PAUL R. LEPAGE
GOVERNOR

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

WALTER E. WHITCOMB
COMMISSIONER

HENRY S. JENNINGS
DIRECTOR

BOARD OF PESTICIDES CONTROL

August 19, 2016
Conference Room
O'Donal's Nursery
6 County Road Gorham, Maine

NOTE DIFFERENT LOCATION

AGENDA

11:30 AM

1. Introductions of Board and Staff

2. Minutes of the March 25 and the May 13, 2016 Board Meetings

   Presentation By: Henry Jennings
   Director

   Action Needed: Amend and/or Approve

3. Public Forum (limited to one hour)

   At this time, the Board invites anyone interested to address its members with questions or concerns about any pesticide-related issues.

   Presentation By: Henry Jennings
   Director

   Action Needed: None required

4. Consideration of the EPA Special Local Need [FIFRA Section 24(c)] request to extend the use of Echo ZN, EPA Reg. 60063-4 for control of late blight (*Phytophthora infestans*) in long-season potatoes

   The Special Local Needs (24c) request to extend the use of Echo ZN (EPA Reg. No. 60063-4) limits use to long-season potatoes during epidemics of severe late blight (*Phytophthora infestans*). The request is in response to high levels of late blight present in recent growing seasons in Maine, according to Steve Johnson, Ph.D., Crops Specialist, at the University of Maine Cooperative Extension. The continued use of this product at the higher annual maximum rate will permit

growers the needed flexibility to respond more effectively during unique growing conditions that promote late blight.

Presentation By: Mary Tomlinson
Pesticide Registrar

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

5. Consideration of a Consent Agreement with the Maine Seed Company, Wales of Wales, Maine

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

Presentation By: Raymond Connors
Manager of Compliance

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

6. Other Old or New Business

a. Chapter 29 Variance for Dasco Inc.
b. Chapter 29 Variance for Dubois Contracting
c. Omega 24c 2016 Use Report

7. Schedule of Future Meetings

September 23, November 4 and December 16, 2016 are tentative Board meeting dates. The Board will decide whether to change and/or add dates.

Adjustments and/or Additional Dates?

8. Adjourn

NOTES

- The Board Meeting Agenda and most supporting documents are posted one week before the meeting on the Board website at www.thinkfirstspraylast.org.
- Any person wishing to receive notices and agendas for meetings of the Board, Medical Advisory Committee, or Environmental Risk Advisory Committee must submit a request in writing to the Board's office. Any person with technical expertise who would like to volunteer for service on either committee is invited to submit their resume for future consideration.

- On November 16, 2007, the Board adopted the following policy for submission and distribution of comments and information when conducting routine business (product registration, variances, enforcement actions, etc.):
    - *For regular, non-rulemaking business*, the Board will accept pesticide-related letters, reports, and articles. Reports and articles must be from peer-reviewed journals. E-mail, hard copy, or fax should be sent to the attention of Anne Chamberlain, at the Board's office or anne.chamberlain@maine.gov. In order for the Board to receive this information in time for distribution and consideration at its next meeting, all communications must be received by 8:00 AM, three days prior to the Board meeting date (e.g., if the meeting is on a Friday, the deadline would be Tuesday at 8:00 AM). Any information received after the deadline will be held over for the next meeting.
- During rulemaking, when proposing new or amending old regulations, the Board is subject to the requirements of the APA (Administrative Procedures Act), and comments must be taken according to the rules established by the Legislature.

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DIRECTOR

BOARD OF PESTICIDES CONTROL

March 25, 2016

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

MINUTES

8:30 AM

Present: Eckert, Flewelling, Granger, Jemison, Morrill

1. Introductions of Board and Staff

   - The Board, Staff, and AAG Mark Randlett introduced themselves
   - Staff Present: Chamberlain, Connors, Hicks, Jennings, Tomlinson

2. Minutes of the February 19, 2016 Board Meeting

   Presentation By: Henry Jennings
   Director

   Action Needed: Amend and/or Approve

   - **Flewelling/Morrill: Moved and seconded to adopt as amended In Favor: Unanimous**

3. Consideration of the EPA Special Local Need [FIFRA Section 24(c)], EPA Reg. 81880-18, and State Supplemental Special Local Need [FIFRA Section 24(c)], EPA Reg. 81880-18-10163, Registration Request for Sandea Herbicide to control broadleaf weeds in lowbush blueberries in the non-bearing year

   Jasper Wyman and Son is requesting an SLN for Sandea Herbicide to control perennial broadleaf weeds in lowbush blueberry in the nonbearing year. Canyon Group/Gowan Company has supported a supplemental label for use in Maine for the past few years, but rescinded support due to phytotoxicity concerns. Gowan is proposing an SLN with more stringent language to reduce risk of phytotoxicity and to place the burden of risk on the grower. The EPA only permits and approves issuance of an SLN on a primary product registration. However, states are permitted to issue a state supplemental SLN for a distributor product as long as an SLN for the primary product is first issued by the state and the basic registrant has approved the distributor's request for an SLN. Canyon Group has approved the supplemental SLN request by Gowan Company. Both the primary SLN and the state supplemental SLN for Sandea Herbicide are hereby submitted for the Board's approval.

Presentation By: Mary Tomlinson
Pesticide Registrar

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

- After a brief introduction by Tomlinson, Darin Hammond from Jasper Wyman and Son explained that Wyman's has been doing tests on this product since 2011, beginning with a three acre plot the first year, a 30 acre plot the second year and 1000 acres in 2015. The university had issues, mainly because when they first started testing they put it on very late on some plots and which resulted in some chlorosis and stunting. Wyman's has been working with Gowan to amend the language on the label to be clear how to use it correctly. It has to be applied extremely early. This year it was between April 15-18. There has to be no vegetative growth; if there is 1/16 inch of leaf emergence on the blueberry bushes, it is too late. That is very clear on the label now. Wyman's would like access to the product because it is a very good chemical to combat resistance issues with hexazinone. It has a good synergistic effect with hexazinone, controlling things that hexazinone won't control alone like bunchberry, spireas, goldenrod. It is not going to be used on a lot of acres. It won't be used on relatively clean fields, but on selected fields with broadleaf weeds that aren't controlled by other chemicals. It will be small part of the program, but an important part to clean up areas that have a lot of weed pressure. It is also good for areas recently cleared from forest to get rid of woody perennials.
- Eckert asked if other companies are using this product. Hammond replied that only a few associated with Wyman's are using it. Gowan didn't promote it because the University had issues. Now that everybody who sprays has to be licensed, Wymans's acts as the restricted use pesticide dealer for almost all their growers and if they sell them a product they make sure they use it correctly. If you use this product incorrectly, you're not going to have a crop.
- Granger asked if this is a new chemical. Hammond said no, it is used on other crops. It is new to blueberries as of 2011. It's closely related to Matrix and Ultum in Canada. It is used at a very, very low rate of active ingredient. It's not a liquid, it comes in a 10 oz. jug, and applicators use 1 oz. per acre. One nice characteristic is that it is very immobile in water. Wyman's is currently working with the University of Maine on a 10 acre test plot to apply Sandea after plants are completely dormant in December to see if it will give control into the crop year.
- Jemison asked why it would be used at the end of the year when plants have dropped their seed and died back. Hammond replied that they are looking at the possibility of controlling perennials like goldenrod, bracken fern and bunchberries. If they spray in December and it won't move all winter, the question is will it affect the crop. Jemison inquired whether the plan is that Sandea is not effective in late fall but that it will be there in spring when plants start growing. Hammond said yes, if they spray when plants are completely dormant, will it be taken up by rhizomes in the spring? But that is still in the testing phase with the University. It is not part of Wyman's plan to use it in the fall. They are waiting for results from the study. If there is a crop on what was sprayed last fall, they will then do a MRL analysis for Sandea. For now it will only be used very early in the spring.
- Jemison asked why Dave Yarborough isn't at the meeting supporting the request. Hammond said it is because Wyman's is the one requesting the SLN. Jemison said that he is concerned that Yarborough is not supporting it. Hammond said that Yarborough did have concerns initially. The first year they sprayed on May 1, which is early for any other broad spectrum herbicide, but late for Sandea. They had issues with stunting and chlorosis. It won't be used extensively because of the tight window on either end.
- Randlett noted that the memo indicated the label was changed to reduce risk of phytotoxicity and to place the burden of risk on the grower. Tomlinson said that had changed. The problem

was that this use was on the master label approved by EPA, but was removed from the container label in 2013. They wanted to put all the risk on the grower through an indemnity clause, and limit the use only to Wyman's. EPA said they couldn't do that. They issued a supplemental label, which is good until 2017. Gowan worked with EPA to develop more protective language but they do maintain some liability.

- Morrill asked what the specific risk is. Hammond said it is crop damage and loss. But with the proposed 24(c) label, Gowan feels the risk is mitigated by stating on the label that it has to be applied before any growth. At 1 ounce per acre that equals .75 ounce AI per acre.
- Jemison noted that currently Wyman's is doing all the spraying but if the Board approves the label another company could mess it up. Flewelling noted that's what the label is for.
- Morrill asked if it is a restricted use product. Tomlinson replied that it is not, but it is a very restrictive label. Hammond noted that a lot of new products have very low rates per acre so all applications are becoming more precise.
- Randlett stated that the Board does not want to have to enforce a third party contract but that is not an issue here.

    - **Flewelling/Eckert: Moved and seconded to approve the registration request**
    - **In Favor:** Eckert, Flewelling, Granger and Morrill
    - **Opposed: Jemison**
    - **Granger/Flewelling: Moved and seconded to approve the registration request**
    - **In Favor:** Eckert, Flewelling, Granger and Morrill
    - **Opposed: Jemison**

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

For the last several meetings, the Board has discussed homeowner pesticide use and ideas for promoting Integrated Pest Management (IPM) to this audience. The staff has been working on several actions and will now update the Board on its progress.

Presentation By: Megan Patterson
Licensing and Certification Specialist

Action Needed: None Needed, Feedback Welcome

- Jennings explained that the staff is continuing to work on the items on the list. Patterson is working on a contract with Tom Mather to give two talks on ticks on May 4 in Wells and Falmouth. The talks will run about 1 ½ hours and be directed toward homeowners on managing ticks and Lyme Disease. May is Lyme Disease Awareness Month and the staff are working with the Maine CDC. Sarah Robinson from CDC will give a brief talk with statistics of Lyme Disease in humans and prevalence of Lyme Disease in the tick population. She will also briefly discuss other diseases vectored by ticks, some of which are on the upswing.
- The staff is working on a tick article, which is scheduled to be published in May. They would like to include some quotes from Mather; he has a lot of good information on how to reduce the risk of Lyme disease. He clarifies the use of repellents.
- Staff is creating a dedicated webpage with the URL maine.gov/healthylawns. The page will have homeowner information. The staff picked lawns because that seems to be a focal point for people concerned about the use of pesticides.
- The staff had a meeting with some collaborators that we have worked with in the past. There wasn't much for new ideas, but Jeff O'Donnell has some ideas on how to connect with independent garden centers to make presentations.

- The staff has discussed a lot of things that have been tried in the past. There is a lot of info on the Yardscaping website that we want to bring forward and reemphasize. We have a booklet Paul Schlein worked on that was never printed; it's going to be expensive because it's in color, but there is interest.
- The staff has been getting requests for talks: Rockport, Bangor Garden Show, libraries, McLaughlin Gardens in Paris. Jennings went to Portland and talked to the Energy and Sustainability Committee; they were discussing a municipal ordinance. Patterson is presenting at a Garden Pro meeting that Lois Stack organized. The staff plans to do a series of talks at garden centers.
- Jennings noted that this is the busiest he's known the staff to be in his 32 years. The IT development project is very intense and is taking a lot of time; Gary starts his new job as State Horticulturist on April 11, and the staff is trying to extract institutional knowledge from his brain before he leaves. Demand for testing is very high right now, so the staff used two rooms for several weeks to try to fit people in.
- Eckert suggested contacting Coastal Maine Botanical Garden because they are doing a huge outreach this year on native plant landscaping.
- Jennings commented that staff is scrambling to do the best they can for 2016, but this is not a one-year undertaking. He would like to convene a larger collaborators group. Hopefully next year we can enhance, expand and devote more resources.

5. Legislative Update

There are currently two bills in the Legislature concerning pesticides. LD 1099 An Act To Establish a Fund for the Operations and Outreach Activities of the University of Maine Cooperative Extension Animal and Plant Disease and Insect Control Laboratory, would fund pest management education and laboratory operations, mainly testing ticks. As currently amended, $400,000 from the BPC fund would be transferred in 2015-16 and $400,000 per year from unspecified Department accounts thereafter. The amended version was voted OTP by the Committee on Agriculture, Conservation and Forestry and is making its way through the process. LD 1543 An Act To Create Stability in the Control of Pesticides proposed changes to rules governing municipal pesticide ordinances; it was referred to the Committee on State and Local Government and is currently tabled.

Presentation By: Henry Jennings
Director

Action Needed: Informational Only

- Jennings explained that LD 1099 was held over from last session; originally it proposed a 20 cent tax on homeowner products for Cooperative Extension. The idea of a new tax ran into trouble, so it morphed into a proposal to get more money from DACF. We are already sending $200,000 annually to Cooperative Extension; LD 1099 says they will get $400,000 from the Board in the first year, in subsequent years it is up to the Department to figure out where the $400,000 will come from. Unfortunately there is no money anywhere else.
- Flewelling asked if the Board has any say. Jennings replied that they can express any opinion they want.
- Jemison explained that the lab is not going to be constructed because the cost kept going up, so instead they have purchased a building in the tech park which will provide them with more space.
- Jennings said that his job is explaining the impacts to the Board. The Board's fund is the only place this money can come from. If 1099 is enacted, the Board would not have money to put

into homeowner education. The Board would not have money to contribute for mosquito monitoring, which is very worthwhile in terms of public interest. With good data you can save lives without doing any spraying. The next thing to go would be the grant for worker safety training, and the IT project we just spent a lot of time over the course of a year on. After that you're talking about laying off staff.

- Morrill commented that 30% of the Board's money would be going to something that we don't see a budget for. The Board doesn't even see a budget for the $200,000 we send now. Add to that the money spent on other positions in the Department, and that's half of our money going to things that aren't our focus, which is licensing and training applicators.
- Tim Hobbs noted that the money for building the lab came from a bond package but there was no plan for an operating budget. His industry would be concerned about taking registration money away from applicator training and used for a diagnostic lab.
- A discussion followed about the purpose and operation of the lab.
- Granger noted that the bill talks about more than just the lab; it establishes a fund for pest management education. Sounds like some of the money would be used for what the Board's doing. If they're taking the money from the Board and sending it to the University, maybe they could do outreach for us; the Board could spin off some of what we've been doing and let them do it. Can they do a better job than the Board?
- Morrill said that it's not clear that the money will be used for education.
- Granger said we could be responsible but they do the work. Morrill replied that the way the bill is written the Board would have no say in how the money is used.
- Jennings noted that when the legislature made the law to reduce reliance on pesticides, they gave the primary responsibility for education to the Board. Granger said the legislature made both of these decisions; bills get developed and there isn't enough input. Jennings said that his impression is they saw a need to fund something but had no money so they required the Department to figure it out.
- Morrill remarked that some people are probably not aware that the Board is already funding outreach in our current budget by sending $200,000 to the University for that specific purpose.

