson,

We would appreciate it if the attached article from the Journal Environmental Science and Technology, "Directly Fluorinated Containers as a Source of Perfluoroalkyl Carboxylic Acids," by Heather D. Whitehead and Graham F. Peaslee of the University of Notre Dame, could be shared with the Board of Pesticides Control in advance of the meeting on March 15, 2023.

This brand-new article is directly relevant to the Board's deliberations about implementing the Legislature's directive to regulate PFAS contamination of pesticides from contact with fluorinated containers. The article confirms previous studies including by the Environmental Protection Agency finding that toxicologically significant levels of various PFAS can and do migrate from fluorinated HDPE containers into liquids stored within, including pesticides. The Whitehead/Peaslee study additionally reviewed the impact of conditions that mimic actual storage conditions for pesticides in a farm setting in a shed or other farm building, where the temperature is not controlled.

The Notre Dame scientists found a large number of PFAS compounds leaching into samples in concentrations from 45.12 to 94.81 ng/g plastic with an average and standard deviation of 63.75 ± 13.12 ng/g plastic. Analytes detected in fluorinated containers included PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFNA, PFDA, PFUnDA, PFDoDA, PFTrDA, and PFTDA, all detected in 100% of samples. PFHxDA and PFOA were detected in 14% and 29% of samples. When samples in fluorinated containers were exposed to high temperatures not inconsistent with summer heat wave conditions inside a farm shed, "sums of PFAS concentrations were 27 times higher in samples exposed at 50 °C than those exposed at room temperature, demonstrating that exposure to elevated temperatures significantly increased the migration of PFAS from the containers into the water."

While another takeaway from the article is that PFAS are also likely migrating from plastic containers into common foods such as ketchup and mayonnaise, this is no reason not to limit as much as possible human worker and consumer exposure from PFAS as an ingredient

and/or contaminant in pesticides. Indeed, the fact that people are being exposed to PFAS through multiple pathways - including from their clothing, water and food - is all the more reason to shut down additional exposure routes, including contamination from fluorinated containers. There are alternatives to these containers and the Board has the clear authority and responsibility to regulate under these circumstances.

Thank you for your consideration.

Sincerely,

Heather Spalding
Deputy Director, MOFGA

Directly Fluorinated Containers as a Source of Perfluoroalkyl Carboxylic Acids

Heather D. Whitehead* and Graham F. Peaslee



Cite This: <https://doi.org/10.1021/acs.estlett.3c00083>



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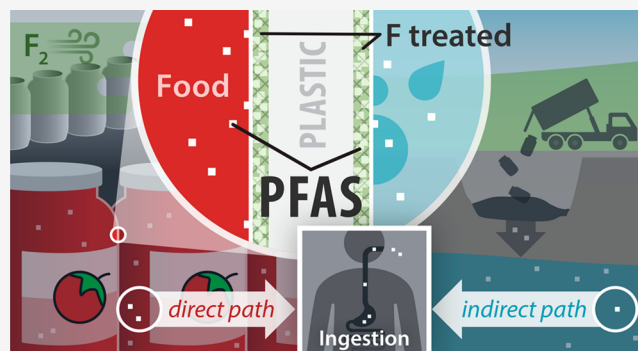
Article Recommendations