    - **Consensus was reached for the staff to draft and send a letter to Commissioner Whitcomb and the Appropriations Committee with the following points:**
        - The Board is sending money to Cooperative Extension already
        - If the Board has to send an additional $400,000, it will be forced to cut programs: such as homeowner outreach, mosquito testing, worker safety training for migrants, improving the registration process and the rest of the IT project. It will cut into Board efforts to follow legislative mandate to minimize reliance on pesticides.
        - Include numbers
        - Keep as neutral and fact-specific as possible
        - Note how far along the IT project is and how much money has already been invested.

    - **Eckert (check this)/Granger: Moved and seconded to draft and send letter as detailed above**
    - **In favor:** Eckert, Flewelling, Granger and Morrill
    - **Abstained: Jemison**

6. Election of Officers

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

Presentation By: Henry Jennings
Director

Action Needed: Nominations and Election of Officers

- **Eckert/Flewelling: Moved and seconded to re-elect Morrill as Chair**
- **In Favor: Unanimous**

- **Granger/Eckert: Moved and seconded to re-elect Bohlen as Vice-Chair**
- **In Favor: Unanimous**

7. Other Old or New Business

a. Acadia National Park Chapter 29 variance permit for control of invasive plants
b. Woodlands Club, Falmouth, Chapter 29 variance permit
c. Other?

- Flewelling asked about sediment samples; Tomlinson replied that the results came in December but that she has been busy with registrations and hasn't done anything with them.
- Hicks noted that South Portland is working on a municipal ordinance. Morrill questioned whether the average homeowner or city councilor knows the Board exists or that there are regulations in place.
- Morrill noted that there is an ash quarantine because of Emerald Ash Borer in New Hampshire.

8. Schedule of Future Meetings

May 13, July 1, and August 19, 2016 are tentative Board meeting dates. The August 19 meeting is tentatively a field trip. The Board will decide whether to change and/or add dates.

Adjustments and/or Additional Dates?

- No dates were added

9. Adjourn

- **Eckert/Flewelling: Moved and seconded to adjourn at 10:50 am**
- **In Favor: Unanimous**

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BOARD OF PESTICIDES CONTROL

May 13, 2016

AMHI Complex, 32 Blossom Lane, Marquardt Building, Room 118, Augusta, Maine

MINUTES

8:30 AM

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

1. Introductions of Board and Staff

- The Board Staff, and AAG Mark Randlett introduced themselves
- Staff Present: Chamberlain, Connors, Couture, Hicks, Jennings, Tomlinson

2. Minutes of the March 25, 2016 Board Meeting

Presentation By: Henry Jennings
Director

Action Needed: Amend and/or Approve

- Minutes were not available for review in time

3. Overview of Mosquito-borne Diseases and Monitoring in Maine

The Maine Center for Disease Control and Prevention (Maine CDC) coordinates state activities around preventing vector-borne diseases. As part of its responsibilities, the CDC coordinates mosquito and disease monitoring in Maine. The presence of mosquito-borne diseases and the species of vector mosquitoes present in Maine have been on the rise in recent years. Sara Robinson of the Maine CDC will provide an overview of the trends and the state's monitoring program.

Presentation By: Sara Robinson, MPH
Epidemiologist, Maine Center for Disease Control and Prevention

Action Needed: None – Informational Only

- Robinson explained how the Maine Center for Disease Control (CDC) monitors and where they would like to go in the future. She also gave an overview of mosquito-borne diseases Eastern Equine Encephalitis (EEE) and West Nile Virus (WNV). They found two positive pools last year for EEE and WNV and both were in York county.

- Morrill asked what the budget is for testing in 2016. Robinson stated it is still to be determined. They will receive their funding from the federal CDC on July 1, so they plan their monitoring a year in advance. Last year they received $20,000, and from the BPC they received $25,000. Robinson stated they may receive more funding because of Zika, but that would be for use in 2017. Robinson also mentioned it takes time for those funds to filter down to the states and because we are not in a Zika endemic area, our state will get a smaller percentage of the money.
- Eckert asked Robinson about Zika testing. Robinson stated for Zika it makes more sense to test humans, because they are likely to find it in humans earlier rather than in mosquitos. They would increase testing of people who travel to infected countries. For EEE and WNV, they would look for infected mosquitoes. The mosquitoes they are currently looking for are evening biters and the Zika carrying mosquitoes are day biters, so they would not be caught in the traps.
- Morrill suggested doubling the $25,000 contribution to mosquito pool testing. Morrill stated if homeowner education is the focus, this dovetails nicely.
- Morrill asked Jennings if there are funds available for the upcoming year. Jennings stated that there are and the Board is in a strong position to allocate funds, especially before June 30. Jennings stated that mosquito monitoring is very important and it can prevent disease just by providing the public with timely information on the disease threat, and it doesn't require spraying. There is a lot of concern around spraying for mosquitoes.
- Bohlen states they need to think long term and that any type of monitoring tends to be forever. There is a difference between short term need and long term commitments and Bohlen states the Board needs to be clear on which they are doing. Bohlen states he would back one year and then look at where they are.

    - **Morrill/Jemison: Moved and seconded to approve a one year increase in funding to $50,000 to the Maine CDC for monitoring mosquitoes**
    - **In Favor: Unanimous**

4. Review and Discussion of Board Homeowner Education Efforts and Available Funding

Over the last several months, the Board discussed various ideas and approaches for improving education of homeowners on the use of Integrated Pest Management and the proper use of pesticides. The Board subsequently directed the staff to make homeowner education a priority for 2016. The staff will provide an update to the Board about recent activities and discuss additional ideas and available funding.

Action Needed: Determine next steps

- Jennings provided an overview of recent homeowner education efforts. He stated this has been a rather hectic period for staff for a variety of reasons. The move has been incredibly disruptive and they are in crunch time on the IT project. Additionally, Gary took a new job and the staff has been trying to fill in for him.
- Jennings mentioned that staff have written a Homeowner Guide to Managing Ticks that was going to go to press, but because of its length they decided to use as more of a resource on the website and as publicity for the Tom Mather talks on May 4. The Mather talks were not exactly as anticipated. The intention had been to have him focus more on landscaping to reduce tick friendly habitat.

- Eckert stated that Mather focused more on individual efforts to protect oneself. She added he has an interesting way to identify ticks and mentioned Mather's Tick ID website where he identifies ticks and how long they have been attached onto an individual.
- Jennings stated that people who attended the talks thought they were great and they were appreciative. There were about 100 people in Falmouth and 27 in Wells. The audience was very engaged at both places.
- Jennings stated one idea discussed by staff was to break up some of the messages in the larger article and submit it as smaller articles. There are not as many articles about landscape modification, which can be quite effective.
- Jennings went to Rockport and gave a talk that started as best management practices and morphed to natural practices for lawns and gardens. Hicks and Sarah Robinson attended a Lyme Disease forum in Wiscasset, where there were about 350 people in attendance. Chamberlain and Patterson spoke at McLaughlin Gardens. Tomlinson and Hicks will attend a camping expo at LL. Bean's this weekend. There are two talks in Harrison tomorrow. Jennings and Tomlinson will also be speaking at two sub-committee meetings in South Portland.
- Jennings stated they have some other ideas they are working on. These include several talks ranging in topics from lawn IPM to mosquitoes. There are plans to host some talks at garden centers and Wells and Falmouth are both anxious to have the BPC come back.
- Jennings stated there has been discussion about developing YouTube videos around the same topics as the talks. Bohlen stated they have someone who does videos for them and it is not expensive. Jemison stated that landscape issues seem like a suitable topic for YouTube videos.
    - **Consensus was reached to revisit the topic at the next meeting and the staff should be prepared to give an update.**

5. <u>Consideration of the EPA Special Local Need [FIFRA Section 24(c)] request to extend the use of Bravo ZN, EPA Reg. 50534-201 and the State Supplemental Special Local Need (SLN) [FIFRA Section 24(c)] request to extend the use of Bravo ZN, EPA Reg. 50534-201-100 for control of late blight (*Phytophthora infestans*) in long-season potatoes</u>

   The Special Local Needs (24c) request to extend the use of Bravo ZN (EPA Reg. No. 50534-204-100) limits use to long-season potatoes during epidemics of severe late blight (*Phytophthora infestans*). The request is in response to high levels of late blight present in recent growing seasons in Maine, according to Steve Johnson, Ph.D., Crops Specialist, at the University of Maine Cooperative Extension. The continued use of this product at the higher rate will permit growers the needed flexibility to respond more effectively during unique growing conditions that promote late blight. Both the primary SLN and the state supplemental SLN for Bravo ZN are hereby submitted for the Board's approval.

   Presentation By: Mary Tomlinson
   Pesticide Registrar

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

- This SLN registration request was originally approved five years ago. This application is for an extension of that, and also to approve a state supplemental Special Local Needs on the primary and supplemental labels for late blight. The product has been effective against late blight.
- Eckert asked if there is going to be a full FIFRA Section 3 label for this. Tomlinson stated they are working towards getting a label, but it will be awhile because EPA requested additional data.

- Granger asked if any concerns have come up in the last five years. Jemison stated that he does not think anyone has come close to the maximum allowed. He agrees with Steve Johnson that no one is going to apply anything that is not needed.
    - **Granger/Jemison: Moved and seconded to extend the registration of Bravo ZN, EPA Reg. 50534-201 and approve the State Supplemental Special Local Need (SLN) [FIFRA Section 24(c)] request to extend the use of Bravo ZN, EPA Reg. 50534-201-100 for control of late blight (*Phytophthora infestans*) in long-season potatoes.**
    - **In Favor: Unanimous**

6. Consideration of the EPA Special Local Need [FIFRA Section 24(c)] request for the use of Omega 500F Fungicide, EPA Reg. 71512-1 and the State Supplemental Special Local Need (SLN) [FIFRA Section 24(c)] request to extend the use of Omega 500F Agricultural Fungicide, EPA Reg. 71512-1-100 as an in-furrow, banded spray on potatoes at planting for control of powdery mildew scab.

   The Special Local Needs (24c) request for the use of Omega 500 F Agricultural Fungicide (EPA Reg. No. 71512-1-100) would allow the use of the product as an in-furrow, banded application in potatoes at planting for control of powdery mildew scab, *Spongospora subterranean* f. sp. *Subterranean*, which can render affected crops unsaleable and transmit the potato mop top virus. Steve Johnson, PhD, from the University of Maine Cooperative Extension has submitted a letter of support. Both the primary SLN and the state supplemental SLN for Omega 500F Agricultural Fungicide are hereby submitted for the Board's approval.

   Presentation By: Mary Tomlinson
   Pesticide Registrar

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

- Tomlinson stated this request came not from Johnson, but from Syngenta.
- Hicks had some concerns that the compound has some reproductive toxicity and evidence of carcinogenicity. Also, she stated the labeled uses, with the exception of *Brassicas*, are all foliar, including for potatoes. The only label directions for incorporation into soil is for *Brassicas* and turnip. Tim Hobbs was asked what the potatoes would be used for and he said chipping stock. If the concern is infants, chipping potatoes are peeled and infants are not going to eat potato chips, so exposure is unlikely to happen. Hicks is no longer sure this is an issue. Hicks also stated it would not get into the tuber through an in-furrow application.
- Bohlen asked what is it about these varieties that makes them worth planting even though they're susceptible. Hobbs replied they are bred specifically for frying as chips. Hobbs also states that chipping varieties are thin skinned which makes them susceptible to fungi.
- Morrill states the Board would like to receive a report from Syngenta and Steve Johnson in two years.
    - **Granger/Jemison: Moved and seconded to approve the Special Local Needs (24c) request for the use of Omega 500 F Agricultural Fungicide (EPA Reg. No. 71512-1-100) that allows the use of the product as an in-furrow, banded application in potatoes at planting for control of powdery mildew scab**
    - **In Favor: Unanimous**

7. Consideration of a Consent Agreement with Moark of Turner, ME

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

Presentation By: Raymond Connors
Manager of Compliance

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

- Connors stated there was an issue of fly bait being used extensively and possibly draining into a stream. The inspector could not verify runoff into the stream. There was also an issue of improper protective clothing. The label calls for the applicator to wear waterproof gloves and the bait was applied with leather gloves.
- Connors stated the company's position is that the label does not specify that product has to be evenly distributed. Consequently, the application was not inconsistent with the label. The label does say particles must be one to two inches apart, and they clearly were not.
    - **Jemison/Eckert: Moved and seconded to approve the consent agreement negotiated by staff**
    - **In Favor: Unanimous**

8. Consideration of a Consent Agreement with Kendall Cooper of Buckfield, ME

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

Presentation By: Raymond Connors
Manager of Compliance

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

- Connor stated this case involves the purchase of Blue Max Herbicide by Kendall Cooper in May 2015 to treat forage corn. Cooper was licensed at one time, but was not licensed at time of purchase. The dealer did not ask to see a license for the purchase of the restricted use pesticide
- Morrill asked if there is a consent agreement for the store that sold the herbicide to Cooper. Connors replied that he is working on resolving it.
    - **Jemison/Stevenson: Moved and seconded to approve the consent agreement negotiated by staff**
    - **In Favor: Unanimous**

9. Consideration of a Consent Agreement with Orkin Exterminating Company Inc. of Portland, ME

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

Presentation By: Raymond Connors
Manager of Compliance

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

- Connors stated that two products were applied by an Orkin applicator to the exterior of the wrong residence. The intended residence was several houses down. Orkin reported the incident prior to the homeowner calling us. Orkin offered to mitigate the misapplication by offering to remove all soil that the pesticide had come in contact with and replace it. Bifenthrin and a botanical pyrethroid insecticide were the two products applied.
- Jemison asked if Orkin has since discussed how they are going to correctly identify target sites going forward. Connors stated that Orkin held a group meeting and went over their policy. They told the employee he would be terminated if the same type of incident occurred again.
    - **Eckert/Jemison: Moved and seconded to approve the consent agreement negotiated by staff**
    - **In Favor: Unanimous**

10. Consideration of a Consent Agreement with Sports Fields Inc. of Monmouth, ME

On June 3, 1998, the Board amended its Enforcement Protocol to authorize staff to work with the Attorney General and negotiate consent agreements in advance on matters not involving substantial threats to the environment or public health. This procedure was designed for cases where there is no dispute of material facts or law, and the violator admits to the violation and acknowledges a willingness to pay a fine to resolve the matter. This case involves pesticide applications to a school's fields without following several requirements of Chapter 27.

Presentation By: Raymond Connors
Manager of Compliance

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

- Connors stated that this consent agreement involves Sports Fields Inc., which is a company that makes applications to school sports fields throughout the state. At more than one school, the IPM coordinators were not provided with the required records from Sports Fields detailing applications that Sports Fields made. There were four School IPM inspections conducted that showed this violation.
- Bohlen stated our goal is to encourage compliance. When we see repeat offenses we tend to make the fine higher. If schools are this company's niche they should know how to comply. Let's watch them for a while, and make sure they are doing what they should. We need to send a signal that it's serious, and let them know we're going to be checking.
    - **Jemison/Granger: Moved and seconded to approve the consent agreement negotiated by staff**
    - **In Favor: Unanimous**

11. Consideration of a Consent Agreement with Black Bear Lawn Care of Orono, ME

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

Presentation By: Raymond Connors
Manager of Compliance

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

- Connors stated this consent agreement is in response to Black Bear Lawn Care making unlicensed spot treatments of herbicide at Walgreens stores. Connors stated the company has been paying on a payment plan and has taken several months to pay.
    - **Eckert/Stevenson: Moved and seconded to approve the consent agreement negotiated by staff**
    - **In Favor: Unanimous**

12. Other Old or New Business

a. Letter from Board to the Joint Standing Committee on Appropriations and Financial Affairs
The bill essentially died. Jennings met with Jim Dill. The way the bill ended up was not what was intended.

b. South Portland proposed Pesticide Ordinance
Mary is speaking to the South Portland Conservation Commission in June. Jennings will also be speaking with them on Monday. Hicks stated Portland is putting together a committee. Morrill stated Portland passed a policy requiring IPM on city-owned land

c. Harpswell Outdoor Pesticides Control and Fertilizer Use Ordinance
d. Email from Nancy Oden
e. Other?

13. Schedule of Future Meetings

July 1, August 19, November 4, and December 16, 2016 are tentative Board meeting dates. The August 19 meeting is tentatively a field trip. There is a discussion about a possible September 23 meeting in Unity. The Board will decide whether to change and/or add dates.

Adjustments and/or Additional Dates?

14. Adjourn
    - **Jemison/ Granger: Moved and seconded to adjourn at 11:10 am**
    - **In Favor: Unanimous**

NOTES

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

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

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

To: Board of Pesticides Control Members
From: Mary Tomlinson, Pesticides Registrar/Water Quality Specialist
RE: EPA Special Local Need (SLN) [FIFRA, Section 24(c)] request to extend the use of Echo Zn, EPA Reg. No. 60063-4, for control of late blight *(Phytophthora infestans)* in long-season potatoes
Date: August 10, 2016

****

Enclosed is the above referenced Special Local Need (SLN) [FIFRA, Section 24(c)] application and supporting documents for your consideration.

On May 16, 2016, the Board of Pesticides Control approved a Section 24(c) registration for use of Bravo Zn to control late blight (*Phytophthora infestans*) in long-season potatoes. This request is to approve a 24(c) registration for Echo Zn Agricultural Fungicide, EPA Reg. No. 60063-4, another brand containing 38.5% chlorothalonil. Consistent with the SLN for Bravo Zn, the SLN increases the total allowable use of Echo Zn from 21 pints per acre to 30½ pints per acre per year.

Please review the following documents and let me know if you have any questions.

- FIFRA, Section 24(c) application
- Letter of request from SipCam Agro USA Inc.
- Letters of request from Steve Johnson, Crops Specialist, Maine Cooperative Extension
- Echo Zn ME-16000X draft Maine SLN label
- Echo Zn Section 3 container label
- Echo Zn Section 3 EPAapproved label
- Echo Zn SDS

Please review these materials and let me know if you have any questions.

HENRY JENNINGS, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING

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

Form Approved. OMB No. 2070-0055.

United States Environmental Protection Agency
Office of Pesticide Programs, Registration Division (7505C)
Washington, DC 20460

Application for/Notification of State Registration of a Pesticide To Meet a Special Local Need

(Pursuant to section 24(c) of the Federal Insecticide, Fungicide, and Rodenticide Act, as Amended)

For State Use Only	
Registration No. Assigned	ME-16000X
Date Registration Issued	

1. Name and Address of Applicant for Registration

Sipcam Agro USA, Inc.
2525 Meridian Parkway, Suite 350
Durham, NC 27713

2. Product is (Check one)

- [X] EPA-Registered — EPA Registration Number: 60063-4
- [ ] New (not EPA-registered) — Attach EPA Form 8570-4, Confidential Statement of Formula for new products. — EPA Company Number:

3. Active Ingredient(s) in Product

Chlorothalonil

4. Product Name

Echo ZN

5. If this is a food/feed use, a tolerance or other residue clearance is required. Cite appropriate regulations in 40 CFR Part 180, 185, and/or 186. 40 CFR Part 180.275

6. Type of Registration (Give details in Item 13 or on a separate page, properly identified and attached to this form):

- [ ] a. To permit use of a new product.
- [X] b. To amend EPA registrations for one or more of the following purposes:
  - [ ] (1) To permit use on additional crops or animals.
  - [ ] (2) To permit use at additional sites.
  - [ ] (3) To permit use against additional pests.
  - [ ] (4) To permit use of additional application techniques or equipment.
  - [X] (5) To permit use at different application rates.
  - [ ] (6) Other (specify below)

7. Nature of Special Local Need (check one)

- [ ] There is no pesticide product registered by EPA for such use.
- [X] There is no EPA-registered pesticide product which, under the conditions of use within the State, would be as safe and/or as efficacious for such use within the terms and conditions of EPA registration.
- [ ] An appropriate EPA-registered pesticide product is not available.

8. If this registration is an amendment to an EPA-registered product, is it for a "new use" as defined in 40 CFR 152.3 ?

- [ ] Yes (discuss in Item 13 below)
- [X] No

9. Has an EPA Registration or Experimental Use Permit for this chemical ever been (check applicable box(es), if known):

- [ ] Sought
- [X] Issued
- [ ] Denied
- [ ] Cancelled
- [ ] Suspended
- [X] Registration
- [ ] Experimental Use Permit
- [ ] No Previous Permit Action

10. Has FIFRA section 24(c) registration for this use of the product ever, by another State, been (check appropriate box(es), if known):

- [ ] Sought
- [X] Issued
- [ ] Denied
- [ ] Revoked

If any of the above are checked, list States in Item 13 below.

- [ ] No FIFRA section 24(c) Action

11. Endangered Species Act: (Give details in Item 13 or on a separate page, properly identified and attached to this form)

Identify the counties where this pesticide will be used. If Statewide, indicate "all." Provide a list of Federally protected endangered/threatened species which occur in the areas of proposed use.

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

12. Indicate use status of Special Local Need, i.e., planned dates of use:

From: August 8, 2016 To: December 31, 2021

Signature of Applicant or Authorized Representative

Augusta R

Title

Director of Regulatory Affairs

Telephone Number

919-226-1288

Date

August 8, 2016

13. Comments (attach additional sheet, if needed)

Determination by State Agency

This registration is for a Special Local Need and is being issued in accordance with section 24(c) of FIFRA, as amended. To the best of our knowledge, the information above is correct, except as noted in "Comments" below or in attachments.

Name, Title, and Address of State Agency Official

Mary E. Tomlinson
Maine Board of Pesticides Control
28 State House Station
Augusta, ME 04333

Title

Pesticides Registrar / Water Quality Specialist

Telephone Number

(207) 287-7544

Date

Comments (by State Agency Only)

Received by EPA

EPA Form 8570-25 (Rev. 1-94)

EPA COPY

August 8, 2016

Ms. Mary Tomlinson, Pesticide Registrar/Water Quality Specialist
Department of Agriculture, Conservation and Forestry
22 State House Station
Augusta, ME 04333-0022

Subject: **Echo Zn Agricultural Fungicide Special Local Need to control diseases on full-season potatoes.**

Dear Ms. Tomlinson:

Sipcam Agro USA, Inc. is applying for Special Local Needs Registrations for the use of chlorothalonil (Echo Zn, EPA Reg. No. 60063-4) to aid in the control of late blight on full-season potatoes grown under irrigation by raising the maximum annual a.i. limit from 11.25 lb. ai/a to 16 lb. ai/a.

The following documents are also attached in support of this application.

Attachment 1: Completed EPA Form 8570-25.

Attachment 2: Proposed Echo ZN SLN Label.

Attachment 3: Letter of support – provided by Dr. Steven B. Johnson from the University of Maine Cooperative Extension.

Attachment 4: Echo ZN Agricultural Fungicide (60063-4) current printed/commercial label.

Attachment 5: Echo ZN (60063-4) EPA approval dated February 19, 2013.

Attachment 6: Echo ZN Agricultural Fungicide (60063-4) SDS dated May 26, 2015.

If you need additional information regarding this request, do not hesitate to contact me at lrea@sipcamadvan.com or 919-226-1288.

Sincerely,

Lizbeth Rea
Director of Regulatory Affairs

Sipcam Agro USA, Inc. Advan LLC Sostram Corporation
2525 Meridian Parkway ● Suite 350 ● Durham ● NC 27713 ● 919-226-1195 ● Facsimile: 919-226-1196

Potato Program
59 Houlton Road, Presque Isle, ME 04769, (207) 554-4373; Fax (207) 554-4373

July 12, 2016

Mary E. Tomlinson
(Mary.E.Tomlinson@maine.gov)
Pesticide Registrar
Maine Board of Pesticides Control / 28 SHS /
Augusta, ME 04333

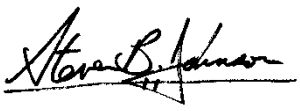
Dear Mary:

I am supporting a 24c SLN label request to the State of Maine for Echo® Zn (EPA Reg. Number 60063-4) to increase the total allowable active ingredient per acre from 12.0 lb. per year to 16.0 pounds per year. (https://extension.umaine.edu/potatoes/wp-content/uploads/sites/97/2015/05/Fungicides-15.pdf) (This would mean raising the allowable use of Echo® Zn from 21 pints per acre to 30½ pints per acre). I would like to see this limited to "Control of Late Blight *(Phytophthora infestans)* for Long-Season Potatoes." A special local needs (24c) label for increased total allowable chlorothalonil rates exists in Maine (BravoZn) as well as in other states (MI, MN, ND, NE, WI).

The need for increased allowable chlorothalonil rates is real. The high levels of late blight present in previous growing seasons in Maine have been very trying. Many growers with long-season varieties ran out of chlorothalonil limits and EDBC materials were not available. I expect Maine growers to only use the increased limits under severe late blight epidemics.

This SLN label would allow the applicators the flexibility to deal with our unique environment. Please feel free to contact me if have questions or require further information.

Sincerely,



Steven B. Johnson, Ph.D.
Crops Specialist

SIPCAM AGRO USA, INC.

Supplemental Labeling
FIFRA Sec. 24(c) [Special Local Need]

FOR DISTRIBUTION AND USE ONLY WITHIN THE STATE OF MAINE

For Control of Late Blight on Full-Season Potatoes Grown under Irrigation

ECHO® ZN Agricultural Fungicide

Keep Out of Reach of Children

WARNING – AVISO

EPA Reg. No. 60063-4 **EPA SLN No. ME-XXXXXX**

This label expires and must not be distributed or used in accordance with this SLN registration after December 31, 2021.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner that is inconsistent with its labeling.

This labeling must be in the possession of the user at the time of pesticide application. Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the EPA registered label for ECHO ZN.

Applicators must operate under an Irrigation Management Plan for use of this label. Observe application setbacks from surface water and intermittent streams of 25 feet (land application) and 100 feet (aerial application). All necessary precautions must be taken to not contaminate surface or groundwater when disposing of waste pesticide product and rinsate.

TARGET DISEASES	PHI (DAYS)	APPLICATION RATE PINTS PER ACRE (LBS. A.I.)	APPLICATION DIRECTIONS
Late Blight (*Phytophthora infestans*)	7	1 pint (0.6) Then 1 1/2 to 2 1/8 pints (0.75 to 1.125)	Begin applications at the low rate when vines are first exposed and leaf wetness occurs. Repeat applications at 5 to 10 day intervals. Begin applying the higher label rates when any one of the following events occurs: • Vines close between rows; • Late blight forecasting measures 18 disease severity values (DSV); or The crop reaches 300 P-days. Increase water spray volume as canopy density increases. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe. A maximum of 30½ pints of ECHO ZN (16 pounds a.i.) per acre may be used on long-season varieties of potato under irrigation during each growing season.

Integrated Pest Management

ECHO brand chlorothalonil fungicide is an excellent disease control agent when used according to label directions for control of a broad spectrum of plant diseases. ECHO is recommended for use in programs that are compatible with the principles of Integrated Pest Management (IPM), including the use of disease

resistant crop varieties, cultural practices, pest scouting and disease forecasting systems which reduce unnecessary applications of pesticides.

Fungicide Resistance Management

ECHO brand chlorothalonil fungicide is effective for strategic use in programs that attempt to minimize disease resistance to fungicides. Some other fungicides which are at risk from disease resistance exhibit a single-site mode of fungicidal action. ECHO, with a multi-site mode of action, may be used to delay or prevent the development of resistance to single-site fungicides. Consult with your federal or state Cooperative Extension Service representatives for guidance on the proper use of ECHO in programs which seek to minimize the occurrence of disease resistance to other fungicides.

Endangered Species

It is a violation of federal law to harm an endangered species. Use of this product may be in counties which have endangered and threatened species present; therefore, applicators should evaluate the areas to be treated and take necessary precautions to avoid harming endangered species or their habitat/environment.

WARRANTY AND LIMITATION OF DAMAGES

CONDITIONS OF SALE: To the extent consistent with applicable law, Sipcam Agro USA, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in accordance with the directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal use conditions, or under conditions not reasonably foreseeable to Sipcam Agro USA, Inc. SIPCAM AGRO USA, INC. DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. To the extent consistent with applicable law, SIPCAM AGRO USA, INC. SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, AND SIPCAM AGRO USA, INC.'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE. BUYER AND USER ACKNOWLEDGE AND ASSUME ALL RISKS AND LIABILITY RESULTING FROM HANDLING, STORAGE AND USE OF THIS PRODUCT. SIPCAM AGRO USA, INC. DOES NOT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTY, GUARANTEE OR REPRESENTATION CONCERNING THIS PRODUCT.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

Joseph W. Burley
Sipcam Agro USA, Inc.
2520 Meridian Pkwy., Suite 525
Durham, NC 27713

Subject: Echo ZN
EPA Reg. No. 60063-4
Amendment dated 1/7/2013 to Clarify Conifer Use Sites
EPA Decision No. 475099

FEB 19 2013

Dear Mr. Burley,

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act as amended, to add clarification language to conifer use sites is acceptable. A copy of the approved label, stamped "Accepted" is enclosed.

If you have any questions, please contact Kaitlin Keller by phone at (703)-308-8172 or via email at keller.kaitlin@epa.gov.

Sincerely,

Tony Kish
Product Manager 22
Fungicide Branch
Registration Division (7504P)

Enclosure: Label stamped "Accepted"

SIPCAM AGRO USA, INC.

ECHO® Zn

Active Ingredient: Chlorothalonil (tetrachloroisophthalonitrile)..... 38.5%
Other Ingredients: 61.5%
Total: 100.0%

Contains 4.17 Pounds Chlorothalonil Per Gallon (500 grams per liter)

Keep Out of Reach of Children

WARNING – AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF INHALED	➢ Move person to fresh air. ➢ If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible. ➢ Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	➢ Take off contaminated clothing. ➢ Rinse skin immediately with plenty of water for 15-20 minutes. ➢ Call a poison control center or doctor for treatment advice.
IF IN EYES	➢ Hold eye open and rinse slowly and gently with water for 15-20 minutes. ➢ Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. ➢ Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	➢ Call a poison control center or doctor immediately for treatment advice. ➢ Have affected person sip a glass of water if able to swallow. ➢ Do not induce vomiting unless told by a poison control center or doctor. ➢ Do not give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
Emergency phone numbers	(800) 858-7378 NPIC (human and animal health) (800) 424-9300 CHEMTREC (transportation and spills)
NOTES TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Persons having a temporary allergic reaction respond to treatment with antihistamines or steroid creams and/or systemic steroids.	