Supporting Information

ABSTRACT: Direct fluorination of plastics is performed to impart chemical resistance via exposure of polyethylene to fluorine gas to produce a fluorine-modified surface layer. Leaching experiments were performed on a directly fluorinated container under various conditions and with different matrices, including foodstuffs. The average sum of per- and polyfluoroalkyl substances (PFAS) concentrations measured from extraction of a fluorinated container was 63.75 ± 13.2 ng/g plastic. Seven-day leaching experiments of fluorinated containers with water, methanol, and acetone produced sums of PFAS concentrations that ranged from 0.99 to 66.92 ng/g plastic. Leaching experiments with food matrices produced sums of PFAS concentrations ranging from 2.66 to 7.19 ng/g plastic. A subset of samples subjected to leaching at elevated temperatures generated sums of PFAS concentrations up to 830% higher. In all experiments, short-chain perfluoroalkyl carboxylic acids (PFCAs) were detected in the highest frequencies and concentrations with analyte concentration decreasing as chain length increased. An estimate for PFAS released into food ranged from 0.77 to 2.68 ng/kg body weight per week, showing ingestion of food stored in these containers could be a significant source of exposure. Based on the large number of applications where directly fluorinated containers find use, the observation of PFAS migration suggests use regulations are warranted, and future studies should explore their fate when disposed or recycled.

KEYWORDS: PFAS, fluorinated containers, LC-MS/MS, plastics



INTRODUCTION

Per- and polyfluoroalkyl substances (PFAS) are a class of more than 12,000 anthropogenic chemicals with physical properties that are desirable for use in a variety of industrial processes and consumer products. Significant uses of these compounds range from use in firefighting foams and nonstick cookware to those in cosmetics, textiles, and more.^{1–4} Research in both animal models and human exposure studies has increasingly shown that exposure to these compounds is hazardous to health, leading to efforts to limit and monitor their use.^{5–7} Recently, the United States Environmental Protection Agency (U.S. EPA) lowered the interim health advisory limits of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), two of the most historically used PFAS, to 0.004 and 0.02 parts-per-trillion in drinking water, 17,500 times and 3,500 times lower than previous values set in 2016.^{8,9} Industrial processes account for the largest use of PFAS, and a 2020 report from Europe highlighted the largest single-use category was in the production of plastics and rubbers.²

Uses of PFAS in plastics and rubbers include direct application of polymeric and nonpolymeric PFAS on other plastics or the manufacturing of fluorinated plastics and rubbers. Specific uses include the application of fluorinated

polymer processing aids as extrusion agents, nonpolymeric PFAS as mold release agents for plastics and resins, and the production of fluoropolymer plastics and rubbers.² Higher costs to produce fluoropolymer plastics encouraged the development of alternative approaches for imparting chemical resistance by direct fluorination of less-expensive hydrocarbon-based plastics.^{10,11} Direct fluorination involves the exposure of plastic to a fluorine-inert gas mixture to encourage the replacement of hydrogens with fluorine on the plastic surface, forming a 0.01–10 μm fluorine-modified layer.¹² This process allows for cheaper and more efficient production of plastics that contain desirable physical properties, primarily increased barrier properties.¹³

The economic advantages of direct fluorination, however, do not come without disadvantages, as detailed by Rand and Mabury (2011).¹⁴ They note that both the intentional and

Received: February 5, 2023

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unintentional introduction of oxygen during direct fluorination leads to the production of perfluoroalkyl carboxylic acids (PFCAs) in these containers. This work found total PFAS up to 113 ng/cm², with concentrations dominated by short-chain (C3–C6) carboxylic acids, although measurable concentrations of C7–C10 PFCAs were also reported. Their results also demonstrated the capacity for PFAS to leach from the containers when water was stored in the containers for a year. More recently, the U.S. EPA reported that parts-per-billion concentrations of total PFAS could be leached using water and methanol from samples of directly fluorinated containers in as little as 1 week of exposure.^{15–17} Of concern are the known health risks and environmental concerns associated with exposure to and release of PFCAs, especially for longer-chain PFCAs such as PFOA.¹⁸ There are more limited toxicology data concerning long-term effects of exposure to short-chain PFCAs, though early data suggest they show similar toxicological profiles to their long-chain equivalents.¹⁹ Compounding this concern is the growing number of applications where directly fluorinated containers are used, including food packaging, pesticides, indoor household cleaners, containers for personal care products, and containers for Toxic Substance Control Act (TSCA)-regulated cleaners, solvents, and fuels as noted in various literature and industrial reports.^{12,20–24} A 2022 notice from the U.S. Food and Drug Administration (U.S. FDA) noted the potential risk that fluorinated containers pose when used for food and requested additional information to address the potential for PFAS to migrate from fluorinated containers to food.²⁵