EPA Reg. No. 60063-4

EPA Est. No. _____

Net Contents: _____ gallons

Manufactured for
Sipcam Agro USA, Inc.
2520 Meridian Parkway, Suite 525
Durham, NC 27713

ACCEPTED
FEB 19 2013
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 60063-4 [label date code]

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING - AVISO

May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Do not breathe spray mist. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

Personal Protective Equipment (PPE):

Mixers, loaders, applicators and all other handlers must wear:

- Long-sleeved shirt and long pants;
- Shoes plus socks;
- Protective eye wear;
- Chemical resistant gloves made of waterproof material (some of the materials that are chemical-resistant to this product are barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyethylene, polyvinyl chloride, or viton; If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart);
- A NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P, or HE prefilter.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them.

Engineering Controls:

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove contaminated clothing and wash clothing before reuse.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates and wildlife. DO NOT apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment washwater or rinsate.

Chlorothalonil can contaminate surface water through spray drift. DO NOT apply when weather conditions favor drift from treated areas. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface

water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

Chlorothalonil degradates are known to leach through soil into ground water under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

DIRECTIONS FOR USE

General Precautions and Restrictions

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

DO NOT apply this product in a way that will contact workers or other persons, or pets, either directly or through drift. Only protected handlers may be in the area during applications. For any requirements specific to your State or Tribe, consult the Agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

DO NOT enter or allow worker entry into treated areas during the REI of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant gloves made of waterproof material, shoes plus socks, and protective eyewear.

Special Eye Irritation Provisions: This product is a severe eye irritant. Although the restricted-entry interval expires after 12 hours, for the next 6½ days entry is permitted only when the following safety measures are provided:
At least one container designed specifically for flushing eyes must be available in operating condition at the WPS-required decontamination site intended for workers entering the treated area.
Workers must be informed, in a manner they can understand:

- that residues in the treated area may be highly irritating to their eyes;
- that they should take precautions, such as refraining from rubbing their eyes, to keep the residues out of their eyes;
- that if they do get residues in their eyes, they should immediately flush their eyes using the eyeflush container that is located at the decontamination site or using other readily available clean water; and
- how to operate the eyeflush container.

This product must not be applied within 150 feet (for aerial and air-blast applications), or 25 feet (for ground applications) from marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to

agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

Aerial Drift Advisory Information

INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly, or under unfavorable conditions (see Wind, Temperature).

CONTROLLING DROPLET SIZE

- Volume- Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure- Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles- Use the minimum number of nozzles that provide uniform coverage.
- Nozzle orientation- Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle type- Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift potential.

BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

APPLICATION HEIGHT

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, small drops, etc.).

WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a

concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Integrated Pest Management

ECHO is an excellent disease control agent when used according to label directions for control of a broad spectrum of plant diseases. ECHO is recommended for use in programs that are compatible with the principles of Integrated Pest Management (IPM), including the use of disease resistant crop varieties, cultural practices, pest scouting and disease forecasting systems which reduce unnecessary applications of pesticides.

Fungicide Resistance Management

ECHO is effective for strategic use in programs that attempt to minimize disease resistance to fungicides. Some other fungicides which are at risk from disease resistance exhibit a single-site mode of fungicidal action. ECHO, with a multi-site mode of action, may be used to delay or prevent the development of resistance to single-site fungicides. Consult with your federal or state Cooperative Extension Service representatives for guidance on the proper use of ECHO in programs which seek to minimize the occurrence of disease resistance to other fungicides.

Mixing, Loading and Applying

ECHO is intended to be diluted into water, then applied to crops by typical agricultural spraying techniques. **Always apply ECHO in sufficient water to obtain thorough, uniform coverage of foliage and crop surfaces intended to be protected from disease**. Spray volume to be used will vary with crop and amount of plant growth. Spray volume should normally range from 20 to 150 gallons per acre (200 to 1400 liters per hectare) for dilute sprays and 5 to 10 gallons per acre (50 to 100 liters per hectare) for concentrate ground sprays and aircraft applications. Both ground and aircraft methods of application are recommended unless specific directions are given for a crop.

Slowly invert container several times to assure uniform mixture. Measure the required amount of ECHO and pour into the spray tank during filling. Keep agitator running when filling spray tank and during spray operations.

Do not use on greenhouse-grown crops except as directed in the Ornamental Plants section of this label.

Tank Mixing

When tank mixing this product with other pesticides observe the more restrictive label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing.
Do not combine ECHO in sprayer tank with pesticides, surfactants or fertilizers, unless your prior use has shown the combination physically compatible, effective and noninjurious under your conditions of use. Do not combine ECHO with Dipel 4L, Foil, Triton AG-98, Triton B-1956 or Latron B-1956, as phytotoxicity may result from the combination when applied to the crops on this label. DO NOT tank mix Echo with oil, or with any adjuvants which contain oil as their principal ingredient. When an adjuvant is to be used with this product, Sipcam Advan USA recommends the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant. Do not use with Copper-Count N in concentrated spray suspensions.

Dipel is a registered trademark of Abbott Laboratories;
Foil is a registered trademark of Ecogen, Inc.;
Latron and B-1956 are trademarks of Rohm and Haas Company;
Copper-Count is a registered trademark of Mineral Research and Development Corporation.

Applications Through Sprinkler Irrigation Systems (Chemigation)

Application through sprinkler irrigation systems is recommended only for those specific crops for which the notation "chemigation OK" is listed on this label.

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set and portable (wheel move, side roll, end tow, or hand move) irrigation system(s). DO NOT apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

DO NOT apply this product through irrigation systems connected to a public water system. 'Public water system' means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

Controls for both irrigation water and pesticide injection systems must be functionally interlocked, so as to automatically terminate pesticide injection when the irrigation water pump motor stops. A person knowledgeable of the irrigation system and responsible for its operation shall be present so as to discontinue pesticide injection and make necessary adjustments, should the need arise.

The irrigation water pipeline must be fitted with a functional, automatic, quick-closing check valve to prevent the flow of treated irrigation water back toward the water source. The pipeline must also be fitted with a vacuum relief valve and low pressure drain, located between the irrigation water pump and the check valve, to prevent back-siphoning of treated irrigation water into the water source.

Always inject ECHO into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump.

Pesticide injection equipment must be fitted with a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump. Interlock this valve to the power system, so as to prevent fluid from being withdrawn from the chemical supply tank when the irrigation system is either automatically or manually turned off.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. DO NOT apply when wind speed favors drift beyond the area intended for treatment.

ECHO may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place, then refer to the appropriate directions provided for each type.

A. Center Pivot, Motorized Lateral Move and Traveling Gun Irrigation Equipment

For injection of pesticides, these continuously moving systems must use a metering pump, such as a positive displacement injection pump of either diaphragm or piston type, constructed of materials that are compatible with pesticides, fitted with a system interlock, and capable of injection at pressures approximately 2 to 3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems.

Fill chemical supply tank of injection equipment with water. Operate system for one complete revolution or run across the field, measuring time required, amount of water injected, and acreage covered. Thoroughly mix recommended amount of ECHO for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until ECHO has been cleared from last sprinkler head.

B. Solid Set and Portable (Wheel Move, Side Roll, End Tow, or Hand Move) Irrigation Equipment

With stationary systems, an effectively designed in-line venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides; however, a positive-displacement pump can also be used.

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of ECHO for acreage to be covered with water so that the total mixture of ECHO plus water in the injection tank is equal to the quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. No agitation should be required. ECHO can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until ECHO has been cleared from last sprinkler head.

Application Rates

Dosage rates on this label indicate pints of ECHO Zn per acre, unless otherwise stated. Under conditions favoring disease development, the high rate specified and shortest application interval should be used.

For each listed crop, the maximum total amount of chlorothalonil active ingredient (lbs a.i./A) which may be applied per acre of that crop (or crop group) during each growing season is given in bold print within a box beneath the crop name. For each crop use situation listed below, the listed maximum individual and seasonal application rates must not be exceeded and the listed minimum retreatment intervals must not be decreased.

FIELD AND ROW CROPS

CROP	PHI (DAYS)	DISEASES	RATE PER ACRE	APPLICATION DIRECTIONS
Asparagus **9.0 lbs a.i./A**	190 (120 in California)	Rust, Purple spot, Cercospora leaf blight	3 to 5 ¾ pints	Begin applications after harvest of spears, when conditions favor disease development on ferns, generally when leaf wetness occurs. Repeat applications at 2 to 4 week intervals until ferns are no longer productive. Use the high rate and shortest interval when conditions favor disease.
Bean (Snap) **9.0 lbs a.i./A**	7	Rust	2 to 4¼ pints	Begin applications during early bloom stage or when disease first threatens and repeat at 7 day intervals or as necessary to maintain control.
		Botrytis blight (gray mold)	4¼ pints	
Beans (Dry) **6.0 lbs a.i./A** Chemigation OK	14	Rust, Anthracnose, Downy mildew, Cercospora leaf spot (blackeye only), Ascochtyta blight	2 to 3 pints	Begin applications during early bloom stage and repeat at 7 to 10 day intervals. For use only on beans to be harvested dry with pods removed.
Cabbage, Chinese Cabbage (tight-headed varieties only), Cauliflower, Broccoli, Chinese Broccoli, Brussels Sprouts **12.0 lbs a.i./A**	7	Alternaria leaf spot, Downy mildew	2¼ pints	Begin applications after transplants are set in field, or shortly after emergence of field-seeded crop, or when conditions favor disease development. Repeat at 7 to 10 day intervals or as necessary to maintain control.
		Ring spot	2¾ pints	
Carrot **15.0 lbs a.i./A** Chemigation OK	0	Cercospora (Early) blight, Alternaria (Late) blight	2¼ to 2¾ pints	Start applications when disease threatens and repeat at 7 to 10 day intervals or as necessary to maintain control.

Celery **18.0 lbs a.i./A** Chemigation OK	7	Cercospora (Early) blight, Septoria (Late) blight, Basal stalk rot *(Rhizoctonia solani)*	Start applications shortly after crop emergence or when transplants are set in the field. For the indicated rates, re-apply at: 1½ to 2-1/8 pints	3 to 5 day intervals
			3 to 4¼ pints	7 day intervals
Corn (sweet), Corn grown for seed **9.0 lbs a.i./A**	14	Helminthosporium leaf blights, Rust	1-1/8 to 2¾ pints	Begin applications when conditions favor disease development and repeat at 7 day intervals. Do not allow livestock to graze in treated fields. Do not ensile treated corn or use as livestock forage. Do not apply to sweet corn to be processed.
Cranberry **15.0 lbs a.i./A** Chemigation OK; solid set systems only	50	Upright dieback, Fruit rots, Lophodermium leaf & twig blight	6 to 10 pints	Apply at shoot emergence to early bloom and repeat at 10 to 14 day intervals. Under severe disease conditions use the high rate on a 10 day schedule. DO NOT apply to bogs when flooded or allow release of irrigation water from bogs for at least 3 days following application.
Cucurbits: Cucumber, Cantaloupe, Muskmelon, Honeydew melon, Watermelon, Squash, Pumpkin **15.75 lbs a.i./A** Chemigation OK	0	Anthracnose, Downy mildew, Target spot	2¼ to 2¾ pints	Begin applications when plants are in first true leaf stage or when conditions are favorable for disease development. Repeat applications at 7 day intervals. Under severe disease conditions, shorten spray interval. **Note:** Spraying mature watermelons may result in sunburn of the upper surface of the fruit. DO NOT apply ECHO to watermelons when any of the following conditions are present: 1. Intense heat and sunlight; 2. Drought conditions; 3. Poor vine canopy; 4. Other crop and environmental conditions which may be conducive to increased natural sunburn. DO NOT combine ECHO with anything except water for application to watermelons unless your prior use has shown the combination to be non-injurious to watermelons under your conditions of use.
		Cercospora leaf spot, Gummy stem blight (black rot), Alternaria leaf blight, Scab, Powdery mildew (Sphaerotheca only)	2¾ to 4¼ pints	

<table>
<tr><td rowspan="2">Grasses Grown for Seed

4.5 lbs a.i./A</td><td rowspan="2">14</td><td>Stem rust,
Leaf rust,
Stripe rust,
Septoria leaf spot,
Glume blotch,
Bipolaris and
Drechslera leaf spots</td><td>1½ to
2 pints</td><td rowspan="2">Begin applications during stem elongation when conditions favor disease development. Re-apply at flag (top) leaf emergence and repeat applications at 14 day intervals. DO NOT allow livestock to graze in treated areas. Do not feed straw, seed or seed screenings to livestock.</td></tr>
<tr><td>Selenophoma eyespot</td><td>1½ to
3 pints</td></tr>
<tr><td>Mint

3.0 lbs a.i./A</td><td>80</td><td>Rust,
Septoria leaf spot</td><td>2 pints</td><td>Begin applications when emerging plants are 4 to 8 inches high. Repeat applications at 7 to 10 day intervals or as necessary to maintain control. Based on available residue data, use of this product on mint is restricted to Indiana, Michigan and Wisconsin.</td></tr>
<tr><td>Mushroom beds</td><td>5

Do not apply after first break (harvest)</td><td>Verticillium brown spot and dry bubble</td><td>Rate per 1,000 sq. ft. of bed surface

4 to
8 fl. oz.</td><td>Apply as a drench to the mushroom bed surface in at least 12.5 gallons of water per 1,000 sq. ft. of bed surface. Make two applications. Apply the high rate in the first application and the low rate in the second application. The first application should be made within two days after top-dressing the spawn-colonized mushroom compost with a casing layer. The second application should be made at pinning. Make no more than two applications per cropping cycle. Do not apply more than 0.4 lbs active ingredient chlorothalonil per 1,000 sq. ft. per cropping cycle.</td></tr>
<tr><td rowspan="4">Onion (dry bulb), Garlic

15.0 lbs a.i./A</td><td rowspan="4">7</td><td rowspan="3">Botrytis leaf blight or blast,
Purple blotch</td><td rowspan="3">1½ to
3 pints</td><td>ECHO is recommended for use with disease monitoring systems which adjust fungicide rates and frequency of application according to disease hazard. Apply as follows:
<table><tr><td></td><td>Low Disease Hazard & Prior to Infection</td><td>Low Disease Hazard & Some Disease Present</td><td>High Disease Hazard</td></tr><tr><td>Rate per Acre:</td><td>1 ½ pints</td><td>2 pints</td><td>3 pints</td></tr><tr><td>Frequency:</td><td>10 days</td><td>7 to 10 days</td><td>7 days</td></tr></table></td></tr>
<tr><td></td></tr>
<tr><td></td></tr>
<tr><td>Neck rot</td><td>2 to
3 pints</td><td>For suppression of neck rot (Botrytis spp.) during storage, make a minimum of three weekly applications prior to lifting.</td></tr>
</table>

Onion (green bunching), Leek, Shallot, Onion grown for seed **6.7 lbs a.i./A**	14 (green onion, leek, shallot)	Botrytis leaf blight or blast, Purple blotch, Downy mildew (suppression)	2 to 4¼ pints	Begin applications prior to favorable infection periods, and repeat at 7 to 10 day intervals for as long as conditions favor disease. Use the high rate and a 7 day schedule of applications when heavy dew or rain persist. If additional disease control is needed before harvest, use another registered fungicide.
Parsnip **6.0 lbs a.i./A**	10	Alternaria leaf spot, Downy mildew, Anthracnose, Botrytis blight (gray mold), Bottom rot (Rhizoctonia)	2 to 3 pints	Make the first application at the first sign of disease or when conditions are favorable for infection. Continue applications on a 7 to 10 day schedule.
Peanut **9.0 lbs a.i./A** Chemigation OK	14	Early leafspot (Cercospora)	1½ to 2-1/8 pints	Apply in sufficient water for coverage when leaf wetness first occurs or 30 to 40 days after planting; repeat at 14 day intervals. Do not allow livestock to graze in treated areas. Do not feed hay or threshings from treated fields to livestock.
		Late leafspot (Cercosporidium), Rust, Web blotch	2-1/8 pints	
Potato **11.25 lbs a.i./A** Chemigation OK	7	Late blight, Early blight, Botrytis vine rot, Black dot	1 pint -- Then -- 1½ to 2-1/8 pints	Begin applications at the low rate when vines are first exposed and leaf wetness occurs. Repeat applications at 7 to 10 day intervals. Begin applying the higher label rates at 5 to 10 day intervals when any one of the following events occur: ▪ Vines close within the rows; ▪ Late blight forecasting measures 18 disease severity values (DSV); ▪ The crop reaches 300 P-days Increase water spray volume as canopy density increases. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe.

<table>
<tr><td rowspan="4">Soybean
4.5 lbs a.i./A
Chemigation OK</td><td rowspan="4">42</td><td rowspan="3">Anthracnose,
Diaporthe pod & stem blight,
Frogeye leaf spot
(Cercospora sojina),
Purple seed stain,
Cercospora leaf blight
(Cercospora kikuchii),
Septoria brown spot,
Rust (Phakopsora pachyrhizi)</td><td colspan="4">See tables below for rates and timing of applications. Use the three application program in areas having a history of moderate to severe disease intensity. Do not feed soybean hay or threshings from treated fields to livestock.</td></tr>
<tr><td></td><td></td><td>Determinate southern varieties</td><td>Indeterminate northern varieties</td></tr>
<tr><td>2 to
3½ pints</td><td>2-Application Program</td><td>Early pod set (R3)
Seed formation (R5)</td><td>Pods 1 – 1½ inches
Then 14 days later</td></tr>
<tr><td>1½ to
2¾ pints</td><td>3-Application Program</td><td>Early flowering (R1)
Early pod set (R3)
Seed formation (R5)</td><td>One week after first flowering, then at 14 day intervals</td></tr>
<tr><td>Stem canker (Diaporthe phaseolorum var. caulivora)</td><td>1½ pints</td><td colspan="4">Apply in 10 to 20 gallons of water per acre, as a band treatment directing spray to provide coverage of entire plant. Make the application at time of emergence of the second trifoliate leaves (V2). If conditions favor stem canker disease make a second and third application at 14 day intervals.</td></tr>
<tr><td rowspan="2">Tomato
15.1 lbs a.i./A
Chemigation OK; solid set or portable wheel move systems only</td><td rowspan="2">0</td><td>FOLIAGE (apply every 7-10 days):
Early blight,
Late blight,
Gray leaf spot,
Gray leaf mold,
Septoria leaf spot,
Target spot</td><td>2 to
3 pints</td><td colspan="4" rowspan="2">Begin applications when dew or rain occur and disease threatens. Use the highest rate and shortest interval specified when disease conditions are severe.

ECHO may be combined in the spray tank with EPA-registered pesticide products that claim copper as the active ingredient and are labeled for control of bacterial diseases of tomatoes. Check the copper manufacturer's label for specific instructions, precautions and limitations prior to mixing with ECHO.</td></tr>
<tr><td>FRUIT (apply every 7-14 days beginning at fruit set):
Anthracnose,
Alternaria fruit rot (black mold),
Botrytis gray mold,
Late blight fruit rot,
Rhizoctonia fruit rot</td><td>3 to
4 pints</td></tr>
</table>

TREE AND ORCHARD CROPS

Apply this product in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. Application with ground equipment is preferable to aerial application because ground applications generally give better coverage of the tree canopy. If application with ground equipment is not feasible, this product may be applied with aircraft using at least 20 gallons of spray per acre. When concentrate sprays are used or when treating non-bearing or immature trees, use the lower rate of this product listed for the crop being treated.

DO NOT allow livestock to graze in treated areas.
DO NOT apply Echo within one week before or after application of oil or an oil-based pesticide.

Crop	PHI (days)	Diseases	RATE PER Acre	Spray Volume (gallons/acre)	Application Directions
Blueberry **9.0 lbs a.i./A**	42	Mummy Berry, Anthracnose	4¼ to 5¾ pints	20 (concentrate) to 100 (full dilute)	Begin applications at budbreak (green tip). Repeat applications until early bloom at 10 day intervals. DO NOT apply after early bloom, otherwise phytotoxicity may occur to the developing fruit.
Filberts (Hazlenuts) **9.0 lbs a.i./A**	120	Eastern filbert blight	5¾ pints	20 (concentrate) to 400 (full dilute)	Begin applications at leaf bud break and repeat at 2 to 4 week intervals. Based on available residue data, use of this product on filberts is restricted to Oregon.
Mango **24.0 lbs a.i./A**	21	Anthracnose	3 to 5 pints	100 (full dilute)	Begin applications at early bloom and repeat at 7 to 14 day intervals until early fruit development. Use the high rate and apply weekly when conditions favor disease.
Papaya **6.75 lbs a.i./A**	14	Alternaria fruit spot, Anthracnose, Stem end rot	3 to 4 pints	20 (concentrate) to 150 (full dilute)	Apply with ground equipment only. Begin treatment when conditions favor development of disease and continue treatments at 14 day intervals until weather conditions no longer favor disease development.
Passion Fruit (Hawaii only) **7.5 lbs a.i./A**	7	Alternaria fruit and leaf spot (brown spot)	3 pints	20 (concentrate) to 100 (full dilute)	Apply with ground equipment in sufficient water to obtain adequate coverage of fruit and leaves. Begin applications before fruit spots appear (April to July) and re-apply at 14 day intervals until weather conditions no longer favor disease development.

Pistachio **22.5 lbs a.i./A**	14	Shoot & panicle blight, Blossom & shoot blight, Late blight, Leaf blight	8 ½ pints	50 (concentrate) to 200 (full dilute)	Apply when trees begin to blossom, then re-apply at full bloom for optimal protection against shoot and panicle blights. If conditions are favorable for late blight or leaf spot infections, repeat applications at 4 week intervals. Use the high rate when abnormally wet or cloudy weather conditions prevail. NOTE: Use of this product in the manner described may result in specking or reddening of the fruit hull (epicarp). This effect appears to be superficial, and has not resulted in any change in nut quality.
Stone Fruits: Peach, Nectarine, Apricot, Cherry, Plum, Prune **15.5 lbs a.i./A**	Do not apply after shuck split	Leaf curl	4½ to 6 pints	20 (concentrate) to 300 (full dilute)	For best control apply at leaf fall in late autumn, using sufficient water and proper sprayer calibration to obtain uniform coverage. When conditions favor high disease levels use the high rate and apply once or twice more in mid to late winter before budswell. If the leaf fall application is not practical, application of ECHO for control of leaf curl may be made at any time prior to budswell the following spring.
		Shothole, Brown rot blossom blight, Lacy (russet) scab on prune, Cherry leaf spot, Scab			Make one application at budbreak or popcorn (pink, red or early white bud). If weather conditions favor disease, make a second application 10 days later (full bloom to petal fall). Apply at shuck split to prevent infections on young fruit. If additional disease control is needed after shuck split and before harvest, use another registered fungicide. For control of cherry leaf spot after harvest, make one application to foliage within 7 days after fruit is removed. In orchards with a history of high leaf spot incidence, make a second application 10-14 days later.

Conifers **16.5 lbs a.i./A**	N/A	Swiss needlecast	4 to 8 pints	5 to 10 (concentrate ground or aircraft) to 100 (dilute)	Single application technique: In Christmas tree plantations make one application in the spring when new shoot growth is 1/2 to 2 inches in length.
		Scleroderris canker (pines), Swiss needlecast	2 to 4 pints		Make the first application in spring when new shoot growth is 1/2 to 2 inches in length. Make additional applications at 3 to 4 week intervals until conditions no longer favor disease development. For use in nursery beds, apply the highest rate specified on a 3 week schedule.
		Sirococcus tip blight	3 to 5 pints		
		Rhizosphaera needlecast (spruces), Scirrhia brown spot (pines)	8 pints		
		Cyclaneusma and Lophodermium needlecasts (pines)	4 to 8 pints		Apply in early spring prior to budbreak. Repeat applications at approximately 6 to 8 week intervals, until spore release ceases in late fall. Apply monthly during periods of frequent rainfall, and where Lophodermium infections occur during dormancy (Pacific Northwest). During drought periods, applications may be suspended, then resumed upon next occurrence of needle wetness.
		Rhabdocline needlecast (Douglas-fir)	2 to 4 pints		Apply at budbreak and repeat at 3 to 4 week intervals until needles are fully elongated and conditions no longer favor disease development. In plantations of mixed provenance, or when irregular budbreak occurs, apply weekly until all trees have broken bud, then every 3 to 4 weeks as specified above. In nursery beds, use the high rate on a 3 week schedule.
		Botrytis seedling blight, Phoma twig blight	4 pints		Begin applications in nursery beds when seedlings are 4 inches tall and when cool, moist conditions favor disease development. Make additional applications at 7 to 14 day intervals as long as disease favorable conditions persist.
		Autoecious needle rust (Weir's cushion rust) (spruces)	8 pints		Begin applications when 10% of buds have broken and repeat twice thereafter at 7-10 day intervals.
	Apply only to conifers in: conifer nursery beds, Christmas tree and bough production plantations, tree seed orchards and landscape situations. **Do not use on forests.**				

TURFGRASSES

Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, recreational park athletic fields, athletic fields located on or next to schools (ie., elementary, middle and high schools), campgrounds, churches, and theme parks. Sodfarm turf treated with chlorothalonil prior to harvest must be mechanically cut, rolled and harvested. Do not use for sodfarms at application rates greater than 13 pounds of active ingredient, per acre, per year. Do not apply more than the following totals of chlorothalonil active ingredient from all registered product sources to the indicated types of turfgrass:

TYPE OF TURFGRASS	TOTAL CHLOROTHALONIL ACTIVE INGREDIENT PER ACRE PER YEAR
Golf Course Greens	**73 lbs**
Golf Course Tees	**52 lbs**
Golf Course Fairways	**26 lbs**
Sod Farms	**13 lbs**
Other Turf	**26 lbs**

Apply ECHO in 90 to 450 gallons of water per acre on golf course greens and tees, and 30 to 100 gallons of water per acre on fairways, lawns and other turfgrass. Apply with ground equipment only.

Begin applications when conditions favor disease development and repeat applications as long as these conditions persist. Under severe disease conditions use the highest rate and shortest interval corresponding with the application schedule selected from the table below. DO NOT mow or irrigate after treatment until spray deposit on turfgrass is thoroughly dry. ECHO should always be used in conjunction with good turf management practices.

DISEASES* CONTROLLED	INTERVAL OF APPLICATION	GOLF COURSE GREENS & TEES RATE PER 1,000 SQ.FT.	GOLF COURSE FAIRWAYS, LAWNS & OTHER TURFGRASS RATE PER ACRE
1. Dollar spot 2. Brown patch 3. Leaf spot, Melting-out, Brown blight 4. Gray leaf spot	7-14 days	3 to 5 fluid ounces (4.1 to 7.3 lbs a.i./acre)	8 to 14 pints (4.1 to 7.3 lbs a.i./acre)
5. Red thread 6. Anthracnose 7. Copper spot 8. Stem rust (bluegrass) 9. Dichondra leaf spot	7 days or	5 fluid ounces (7.3 lbs a.i./acre) or	14 pints (7.3 lbs a.i./acre) or
	14 days	8 fluid ounces (11.3 lbs a.i./acre)	22 pints (11.3 lbs a.i./acre)

*Diseases listed are caused by fungi, some of which are named as follows:

1. Dollar spot: *Sclerotinia homeocarpa; Lanzia* or *Moellerodiscus* spp.
2. Brown patch: *Rhizoctonia solani, R. zeae, R. cerealis*
3. Leaf spots, Melting-out, Brown blight: *Drechslera spp.* (including *D. poae, D. siccans), Bipolaris sorokiniana, Curvularia spp.*
4. Gray leaf spot: *Pyricularia grisea, P. oryzae*
5. Red thread: *Laetisaria fuciformis*
6. Anthracnose: *Colletrotrichum graminicola*

7. Copper spot: *Gloeocercospora sorghi*
8. Stem rust: *Puccinia graminis*
9. Dichondra leaf spot: *Alternaria spp.*

Gray Snow Mold caused by Typhula spp.: Apply in sufficient water to obtain adequate coverage (2 to 10 gallons per 1,000 square feet). Apply 8 fluid ounces of ECHO Zn per 1,000 square feet of turf area (22 pints per acre). Application must be made before snow cover in autumn. If snow cover is intermittent or lacking during the winter, re-apply ECHO at monthly intervals until Gray Snow Mold conditions no longer prevail. In areas where Pink Snow Mold (Microdochium or Fusarium patch) is likely to occur, apply ECHO Zn at 8 fluid ounces in combination with products containing iprodione at 2 ounces active ingredient, per 1,000 square feet of turf area. Read and observe all label directions for products containing these active ingredients.

Fusarium (Microdochium) Patch: ECHO is effective against Fusarium patch only in areas where snow cover is intermittent or lacking during the winter. Apply 8 fluid ounces of ECHO Zn per 1,000 square feet of turf area. Begin applications in late autumn and re-apply at 21 to 28 day intervals until conditions favorable for Fusarium patch no longer prevail.

Algal scum: Apply ECHO Zn at 3 to 5 fluid ounces per 1,000 square feet on a 7 to 14 day schedule. When colonies of algae are well established, every attempt should be made to dry out the afflicted area. Once dry, spiking or verticutting should be done to enhance turfgrass recovery in conjunction with the use of ECHO. Several applications of ECHO at the high rate may be necessary for turfgrass recovery. When environmental conditions are favorable for algae growth, a preventive program with ECHO will suppress re-colonization of the turf.

ORNAMENTAL PLANTS

Apply ECHO Zn at a rate of 2 pints per 100 gallons of water unless other directions are given in the tables below. Apply enough diluted spray per acre to provide thorough coverage of all plant parts that are intended to be protected from disease, generally ranging from 20 to 150 gallons per acre. Repeat applications at 7 to 14 day intervals until conditions are no longer favorable for disease. During periods when conditions favor severe disease incidence, generally cloudy or wet weather, apply ECHO at 7 day intervals. **DO NOT apply more than a total of 36.4 lbs chlorothalonil active ingredient per acre per growing season on field-grown ornamentals.**

Fruits and other structures which may be borne on treated plants **MUST NOT BE EATEN**.