To help address these concerns and to build upon earlier studies, this study was designed to measure the mobility of PFCAs from containers into the products they can contain. Segments of a directly fluorinated high density polyethylene (HDPE) container were exposed to solvents and foodstuffs to quantify the amount of PFCAs that migrate from the containers to the products. The effect of heat on the mobility of PFCAs was also measured to determine how environmental conditions might affect the total PFAS that can be released by directly fluorinated containers.

MATERIALS AND METHODS

LC-MS/MS grade methanol (A456-4) and acetonitrile (A955-4) were purchased from Fisher Scientific (Waltham, MA). Ultrapure water was used for sample preparation and instrumental analysis. Ammonium acetate (5438340100) and acetone (34850-1L) were purchased from Sigma-Aldrich (St. Louis, MO). Twenty-one native standards (PFAC-MXC) and 13 isotopically labeled standards (MPFAC-C-ES) were purchased from Wellington Laboratories (Guelph, ON, CA). QuEChERS extraction salts (5982-6555) and dispersive SPE (5982-5258) materials were purchased from Agilent Technologies (Santa Clara, CA) as were polypropylene HPLC vials (5191-8150) and caps (5191-8151). Poly(ether sulfone) syringe filters (76479-022) and 3 mL polypropylene syringes (53548-017) were purchased from VWR (Radnor, PA).

Twelve containers of fluorinated HDPE (EW-62500-10) and nonfluorinated HDPE (EW-62150-20) bottle containers were purchased from Cole-Parmer (Vernon Hills, IL). Fluorinated and nonfluorinated HDPE containers were stored in their original, separate shipping packaging to ensure minimal contact between containers. Food samples were purchased in-store from a national grocery chain. Each of the food samples purchased were labeled as “organic” and were purchased in

glass containers to minimize the potential presence of PFAS in the food due to their original packaging. Food samples were transported unopened into the laboratory where they were labeled and stored at 4 °C before and after opening.

Sample Preparation and Extraction. Detailed descriptions of the preparation of samples are given in the [Supporting Information](#). Briefly, 86 samples were prepared for extraction and instrumental analysis, including extracts of the fluorinated and nonfluorinated containers alone ($n = 30$ samples), extracts from the food samples with and without exposure to containers ($n = 16$), samples of various solvents with and without exposure to containers ($n = 21$), and samples of select solvent and food matrices with exposure to containers at elevated temperatures ($n = 19$). In all tests where containers were used, small, 1 cm × 1 cm, segments were cut from one of the 12 containers of that type (fluorinated or nonfluorinated HDPE). In all tests where a container was measured alone, the sample was prepared for analysis without additional preparation using the modified-QuEChERS protocol described below. In all tests where food or solvent was exposed to a container, the matrix was exposed for a total of 7 days by placing the plastic segment into approximately 2 mL of solvent or 1 g of food material. In food and solvent samples, a subset was exposed at 50 °C for 7 days to compare the effects of temperature on migration. A seven-day exposure period was selected based on previous studies from the U.S. EPA that demonstrated significant migration of PFAS to water and methanol within a one-week time period.^{15,16} Over the exposure period, samples were left out of direct sunlight in their respective storage conditions without mixing and were checked daily to ensure the container segments remained in contact with each matrix.

Extraction of the containers and of food matrices was performed using a modified-QuEChERS extraction method. First developed for application to pesticides in agricultural samples, QuEChERS was recently employed for the measurement of PFAS in food by the U.S. FDA.²⁶ The exact volumes and masses used during extraction varied depending on the sample matrix with specific details given in the [Supporting Information](#). All extractions began with the addition of 10 ng of isotopically labeled standards to either 0.15 g of container segments or 1 g of food material in 15 mL centrifuge tubes. From there, equal parts of water and acetonitrile were added, followed by QuEChERS salts. Tubes were briefly vortexed before sonication and centrifugation. After centrifugation, a phase partition between the bottom salt–water mixture and the top acetonitrile layer allowed the transfer of the acetonitrile layer to a fresh centrifuge tube. To this centrifuge tube a small amount of dispersive SPE material was added. The tube briefly vortexed, and the sonication and centrifugation process repeated. The resulting supernatant was transferred to a new tube and was concentrated to dryness under a stream of N₂ before reconstitution with 1 mL of an 80:20 methanol–water mixture. Samples were filtered using a 0.45 μM PES syringe filter, and 250 μL was transferred to a polypropylene HPLC vial for analysis.

LC-MS/MS Analysis and QA/QC. A targeted analysis method was developed and validated for a total of 20 analytes. Detailed information on the LC-MS/MS analysis is given in the [Supporting Information](#). Analysis was performed on an Agilent 1290 Infinity II UHPLC system coupled to an Agilent 6470B triple quadrupole mass spectrometer. A complete list of all analytes measured are given in [Table S1](#). Detailed information on the chromatographic conditions and ion source

parameters is given in Table S2 with a complete MRM transition table given in Table S3. Chromatography and ion source parameters were adapted from an existing Agilent Technologies method for PFAS.²⁷ Limits of detection and quantification for each analyte are given in Table S4.

Detailed information on QA/QC is given in the Supporting Information. Continuing calibration checks had precision and accuracy values that fell within 77%–135% of the expected values, and interday relative standard deviations ranged from 1.7%–14.6% (median 6.1%). Average recoveries of isotopically labeled internal standards in the container extracts and solvent exposure samples ranged from 77%–122% (median 93%) for all analytes. Average recoveries of isotopically labeled internal standards in the food exposure samples ranged from 39%–92% (median 67%) for all analytes. To ensure accurate quantification in food matrices, one sample of each food type was spiked with 10 ng/mL of each native analyte and the recovered concentration measured. The average native recovery ranged from 68%–129% (median 93%) for all analytes except PFHxDA and PFOA which had average recoveries of 55% and 48%, respectively. As the average recoveries of isotopically labeled standards were reasonable across all sample types, individual analyte concentrations were not corrected using recovery data.

RESULTS AND DISCUSSION

Extraction of Fluorinated and Nonfluorinated Containers. A total of 30 samples were prepared to measure extractable PFAS from both fluorinated and nonfluorinated containers. Sums of PFAS concentrations measured in nonfluorinated containers ranged from 0.01 to 0.88 ng/g plastic with an average and standard deviation of 0.29 ± 0.30 ng/g plastic with only PFOA being measured above its limit of quantification in these samples. While these concentrations of PFAS in these nonfluorinated HDPE containers are notable, the occurrences of PFAS in plastics that have not undergone direct fluorination are outside of scope of this work, though they warrant future study. In comparison, the sums of PFAS concentrations measured in the fluorinated containers ranged from 45.12 to 94.81 ng/g plastic with an average and standard deviation of 63.75 ± 13.12 ng/g plastic. Analytes detected in fluorinated containers included PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFNA, PFDA, PFUnDA, PFDoDA, PFTrDA, and PFTDA, all detected in 100% of samples. PFHxDA and PFOA were detected in 14% and 29% of samples. The comparison of the average analyte concentration measured in each container type is given in Figure S1. These data illustrate that short-chain PFCAs, namely, PFBA and PFPeA, are measured in the highest concentrations at 16.12 ± 4.88 ng/g of plastic and 18.85 ± 4.23 ng/g of plastic in fluorinated containers, respectively. Analyte concentration was observed to decrease as chain length increases in these fluorinated containers, with PFTrDA and PFTDA at 0.29 ± 0.07 and 0.22 ± 0.05 ng/g of plastic, respectively. This relationship is similar to what was observed in Rand and Mabury (2011) where concentrations of PFCAs from Soxhlet extraction ranged from 8.5–113 ng/cm², depending on the level of fluorination of the container.¹⁴ The concentrations of PFCAs measured here ranged from 5.6–12.2 ng/cm², suggesting these containers are similar to levels reported for a lower-level fluorination described in Rand and Mabury (2011).