This product may be used in greenhouses. DO NOT use mistblowers or high pressure spray equipment when making applications of this product in greenhouses.

ECHO is recommended for control of fungal diseases referred to by numbers in parentheses following each type of ornamental plant. The user should test for possible phytotoxic responses, using recommended rates on each type of ornamental plant on a small area prior to widespread use. Applications made during bloom may damage flowers and/or fruits.

ORNAMENTALS RECOMMENDED FOR TREATMENT WITH ECHO

Broadleaf Shrubs and Trees	
Andromeda (*Pieris*) (4)	Holly (1)
Ash (*Fraxinus*) (1)	Lilac (5)
Aspen (1)	Magnolia (1)
Azalea (1,2,4)	Maple (1)
Buckeye, Horsechestnut (1)	Mountain laurel (1)
Camellia (2)	Oak (red group only) (1,7)
Cherry-laurel (1)	Oregon-grape (*Mahonia*) (6)
Crabapple (1,6)	Red-tip (*Photinia*) (1)
Dogwood (1)	Poplar (1)
Eucalyptus (3)	Privet (*Ligustrum*) (1)
Euonymus (1)	Rhododendron (1,2,4)
Firethorn (*Pyracantha*) (1)	Sand cherry (1,2)
Flowering almond (1,2)	Sequoia (1)
Flowering cherry (1,2)	Spirea (1)
Flowering peach (1,2)	Sycamore, Planetree (1)
Flowering plum (1,2)	Viburnum (5)
Flowering quince (1,2)	Walnut (*Juglans*) (1)
Hawthorn (1,6)	

Flowering[a] Plants and Bulbs	
Arabian violet (2)	Lily (1)
Begonia (1)	Marigold (1)
Carnation (1,2)	Narcissus (1)
Chrysanthemum (1,2)	Pansy (1)
Crocus (1)	Petunia (1,4)
Daffodil (1)	Phlox (1)
Daisy (1)	Poinsettia[b] (1)
Geranium (1,6)	Rose[c] (1)
Gladiolus (1,2)	Statice (1)
Hollyhock (6)	Tulip (1)
Hydrangea (foliage only) (1,6)	Zinnia (1,5)
Iris (1,2)	

a/ Avoid applications during bloom period on plants where flower injury is unacceptable.
b/ Discontinue applications prior to bract formation; phytotoxicity is possible on the bracts.
c/ Use 1½ pints of ECHO Zn per 100 gallons of water.

Foliage Plants	
Aglaonema (1)	Lipstick plant (1)
Areca palm (1)	Ming aralia (1)
Artemesia (1)	Oyster plant (*Rhoeo*) (1)
Boston fern (*Nephrolepis*) (1)	Pachysandra[d] (1)
Dracaena (1)	Parlor palm (*Chamaedorea*) (1)
Dumbcane (*Dieffenbachia*) (1)	Peperomia (1)
Fatsia (*Aralia*) (1)	Philodendron (1,4)
Ficus (1)	Prayer plant (*Maranta*) (1)
Florida ruffle fern (1)	Syngonium (1)
Leatherleaf fern (1)	Zebra plant (*Aphelandra*) (1)

d/ Use 4 pints of ECHO Zn per 100 gallons of water.

Diseases controlled with ECHO:

1. Leaf spots & Foliar Blights:	
Actinopelte leafspot Alternaria leafspot or leaf blight Anthracnose (*Gnomonia*,*Glomerella, Colletotrichum, Discula*) blights Black spot (*Diplocarpon*) Botrytis blights Cephalosporium leafspot Cercospora leafspot Cercosporidium leafspot Shothole (*Stigmina*) Corynespora stem & leafspots Curvularia leafspot Dactylaria leafspot Didymellina leafspot Drechslera (*Bipolaris*) leafspots, inkspot	Fabraea (Entomosporium) leafspot Fusarium (*Gibberella*) leafspot Gloeosporium black leafspot Marssonina leafspot Monilinia blossom blight, twig blight Mycosphaerella ray blight Myrothecium leafspot, brown rot Phyllosticta leafspot Ramularia leafspot Rhizoctonia web blight Scab (Venturia) Septoria leafspot Sphaeropsis leafspot Stagonospora leaf scorch Tan leafspot (*Curvularia*) Volutella leaf blight

2. Flower Spots & Blights:	
Botrytis flower spot, flower blight Curvularia flower spot Monilinia blossom blight	Ovulinia flower blight Rhizopus blossom blight Sclerotinia flower blight

3. Cylindrocladium stem canker

4. Phytophthora leaf blight, dieback

5. Powdery mildews:	
Erysiphe cichoracearum *Sphaerotheca fuliginea*	*Microsphaera* spp.

6. Rusts:	
Gymnosporangium spp. *Pucciniastrum hydrangeae*	*Puccinia* spp.

7. Taphrina blister

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: Store in a cool place. Protect from excessive heat.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal:

Non-Bulk Containers: Non-refillable Container. Do not use or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or, by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix taink, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container on its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Bulk Containers: Refillable Container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. When the container is empty, replace the cap and seal all openings that have been opened during use; and return to the point of purchase, or to a designated location named at the time of purchase of this product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged or leaking, call Chem-Trec. If the container is damaged and leaking or material has been spilled, follow these procedures:

- Cover spill with absorbent material.
- Sweep into disposal container.
- Wash area with detergent and water and follow with clean water rinse.
- Do not allow to contaminate water supplies.
- Dispose of according to instructions.

If not returned to the point of purchase or to a designated location, clean empty container as instructed above and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

WARRANTY AND LIMITATION OF DAMAGES

CONDITIONS OF SALE: To the extent consistent with applicable law, Sipcam Agro USA, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in accordance with the directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal use conditions, or under conditions not reasonably foreseeable to Sipcam Agro USA, Inc. **SIPCAM AGRO USA, INC. DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.** To the extent consistent with applicable law, **SIPCAM AGRO USA, INC. SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, AND SIPCAM AGRO USA, INC.'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE. BUYER AND USER ACKNOWLEDGE AND ASSUME ALL RISKS AND LIABILITY RESULTING FROM HANDLING, STORAGE AND USE OF THIS PRODUCT. SIPCAM AGRO USA, INC. DOES NOT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTY, GUARANTEE OR REPRESENTATION CONCERNING THIS PRODUCT.**

120112 Conifers

Echo® Zn

Agricultural Fungicide

Application Type
AG
Agricultural

Application Type
T/O
Turf & Ornamental

ACTIVE INGREDIENT:
Chlorothalonil (tetrachloroisophthalonitrile) 38.5%
OTHER INGREDIENTS: 61.5%
TOTAL: 100.0%
Contains 4.17 Pounds Chlorothalonil Per Gallon (500 grams per liter)

KEEP OUT OF REACH OF CHILDREN

WARNING - AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Have affected person sip a glass of water if able to swallow. • Do not induce vomiting unless told by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
EMERGENCY PHONE NUMBERS	(800) 858-7378 NPIC (human and animal health) (800) 424-9300 CHEMTREC (transportation and spills)
NOTES TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Persons having a temporary allergic reaction respond to treatment with antihistamines or steroid creams and/or systemic steroids.	

SEE INSIDE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

EPA REG. NO. 60063-4

EPA EST. NO. 70815-GA-001 (Lot No. begins with CB)
EPA EST. NO. 086555-MO-001 (Lot No. begins with AF)
EPA EST. NO. 070989-AR-001 (Lot No. begins with OS)

MANUFACTURED FOR SipcamAgro USA, Inc.
2525 Meridian Parkway, Suite 350, Durham, NC 27713

SipcamAdvan

9500300-000 EPA 021913 (10/13)

Net Contents 2.5 Gallons

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING - AVISO

May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Do not breathe spray mist. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

Personal Protective Equipment (PPE):

Mixers, loaders, applicators and all other handlers must wear:

- Long-sleeved shirt and long pants;
- Shoes plus socks;
- Protective eye wear;
- Chemical resistant gloves made of waterproof material (some of the materials that are chemical-resistant to this product are barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyethylene, polyvinyl chloride, or viton; If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart);
- A NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P, or HE prefilter.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them.

Engineering Controls:

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove contaminated clothing and wash clothing before reuse.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates and wildlife. DO NOT apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment washwater or rinsate.

Chlorothalonil can contaminate surface water through spray drift. DO NOT apply when weather conditions favor drift from treated areas. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Chlorothalonil degradates are known to leach through soil into ground water under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

DIRECTIONS FOR USE

Zinc is incorporated into this formulation as a micronutrient to provide plants with zinc required for growth.

General Precautions and Restrictions

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

DO NOT apply this product in a way that will contact workers or other persons, or pets, either directly or through drift. Only protected handlers may be in the area during applications. For any requirements specific to your State or Tribe, consult the Agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

DO NOT enter or allow worker entry into treated areas during the REI of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant gloves made of waterproof material, shoes plus socks, and protective eyewear.

Special Eye Irritation Provisions: This product is a severe eye irritant. Although the restricted-entry interval expires after 12 hours, for the next 61/2 days entry is permitted only when the following safety measures are provided:

At least one container designed specifically for flushing eyes must be available in operating condition at the WPS-required decontamination site intended for workers entering the treated area.

Workers must be informed, in a manner they can understand:

- that residues in the treated area may be highly irritating to their eyes;
- that they should take precautions, such as refraining from rubbing their eyes, to keep the residues out of their eyes;
- that if they do get residues in their eyes, they should immediately flush their eyes using the eyeflush container that is located at the decontamination site or using other readily available clean water; and
- how to operate the eyeflush container.

This product must not be applied within 150 feet (for aerial and air-blast applications), or 25 feet (for ground applications) from marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

AERIAL DRIFT ADVISORY INFORMATION

INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly, or under unfavorable conditions (see Wind, Temperature).

CONTROLLING DROPLET SIZE

- Volume- Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure- Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles- Use the minimum number of nozzles that provide uniform coverage.
- Nozzle orientation- Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle type- Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift potential.

BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

APPLICATION HEIGHT

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, small drops, etc.).

WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

INTEGRATED PEST MANAGEMENT

ECHO is an excellent disease control agent when used according to label directions for control of a broad spectrum of plant diseases. ECHO is recommended for use in programs that are compatible with the principles of Integrated Pest Management (IPM), including the use of disease resistant crop varieties, cultural practices, pest scouting and disease forecasting systems which reduce unnecessary applications of pesticides.

FUNGICIDE RESISTANCE MANAGEMENT

ECHO is effective for strategic use in programs that attempt to minimize disease resistance to fungicides. Some other fungicides which are at risk from disease resistance exhibit a single-site mode of fungicidal action. ECHO, with a multi-site mode of action, may be used to delay or prevent the development of resistance to single-site fungicides. Consult with your federal or state Cooperative Extension Service representatives for guidance on the proper use of ECHO in programs which seek to minimize the occurrence of disease resistance to other fungicides.

MIXING, LOADING AND APPLYING

ECHO is intended to be diluted into water, then applied to crops by typical agricultural spraying techniques. **Always apply ECHO in sufficient water to obtain thorough, uniform coverage of foliage and crop surfaces intended to be protected from disease.** Spray volume to be used will vary with crop and amount of plant growth. Spray volume should normally range from 20 to 150 gallons per acre (200 to 1400 liters per hectare) for dilute sprays and 5 to 10 gallons per acre (50 to 100 liters per hectare) for concentrate ground sprays and aircraft applications. Both ground and aircraft methods of application are recommended unless specific directions are given for a crop.

Slowly invert container several times to assure uniform mixture. Measure the required amount of ECHO and pour into the spray tank during filling. Keep agitator running when filling spray tank and during spray operations.

Do not use on greenhouse-grown crops except as directed in the Ornamental Plants section of this label.

TANK MIXING

When tank mixing this product with other pesticides observe the more restrictive label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing.

Do not combine ECHO in sprayer tank with pesticides, surfactants or fertilizers, unless your prior use has shown the combination physically compatible, effective and noninjurious under your conditions of use. Do not combine ECHO with Dipel 4L, Foil, Triton AG-98, Triton B-1956 or Latron B-1956, as phytotoxicity may result from the combination when applied to the crops on this label. DO NOT tank mix Echo with oil, or with any adjuvants which contain oil as their principal ingredient. When an adjuvant is to be used with this product, Sipcam Advan USA recommends the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant. Do not use with Copper-Count N in concentrated spray suspensions.

Dipel is a registered trademark of Abbott Laboratories;
Foil is a registered trademark of Ecogen, Inc.;
Latron and B-1956 are trademarks of Rohm and Haas Company;
Copper-Count is a registered trademark of Mineral Research and Development Corporation.

APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS (CHEMIGATION)

Application through sprinkler irrigation systems is recommended only for those specific crops for which the notation "chemigation OK" is listed on this label.

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set and portable (wheel move, side roll, end tow, or hand move) irrigation system(s). DO NOT apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

DO NOT apply this product through irrigation systems connected to a public water system. 'Public water system' means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

Controls for both irrigation water and pesticide injection systems must be functionally interlocked, so as to automatically terminate pesticide injection when the irrigation water pump motor stops. A person knowledgeable of the irrigation system and responsible for its operation shall be present so as to discontinue pesticide injection and make necessary adjustments, should the need arise.

The irrigation water pipeline must be fitted with a functional, automatic, quick-closing check valve to prevent the flow of treated irrigation water back toward the water source. The pipeline must also be fitted with a vacuum relief valve and low pressure drain, located between the irrigation water pump and the check valve, to prevent back-siphoning of treated irrigation water into the water source.

Always inject ECHO into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump.

Pesticide injection equipment must be fitted with a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump. Interlock this valve to the power system, so as to prevent fluid from being withdrawn from the chemical supply tank when the irrigation system is either automatically or manually turned off.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. DO NOT apply when wind speed favors drift beyond the area intended for treatment.

ECHO may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place, then refer to the appropriate directions provided for each type.

A. CENTER PIVOT, MOTORIZED LATERAL MOVE AND TRAVELING GUN IRRIGATION EQUIPMENT

For injection of pesticides, these continuously moving systems must use a metering pump, such as a positive displacement injection pump of either diaphragm or piston type, constructed of materials that are compatible with pesticides, fitted with a system interlock, and capable of injection at pressures approximately 2 to 3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems.

Fill chemical supply tank of injection equipment with water. Operate system for one complete revolution or run across the field, measuring time required, amount of water injected, and acreage covered. Thoroughly mix recommended amount of ECHO for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until ECHO has been cleared from last sprinkler head.

B. SOLID SET AND PORTABLE (WHEEL MOVE, SIDE ROLL, END TOW, OR HAND MOVE) IRRIGATION EQUIPMENT

With stationary systems, an effectively designed in-line venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides; however, a positive-displacement pump can also be used.

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of ECHO for acreage to be covered with water so that the total mixture of ECHO plus water in the injection tank is equal to the quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. No agitation should be required. ECHO can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until ECHO has been cleared from last sprinkler head.

APPLICATION RATES

Dosage rates on this label indicate pints of ECHO Zn per acre, unless otherwise stated. Under conditions favoring disease development, the high rate specified and shortest application interval should be used.