Leaching of PFAS from Fluorinated Containers Exposed to Solvents. A total of 21 samples were prepared

for PFAS migration from both the fluorinated and non-fluorinated containers when exposed to different solvents that might be found in containers used for TSCA-regulated products. Table S5 summarizes the sum of PFAS concentrations measured, which were consistently low for non-fluorinated containers in each exposure solvent. For fluorinated containers, water exposure samples had an average sum of PFAS concentrations of 0.99 ± 0.46 ng/g plastic. Methanol exposure samples had a significantly higher average at 69.72 ± 7.75 ng/g plastic, and acetone fell in between with an average of 50.13 ± 4.41 ng/g plastic.

A breakdown of the individual analyte concentrations measured in these samples is given in Figure S2, which demonstrates a similar relationship between analyte concentration and chain length. The concentrations of PFAS measured in these exposure solvents after 1 week of leaching with fluorinated containers can be compared to those of a 2022 report from the U.S. EPA where sums of PFAS concentrations measured in fluorinated containers exposed to water and methanol for 1 week ranged from 0.13–0.39 and 0.61–6.07 ng/mL, respectively.¹⁶ Here, average sums of PFAS concentrations measured in fluorinated containers exposed to water and methanol for 1 week were 0.16 ± 0.09 and 11.28 ± 0.27 ng/mL, respectively, demonstrating results generated here are comparable to those found by the U.S. EPA.

Leaching of PFAS from Fluorinated Containers Exposed to Food. A total of 26 samples were prepared to measure the amount of PFAS that would leach from both fluorinated and nonfluorinated HDPE when exposed to three different food matrices, including olive oil, ketchup, and mayonnaise. These matrices were chosen as they represent food types that are sold in HDPE containers and are typically stored in containers for extended periods of time. Extractions of the food matrices alone found sums of PFAS concentrations of 0.24, 2.65, and 3.31 ng/g of food in olive oil, ketchup, and mayonnaise, respectively. Individual analytes detected in each matrix varied. Individual analyte concentrations observed in each food matrix were subtracted from the concentrations measured in samples of that food matrix with exposure to containers to account for PFAS already present in the matrix. Each food matrix was then subjected to 1 week of exposure to fluorinated and nonfluorinated containers. Sums of PFAS concentrations for each food matrix and container type are given in Table S6. Sums of PFAS concentrations measured 2.66 ± 0.82 , 5.95 ± 1.59 , and 7.19 ± 3.39 ng/g plastic on the olive oil, ketchup, and mayonnaise samples, respectively. The large standard deviation of these samples is likely due to small sample sizes ($n = 3$ for each sample set). These concentrations are notably higher than those measured during water leaching experiments but are still significantly lower than leaching experiments performed in both methanol and acetone for the same exposure period. Figure S3 summarizes the distribution of individual analytes measured in each of the food matrices after exposure to fluorinated containers. Similar to previous observations, PFBA and PFPeA had the greatest concentrations measured. Analyte concentrations measured in food matrices demonstrated a similar, but less defined, relationship between analyte concentration and chain length.

Effect of Heat on PFAS Leaching in Solvents and Food. To measure the effect of heat on PFAS migration from the containers, replicate sets of water exposure and food exposure samples were prepared and placed in a 50 °C oven for the same exposure time of 7 days. A comparison of sum of

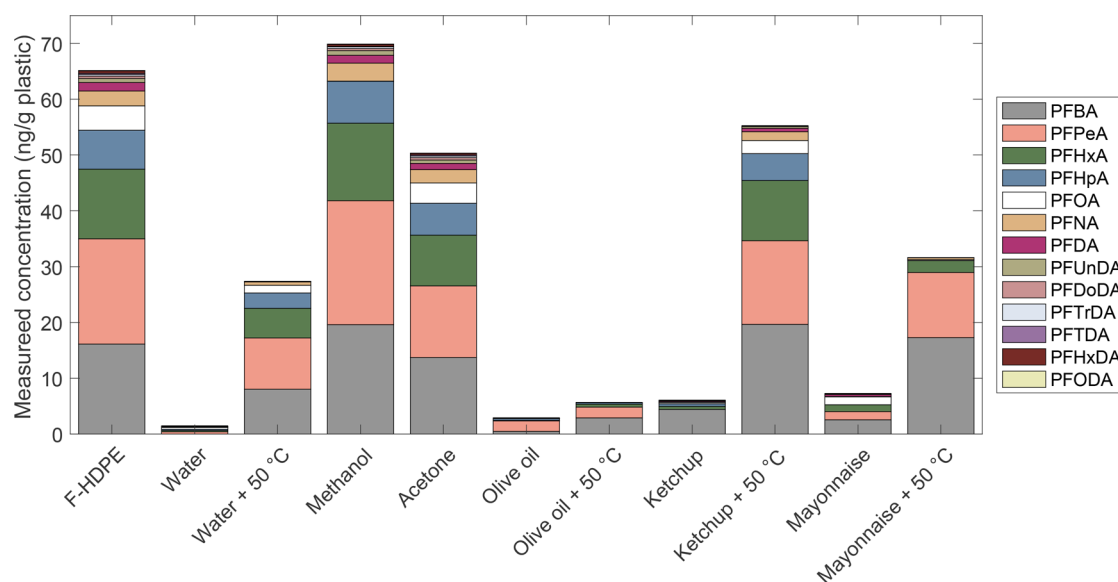


Figure 1. Combined results of extraction of containers alone (F-HDPE), solvent exposures (water, water + 50 °C, methanol, and acetone), and food exposure (olive oil, olive oil + 50 °C, ketchup, ketchup + 50 °C, mayonnaise, and mayonnaise + 50 °C) experiments performed with fluorinated containers. Concentrations of each analyte are reported in ng/g plastic and are the average of three replicates for each experiment, excluding F-HDPE which is the average of 14 replicates.

PFAS concentrations for the water samples is given in Table S7. These results highlight that concentrations of PFAS in the samples exposed to 50 °C were 0.31 ± 0.22 and 26.88 ± 4.21 ng/g plastic in the nonfluorinated and fluorinated containers, respectively. In fluorinated containers, sums of PFAS concentrations were 27 times higher in samples exposed at 50 °C than those exposed at room temperature, demonstrating that exposure to elevated temperatures significantly increased the migration of PFAS from the containers into the water. Trends within individual analyte concentrations again showed that concentration increased as chain length decreased.

Results of the food exposure samples at 50 °C showed a similar increase in PFAS concentrations relative to the samples that were stored at room temperature and are shown in Table S8. The distributions of individual analyte concentrations measured in each food matrix after exposure to fluorinated containers at elevated temperatures are shown in Figure S4. These data demonstrate significantly higher sums of PFAS concentrations in food matrices exposed to fluorinated containers at elevated temperatures at 5.63 ± 0.42 , 55.25 ± 11.87 , and 31.52 ± 4.62 ng/g plastic for the olive oil, ketchup, and mayonnaise samples, respectively, and a direct comparison is given in Figure S5. From this we can see concentrations increased between 110%–830% in the food matrices when exposed at elevated temperatures. We anticipate differences in PFAS migration into each food type are factors of the differences in chemical properties of each food matrix. For example, ketchup and mayonnaise both represent water-in-oil emulsions with chemical properties that might promote greater migration of PFAS from the containers into the surrounding food. The increase in concentrations between ketchup and mayonnaise is potentially a measure of differences in their ionic strength. Comparatively, olive oil likely showed lower levels of PFAS migration as the solubility of PFAS is expected to be lower in olive oil.