For each listed crop, the maximum total amount of chlorothalonil active ingredient (lbs a.i./A) which may be applied per acre of that crop (or crop group) during each growing season is given in bold print within a box beneath the crop name. For each crop use situation listed below, the listed maximum individual and seasonal application rates must not be exceeded and the listed minimum retreatment intervals must not be decreased.

FIELD AND ROW CROPS

CROP	PHI (DAYS)	DISEASES	RATE PER ACRE	APPLICATION DIRECTIONS
Asparagus **9.0 lbs a.i./A**	190 (120 in California)	Rust, Purple spot, Cercospora leaf blight	3 to 5¾ pints	Begin applications after harvest of spears, when conditions favor disease development on ferns, generally when leaf wetness occurs. Repeat applications at 2 to 4 week intervals until ferns are no longer productive. Use the high rate and shortest interval when conditions favor disease.
Bean (Snap) **9.0 lbs a.i./A**	7	Rust	2 to 4¼ pints	Begin applications during early bloom stage or when disease first threatens and repeat at 7 day intervals or as necessary to maintain control.
		Botrytis blight (gray mold)	4¼ pints	
Beans (Dry) **6.0 lbs a.i./A** Chemigation OK	14	Rust, Anthracnose, Downy mildew, Cercospora leaf spot (blackeye only), Ascochtyta blight	2 to 3 pints	Begin applications during early bloom stage and repeat at 7 to 10 day intervals. For use only on beans to be harvested dry with pods removed.
Cabbage, Chinese Cabbage (tight-headed varieties only), Cauliflower, Broccoli, Chinese Broccoli, Brussels Sprouts **12.0 lbs a.i./A**	7	Alternaria leaf spot, Downy mildew	2¼ pints	Begin applications after transplants are set in field, or shortly after emergence of field-seeded crop, or when conditions favor disease development. Repeat at 7 to 10 day intervals or as necessary to maintain control.
		Ring spot	2¾ pints	
Carrot **15.0 lbs a.i./A** Chemigation OK	0	Cercospora (Early) blight, Alternaria (Late) blight	2¼ to 2¾ pints	Start applications when disease threatens and repeat at 7 to 10 day intervals or as necessary to maintain control.
Celery **18.0 lbs a.i./A** Chemigation OK	7	Cercospora (Early) blight, Septoria (Late) blight, Basal stalk rot *(Rhizoctonia solani)*	Start applications shortly after crop emergence or when transplants are set in the field. For the indicated rates, re-apply at:	
			1½ to 2⅛ pints	3 to 5 day intervals
			3 to 4¼ pints	7 day intervals
Corn (sweet), Corn grown for seed **9.0 lbs a.i./A**	14	Helminthosporium leaf blights, Rust	1⅛ to 2¾ pints	Begin applications when conditions favor disease development and repeat at 7 day intervals. Do not allow livestock to graze in treated fields. Do not ensile treated corn or use as livestock forage. Do not apply to sweet corn to be processed.

(continued)

FIELD AND ROW CROPS *(continued)*

CROP	PHI (DAYS)	DISEASES	RATE PER ACRE	APPLICATION DIRECTIONS
Cranberry **15.0 lbs a.i./A** Chemigation OK; solid set systems only	50	Upright dieback, Fruit rots, Lophodermium leaf & twig blight	6 to 10 pints	Apply at shoot emergence to early bloom and repeat at 10 to 14 day intervals. Under severe disease conditions use the high rate on a 10 day schedule. DO NOT apply to bogs when flooded or allow release of irrigation water from bogs for at least 3 days following application.
Cucurbits: Cucumber, Cantaloupe, Muskmelon, Honeydew melon, Watermelon, Squash, Pumpkin **15.75 lbs a.i./A** Chemigation OK	0	Anthracnose, Downy mildew, Target spot	2¼ to 2¾ pints	Begin applications when plants are in first true leaf stage or when conditions are favorable for disease development. Repeat applications at 7 day intervals. Under severe disease conditions, shorten spray interval. **Note:** Spraying mature watermelons may result in sunburn of the upper surface of the fruit. DO NOT apply ECHO to watermelons when any of the following conditions are present: 1. Intense heat and sunlight; 2. Drought conditions; 3. Poor vine canopy; 4. Other crop and environmental conditions which may be conducive to increased natural sunburn. DO NOT combine ECHO with anything except water for application to watermelons unless your prior use has shown the combination to be non-injurious to watermelons under your conditions of use.
		Cercospora leaf spot, Gummy stem blight (black rot), Alternaria leaf blight, Scab, Powdery mildew (Sphaerotheca only)	2¾ to 4¼ pints	
Grasses Grown for Seed **4.5 lbs a.i./A**	14	Stem rust, Leaf rust, Stripe rust, Septoria leaf spot, Glume blotch, Bipolaris and Drechslera leaf spots	1½ to 2 pints	Begin applications during stem elongation when conditions favor disease development. Re-apply at flag (top) leaf emergence and repeat applications at 14 day intervals. DO NOT allow livestock to graze in treated areas. Do not feed straw, seed or seed screenings to livestock.
		Selenophoma eyespot	1½ to 3 pints	
Mint **3.0 lbs a.i./A**	80	Rust, Septoria leaf spot	2 pints	Begin applications when emerging plants are 4 to 8 inches high. Repeat applications at 7 to 10 day intervals or as necessary to maintain control. Based on available residue data, use of this product on mint is restricted to Indiana, Michigan and Wisconsin.
Mushroom beds	5 Do not apply after first break (harvest)	Verticillium brown spot and dry bubble	Rate per 1,000 sq. ft. of bed surface 4 to 8 fl. oz.	Apply as a drench to the mushroom bed surface in at least 12.5 gallons of water per 1,000 sq. ft. of bed surface. Make two applications. Apply the high rate in the first application and the low rate in the second application. The first application should be made within two days after top-dressing the spawn-colonized mushroom compost with a casing layer. The second application should be made at pinning. Make no more than two applications per cropping cycle. Do not apply more than 0.4 lbs active ingredient chlorothalonil per 1,000 sq. ft. per cropping cycle.

(continued)

FIELD AND ROW CROPS *(continued)*

<table>
<tr><th>CROP</th><th>PHI (DAYS)</th><th>DISEASES</th><th>RATE PER ACRE</th><th>APPLICATION DIRECTIONS</th></tr>
<tr><td rowspan="5">Onion (dry bulb),
Garlic
15.0 lbs a.i./A</td><td rowspan="5">7</td><td rowspan="4">Botrytis leaf blight or blast,
Purple blotch</td><td rowspan="4">1½ to
3 pints</td><td>ECHO is recommended for use with disease monitoring systems which adjust fungicide rates and frequency of application according to disease hazard. Apply as follows:</td></tr>
<tr><td><table>
<tr><td></td><td>Low Disease Hazard & Prior to Infection</td><td>Low Disease Hazard & Some Disease Present</td><td>High Disease Hazard</td></tr>
<tr><td>Rate per Acre:</td><td>1½ pints</td><td>2 pints</td><td>3 pints</td></tr>
<tr><td>Frequency:</td><td>10 days</td><td>7 to 10 days</td><td>7 days</td></tr>
</table></td></tr>
<tr><td>Neck rot</td><td>2 to
3 pints</td><td>For suppression of neck rot (Botrytis spp.) during storage, make a minimum of three weekly applications prior to lifting.</td></tr>
<tr><td>Onion (green bunching),
Leek,
Shallot,
Onion grown for seed
6.7 lbs a.i./A</td><td>14
(green onion, leek, shallot)</td><td>Botrytis leaf blight or blast,
Purple blotch,
Downy mildew (suppression)</td><td>2 to
4¼ pints</td><td>Begin applications prior to favorable infection periods, and repeat at 7 to 10 day intervals for as long as conditions favor disease. Use the high rate and a 7 day schedule of applications when heavy dew or rain persist. If additional disease control is needed before harvest, use another registered fungicide.</td></tr>
<tr><td>Parsnip
6.0 lbs a.i./A</td><td>10</td><td>Alternaria leaf spot,
Downy mildew,
Anthracnose,
Botrytis blight (gray mold),
Bottom rot (Rhizoctonia)</td><td>2 to
3 pints</td><td>Make the first application at the first sign of disease or when conditions are favorable for infection. Continue applications on a 7 to 10 day schedule.</td></tr>
<tr><td rowspan="2">Peanut
9.0 lbs a.i./A
Chemigation OK</td><td rowspan="2">14</td><td>Early leafspot (Cercospora)</td><td>1½ to
2⅛ pints</td><td rowspan="2">Apply in sufficient water for coverage when leaf wetness first occurs or 30 to 40 days after planting; repeat at 14 day intervals. Do not allow livestock to graze in treated areas. Do not feed hay or threshings from treated fields to livestock.</td></tr>
<tr><td>Late leafspot (Cercosporidium),
Rust,
Web blotch</td><td>2⅛ pints</td></tr>
<tr><td>Potato
11.25 lbs a.i./A
Chemigation OK</td><td>7</td><td>Late blight,
Early blight,
Botrytis vine rot,
Black dot</td><td>1 pint
— Then —
1½ to
2⅛ pints</td><td>Begin applications at the low rate when vines are first exposed and leaf wetness occurs. Repeat applications at 7 to 10 day intervals. Begin applying the higher label rates at 5 to 10 day intervals when any one of the following events occur:
• Vines close within the rows;
• Late blight forecasting measures 18 disease severity values (DSV);
• The crop reaches 300 P-days
Increase water spray volume as canopy density increases. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe.</td></tr>
</table>

(continued)

FIELD AND ROW CROPS *(continued)*

CROP	PHI (DAYS)	DISEASES	RATE PER ACRE	APPLICATION DIRECTIONS		
Soybean **4.5 lbs a.i./A** Chemigation OK	42	Anthracnose, Diaporthe pod & stem blight, Frogeye leaf spot (Cercospora sojina), Purple seed stain, Cercospora leaf blight (Cercospora kikuchii), Septoria brown spot, Rust (Phakopsora pachyrhizi)	See tables below for rates and timing of applications. Use the three application program in areas having a history of moderate to severe disease intensity. Do not feed soybean hay or threshings from treated fields to livestock.			
					Determinate southern varieties	Indeterminate northern varieties
			2 to 3½ pints	2-Application Program	Early pod set (R3) Seed formation (R5)	Pods 1 - 1½ inches Then 14 days later
			1½ to 2¾ pints	3-Application Program	Early flowering (R1) Early pod set (R3) Seed formation (R5)	One week after first flowering, then at 14 day intervals
		Stem canker (Diaporthe phaseolorum var. caulivora)	1½ pints	Apply in 10 to 20 gallons of water per acre, as a band treatment directing spray to provide coverage of entire plant. Make the application at time of emergence of the second trifoliate leaves (V2). If conditions favor stem canker disease make a second and third application at 14 day intervals.		
Tomato **15.1 lbs a.i./A** Chemigation OK; solid set or portable wheel move systems only	0	FOLIAGE (apply every 7-10 days): Early blight, Late blight, Gray leaf spot, Gray leaf mold, Septoria leaf spot, Target spot	2 to 3 pints	Begin applications when dew or rain occur and disease threatens. Use the highest rate and shortest interval specified when disease conditions are severe. ECHO may be combined in the spray tank with EPA-registered pesticide products that claim copper as the active ingredient and are labeled for control of bacterial diseases of tomatoes. Check the copper manufacturer's label for specific instructions, precautions and limitations prior to mixing with ECHO.		
		FRUIT (apply every 7-14 days beginning at fruit set): Anthracnose, Alternaria fruit rot (black mold), Botrytis gray mold, Late blight fruit rot, Rhizoctonia fruit rot	3 to 4 pints			

TREE AND ORCHARD CROPS

Apply this product in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. Application with ground equipment is preferable to aerial application because ground applications generally give better coverage of the tree canopy. If application with ground equipment is not feasible, this product may be applied with aircraft using at least 20 gallons of spray per acre. When concentrate sprays are used or when treating non-bearing or immature trees, use the lower rate of this product listed for the crop being treated.

DO NOT allow livestock to graze in treated areas.

DO NOT apply Echo within one week before or after application of oil or an oil-based pesticide.

CROP	PHI (DAYS)	DISEASES	RATE PER ACRE	SPRAY VOLUME (GALLONS/ACRE)	APPLICATION DIRECTIONS
Blueberry **9.0 lbs a.i./A**	42	Mummy Berry, Anthracnose	4¼ to 5¾ pints	20 (concentrate) to 100 (full dilute)	Begin applications at budbreak (green tip). Repeat applications until early bloom at 10 day intervals. DO NOT apply after early bloom, otherwise phytotoxicity may occur to the developing fruit.

(continued)

TREE AND ORCHARD CROPS *(continued)*

CROP	PHI (DAYS)	DISEASES	RATE PER ACRE	SPRAY VOLUME (GALLONS/ACRE)	APPLICATION DIRECTIONS
Filberts (Hazlenuts) **9.0 lbs a.i./A**	120	Eastern filbert blight	5¾ pints	20 (concentrate) to 400 (full dilute)	Begin applications at leaf bud break and repeat at 2 to 4 week intervals. Based on available residue data, use of this product on filberts is restricted to Oregon.
Mango **24.0 lbs a.i./A**	21	Anthracnose	3 to 5 pints	100 (full dilute)	Begin applications at early bloom and repeat at 7 to 14 day intervals until early fruit development. Use the high rate and apply weekly when conditions favor disease.
Papaya **6.75 lbs a.i./A**	14	Alternaria fruit spot, Anthracnose, Stem end rot	3 to 4 pints	20 (concentrate) to 150 (full dilute)	Apply with ground equipment only. Begin treatment when conditions favor development of disease and continue treatments at 14 day intervals until weather conditions no longer favor disease development.
Passion Fruit (Hawaii only) **7.5 lbs a.i./A**	7	Alternaria fruit and leaf spot (brown spot)	3 pints	20 (concentrate) to 100 (full dilute)	Apply with ground equipment in sufficient water to obtain adequate coverage of fruit and leaves. Begin applications before fruit spots appear (April to July) and re-apply at 14 day intervals until weather conditions no longer favor disease development.
Pistachio **22.5 lbs a.i./A**	14	Shoot & panicle blight, Blossom & shoot blight, Late blight, Leaf blight	8½ pints	50 (concentrate) to 200 (full dilute)	Apply when trees begin to blossom, then re-apply at full bloom for optimal protection against shoot and panicle blights. If conditions are favorable for late blight or leaf spot infections, repeat applications at 4 week intervals. Use the high rate when abnormally wet or cloudy weather conditions prevail. NOTE: Use of this product in the manner described may result in specking or reddening of the fruit hull (epicarp). This effect appears to be superficial, and has not resulted in any change in nut quality.
Stone Fruits: Peach, Nectarine, Apricot, Cherry, Plum, Prune **15.5 lbs a.i./A**	Do not apply after shuck split	Leaf curl	4½ to 6 pints	20 (concentrate) to 300 (full dilute)	For best control apply at leaf fall in late autumn, using sufficient water and proper sprayer calibration to obtain uniform coverage. When conditions favor high disease levels use the high rate and apply once or twice more in mid to late winter before budswell. If the leaf fall application is not practical, application of ECHO for control of leaf curl may be made at any time prior to budswell the following spring.