PFAS Exposure Assessment. Tables S8 and S9 show complete LC-MS/MS results for all samples. Figure 1 shows the combined results of each set of fluorinated container

results. Parts-per-billion PFCAs concentrations measured through both the extraction of the containers alone and measurement of migration from fluorinated containers into various matrices are of concern for both direct and indirect routes of exposure. The median sums of PFAS concentrations measured in the food matrices exposed to the fluorinated containers for 7 days (1.75 ng/cm^2) were divided by 2 to represent the concentrations present on just the inside of the container. Using a 14 fluid ounce cylindrical container with an internal surface area of 376 cm^2 , the total amount of leachable PFAS from the inside of the container is about 329 ng, or 0.83 ng/g of food within the container assuming 14 oz of food. Using a serving size of 15 g, the amount of PFAS present in each serving is 12.43 ng. This estimate increases when using the median sums of PFAS concentrations measured in the food matrices exposed to the fluorinated containers at 50 °C for 7 days (6.10 ng/cm^2 , or 3.05 ng/cm^2 when accounting for only the inside) to 43.33 ng per serving. Using an estimated five servings per week and the average body weight of a North American adult (80.7 kg),²⁸ the weekly intake of PFAS from these containers in just one food container would range between 0.77–2.68 ng/kg body weight per week. In 2020, the European Food Safety Authority set the tolerable weekly intake of PFOA, PFNA, PFOS, and PFHxS to 4.4 ng/kg body weight per week.²⁹ For direct comparison, the weekly intake from just these four analytes in these data would be driven by PFOA and PFNA and would range between 0.00 and 0.18 ng/kg body weight per week. The concentrations of PFAS that can be leached from these containers could then represent significant contributions to this PFAS intake and would add to PFAS exposures from drinking water, consumer goods, and other sources. Title 21 of the Code of Federal Regulations Part 177.1615 (21 CFR 177.1615) prohibits the use of direct fluorination processes where oxygen, water, or other compounds outside of nitrogen are introduced. Whether this limitation is being effectively implemented by the industry and how widely fluorinated containers are used in food packaging requires further investigation.³⁰ Similarly, the detection of

PFAS where water or other solvents are present in fluorinated containers raises concern about the potential for exposure from packaging applications for consumer, commercial, and industrial products subject to TSCA.

The end of the life cycle of many fluorinated containers is disposal at a landfill, where their PFCA concentrations are likely to contribute to PFAS concentrations measured in landfill leachates, which are discharged to wastewater treatment plants. The high concentrations and detection frequencies of short-chain PFCAs measured from these fluorinated containers is of concern based on research that highlights most remediation technologies employed at wastewater treatment plants are not effective at removing short-chain PFAS.^{31–34} This represents a second, indirect route of exposure as wastewater effluents are ultimately discharged to aquatic environments where PFAS exposures continue. Finally, given that some fraction of HDPE is recycled, fluorinated HDPE entering the recycling stream will lead to additional routes of exposure. Considering the number of fluorinated containers in use for various applications, their contribution to overall PFAS exposure through multiple pathways may be significant, warranting regulatory action to limit this form of packaging, and future studies should concentrate on the total release of PFAS to the environment from these containers.

■ ASSOCIATED CONTENT

SI Supporting Information

The Supporting Information is available free of charge at <https://pubs.acs.org/doi/10.1021/acs.estlett.3c00083>.

Additional details on sample collection and preparation, as well as parameters used for the instrumental analysis. Full results of LC-MS/MS analysis, as well as tables and figures examining trends and relationships observed in samples. (PDF)

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Notes

The authors declare no competing financial interest.

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