(continued)

TREE AND ORCHARD CROPS *(continued)*

CROP	PHI (DAYS)	DISEASES	RATE PER ACRE	SPRAY VOLUME (GALLONS/ACRE)	APPLICATION DIRECTIONS
Stone Fruits *(continued)*: Peach, Nectarine, Apricot, Cherry, Plum, Prune **15.5 lbs a.i./A**	Do not apply after shuck split	Shothole, Brown rot blossom blight, Lacy (russet) scab on prune, Cherry leaf spot, Scab	4½ to 6 pints	20 (concentrate) to 300 (full dilute)	Make one application at budbreak or popcorn (pink, red or early white bud). If weather conditions favor disease, make a second application 10 days later (full bloom to petal fall). Apply at shuck split to prevent infections on young fruit. If additional disease control is needed after shuck split and before harvest, use another registered fungicide. For control of cherry leaf spot after harvest, make one application to foliage within 7 days after fruit is removed. In orchards with a history of high leaf spot incidence, make a second application 10-14 days later.
Conifers **16.5 lbs a.i./A**	N/A	Swiss needlecast	4 to 8 pints	5 to 10 (concentrate ground or aircraft) to 100 (dilute)	Single application technique: In Christmas tree plantations make one application in the spring when new shoot growth is 1/2 to 2 inches in length.
		Scleroderris canker (pines), Swiss needlecast	2 to 4 pints		Make the first application in spring when new shoot growth is 1/2 to 2 inches in length. Make additional applications at 3 to 4 week intervals until conditions no longer favor disease development. For use in nursery beds, apply the highest rate specified on a 3 week schedule.
		Sirococcus tip blight	3 to 5 pints		
		Rhizosphaera needlecast (spruces), Scirrhia brown spot (pines)	8 pints		
		Cyclaneusma and Lophodermium needlecasts (pines)	4 to 8 pints		Apply in early spring prior to budbreak. Repeat applications at approximately 6 to 8 week intervals, until spore release ceases in late fall. Apply monthly during periods of frequent rainfall, and where Lophodermium infections occur during dormancy (Pacific Northwest). During drought periods, applications may be suspended, then resumed upon next occurrence of needle wetness.
		Rhabdocline needlecast (Douglas-fir)	2 to 4 pints		Apply at budbreak and repeat at 3 to 4 week intervals until needles are fully elongated and conditions no longer favor disease development. In plantations of mixed provenance, or when irregular budbreak occurs, apply weekly until all trees have broken bud, then every 3 to 4 weeks as specified above. In nursery beds, use the high rate on a 3 week schedule.

(continued)

TREE AND ORCHARD CROPS *(continued)*

CROP	PHI (DAYS)	DISEASES	RATE PER ACRE	SPRAY VOLUME (GALLONS/ACRE)	APPLICATION DIRECTIONS
Conifers *(continued)* **16.5 lbs a.i./A**	N/A	Botrytis seedling blight, Phoma twig blight	4 pints	5 to 10 (concentrate ground or aircraft) to 100 (dilute)	Begin applications in nursery beds when seedlings are 4 inches tall and when cool, moist conditions favor disease development. Make additional applications at 7 to 14 day intervals as long as disease favorable conditions persist.
		Autoecious needle rust (Weir's cushion rust) (spruces)	8 pints		Begin applications when 10% of buds have broken and repeat twice thereafter at 7-10 day intervals.
	Apply only to conifers in: conifer nursery beds, Christmas tree and bough production plantations, tree seed orchards and landscape situations. **Do not use on forests.**				

TURFGRASSES

Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, recreational park athletic fields, athletic fields located on or next to schools (ie., elementary, middle and high schools), campgrounds, churches, and theme parks. Sodfarm turf treated with chlorothalonil prior to harvest must be mechanically cut, rolled and harvested. Do not use for sodfarms at application rates greater than 13 pounds of active ingredient, per acre, per year. Do not apply more than the following totals of chlorothalonil active ingredient from all registered product sources to the indicated types of turfgrass:

TYPE OF TURFGRASS	TOTAL CHLOROTHALONIL ACTIVE INGREDIENT PER ACRE PER YEAR
Golf Course Greens	**73 lbs**
Golf Course Tees	**52 lbs**
Golf Course Fairways	**26 lbs**
Sod Farms	**13 lbs**
Other Turf	**26 lbs**

Apply ECHO in 90 to 450 gallons of water per acre on golf course greens and tees, and 30 to 100 gallons of water per acre on fairways, lawns, and other turfgrass. Apply with ground equipment only.

Begin applications when conditions favor disease development and repeat applications as long as these conditions persist. Under severe disease conditions use the highest rate and shortest interval corresponding with the application schedule selected from the table below. DO NOT mow or irrigate after treatment until spray deposit on turfgrass is thoroughly dry. ECHO should always be used in conjunction with good turf management practices.

DISEASES* CONTROLLED	INTERVAL OF APPLICATION	GOLF COURSE GREENS & TEES RATE PER 1,000 SQ.FT.	GOLF COURSE FAIRWAYS, LAWNS & OTHER TURFGRASS RATE PER ACRE
1. Dollar spot 2. Brown patch 3. Leaf spot, Melting-out, Brown blight 4. Gray leaf spot	7-14 days	3 to 5 fluid ounces (4.1 to 7.3 lbs a.i./acre)	8 to 14 pints (4.1 to 7.3 lbs a.i./acre)
5. Red thread 6. Anthracnose 7. Copper spot 8. Stem rust (bluegrass) 9. Dichondra leaf spot	7 days or	5 fluid ounces (7.3 lbs a.i./acre) or	14 pints (7.3 lbs a.i./acre) or
	14 days	8 fluid ounces (11.3 lbs a.i./acre)	22 pints (11.3 lbs a.i./acre)

*Diseases listed are caused by fungi, some of which are named as follows:
1. Dollar spot: *Sclerotinia homeocarpa*; *Lanzia* or *Moellerodiscus spp*.
2. Brown patch: *Rhizoctonia solani*, *R. zeae*, *R. cerealis*
3. Leaf spots, Melting-out, Brown blight: *Drechslera spp.* (including *D. poae, D. siccans*), *Bipolaris sorokiniana*, *Curvularia spp.*
4. Gray leaf spot: *Pyricularia grisea*, *P. oryzae*
5. Red thread: *Laetisaria fuciformis*
6. Anthracnose: *Colletrotrichum graminicola*
7. Copper spot: *Gloeocercospora sorghi*
8. Stem rust: *Puccinia graminis*
9. Dichondra leaf spot: *Alternaria spp*.

Gray Snow Mold caused by Typhula spp.: Apply in sufficient water to obtain adequate coverage (2 to 10 gallons per 1,000 square feet). Apply 8 fluid ounces of ECHO Zn per 1,000 square feet of turf area (22 pints per acre). Application must be made before snow cover in autumn. If snow cover is intermittent or lacking during the winter, re-apply ECHO at monthly intervals until Gray Snow Mold conditions no longer prevail. In areas where Pink Snow Mold (Microdochium or Fusarium patch) is likely to occur, apply ECHO Zn at 8 fluid ounces in combination with products containing iprodione at 2 ounces active ingredient, per 1,000 square feet of turf area. Read and observe all label directions for products containing these active ingredients.

Fusarium (Microdochium) Patch: ECHO is effective against Fusarium patch only in areas where snow cover is intermittent or lacking during the winter. Apply 8 fluid ounces of ECHO Zn per 1,000 square feet of turf area. Begin applications in late autumn and re-apply at 21 to 28 day intervals until conditions favorable for Fusarium patch no longer prevail.

Algal scum: Apply ECHO Zn at 3 to 5 fluid ounces per 1,000 square feet on a 7 to 14 day schedule. When colonies of algae are well established, every attempt should be made to dry out the afflicted area. Once dry, spiking or verticutting should be done to enhance turfgrass recovery in conjunction with the use of ECHO. Several applications of ECHO at the high rate may be necessary for turfgrass recovery. When environmental conditions are favorable for algae growth, a preventive program with ECHO will suppress re-colonization of the turf.

ORNAMENTAL PLANTS

Apply ECHO Zn at a rate of 2 pints per 100 gallons of water unless other directions are given in the tables below. Apply enough diluted spray per acre to provide thorough coverage of all plant parts that are intended to be protected from disease, generally ranging from 20 to 150 gallons per acre. Repeat applications at 7 to 14 day intervals until conditions are no longer favorable for disease. During periods when conditions favor severe disease incidence, generally cloudy or wet weather, apply ECHO at 7 day intervals. **DO NOT apply more than a total of 36.4 lbs chlorothalonil active ingredient per acre per growing season on field-grown ornamentals.**

Fruits and other structures which may be borne on treated plants **MUST NOT BE EATEN.**

This product may be used in greenhouses. DO NOT use mistblowers or high pressure spray equipment when making applications of this product in greenhouses.

ECHO is recommended for control of fungal diseases referred to by numbers in parentheses following each type of ornamental plant. The user should test for possible phytotoxic responses, using recommended rates on each type of ornamental plant on a small area prior to widespread use. Applications made during bloom may damage flowers and/or fruits.

ORNAMENTALS RECOMMENDED FOR TREATMENT WITH ECHO ZN

Broadleaf Shrubs and Trees

Andromeda (*Pieris*) (4)
Ash (*Fraxinus*) (1)
Aspen (1)
Azalea (1,2,4)
Buckeye, Horsechestnut (1)
Camellia (2)
Cherry-laurel (1)
Crabapple (1,6)
Dogwood (1)
Eucalyptus (3)
Euonymus (1)
Firethorn (*Pyracantha*) (1)
Flowering almond (1,2)
Flowering cherry (1,2)
Flowering peach (1,2)
Flowering plum (1,2)
Flowering quince (1,2)
Hawthorn (1,6)
Holly (1)
Lilac (5)
Magnolia (1)
Maple (1)
Mountain laurel (1)
Oak (red group only) (1,7)
Oregon-grape (*Mahonia*) (6)
Red-tip (*Photinia*) (1)
Poplar (1)
Privet (*Ligustrum*) (1)
Rhododendron (1,2,4)
Sand cherry (1,2)
Sequoia (1)
Spirea (1)
Sycamore, Planetree (1)
Viburnum (5)
Walnut (*Juglans*) (1)

Flowering[a] Plants and Bulbs

Arabian violet (2)
Begonia (1)
Carnation (1,2)
Chrysanthemum (1,2)
Crocus (1)
Daffodil (1)
Daisy (1)
Geranium (1,6)
Gladiolus (1,2)
Hollyhock (6)
Hydrangea (foliage only) (1,6)
Iris (1,2)
Lily (1)
Marigold (1)
Narcissus (1)
Pansy (1)
Petunia (1,4)
Phlox (1)
Poinsettia[b] (1)
Rose[c] (1)
Statice (1)
Tulip (1)
Zinnia (1,5)

a/ Avoid applications during bloom period on plants where flower injury is unacceptable.
b/ Discontinue applications prior to bract formation; phytotoxicity is possible on the bracts.
c/ Use 1 1/2 pints of ECHO Zn per 100 gallons of water.

Foliage Plants

Aglaonema (1)
Areca palm (1)
Artemesia (1)
Boston fern (*Nephrolepis*) (1)
Dracaena (1)
Dumbcane (*Dieffenbachia*) (1)
Fatsia (*Aralia*) (1)
Ficus (1)
Florida ruffle fern (1)
Leatherleaf fern (1)
Lipstick plant (1)
Ming aralia (1)
Oyster plant (*Rhoeo*) (1)
Pachysandra[d] (1)
Parlor palm (*Chamaedorea*) (1)
Peperomia (1)
Philodendron (1,4)
Prayer plant (*Maranta*) (1)
Syngonium (1)
Zebra plant (*Aphelandra*) (1)

d/ Use 4 pints of ECHO Zn per 100 gallons of water.

DISEASES CONTROLLED WITH ECHO ZN:

1. Leafspots & Foliar Blights:	
Actinopelte leafspot Alternaria leafspot or leaf blight Anthracnose (*Gnomonia,Glomerella, Colletotrichum, Discula*) blights Black spot (*Diplocarpon*) Botrytis blights Cephalosporium leafspot Cercospora leafspot Cercosporidium leafspot Shothole (*Stigmina*) Corynespora stem & leafspots Curvularia leafspot Dactylaria leafspot Didymellina leafspot Drechslera (*Bipolaris*) leafspots, inkspot Fabraea (Entomosporium) leafspot	Fusarium (*Gibberella*) leafspot Gloeosporium black leafspot Marssonina leafspot Monilinia blossom blight, twig blight Mycosphaerella ray blight Myrothecium leafspot, brown rot Phyllosticta leafspot Ramularia leafspot Rhizoctonia web blight Scab (Venturia) Septoria leafspot Sphaeropsis leafspot Stagonospora leaf scorch Tan leafspot (*Curvularia*) Volutella leaf blight

2. Flower Spots & Blights:	
Botrytis flower spot, flower blight Curvularia flower spot Monilinia blossom blight	Ovulinia flower blight Rhizopus blossom blight Sclerotinia flower blight

3. Cylindrocladium stem canker

4. Phytophthora leaf blight, dieback

5. Powdery mildews:	
Erysiphe cichoracearum *Sphaerotheca fuliginea*	*Microsphaera spp.*

6. Rusts:	
Gymnosporangium spp. *Pucciniastrum hydrangeae*	*Puccinia spp.*

7. Taphrina blister

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: Store in a cool place. Protect from excessive heat.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Non-refillable Container. Do not use or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or, by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix taink, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

WARRANTY AND LIMITATION OF DAMAGES

CONDITIONS OF SALE: To the extent consistent with applicable law, Sipcam Agro USA, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in accordance with the directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal use conditions, or under conditions not reasonably foreseeable to Sipcam Agro USA, Inc.. **SIPCAM AGRO USA, INC. DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. To the extent consistent with applicable law, SIPCAM AGRO USA, INC. SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, AND SIPCAM AGRO USA, INC.'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE. BUYER AND USER ACKNOWLEDGE AND ASSUME ALL RISKS AND LIABILITY RESULTING FROM HANDLING, STORAGE AND USE OF THIS PRODUCT. SIPCAM AGRO USA, INC. DOES NOT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTY, GUARANTEE OR REPRESENTATION CONCERNING THIS PRODUCT.**

Echo® ZN Agricultural Fungicide

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Date of issue: 05/26/2015 Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Echo® ZN Agricultural Fungicide

Synonyms: Tetrachloroisophthalonitrile, Chlorothalonil

Other means of identification: EPA Reg. No. 60063-4

1.2. Intended Use of the Product

Use of the substance/mixture: Fungicide

1.3. Name, Address, and Telephone of the Responsible Party

Manufacturer

Sipcam Agro USA, Inc.
2525 Meridian Parkway, Suite 350
Durham, NC 27713
T 919-226-1195

1.4. Emergency Telephone Number

Emergency Number : (800) 424-9300 CHEMTREC (transportation and spills) (800) 900-4044 Poison Control Center (human health) (800) 345-4735 ASPCA (animal health)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox. 2 (Inhalation:dust,mist)	H330
Eye Irrit. 2B	H320
Carc. 2	H351
Aquatic Acute 1	H400
Aquatic Chronic 2	H411

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS06 GHS08 GHS09

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H320 - Causes eye irritation.
H330 - Fatal if inhaled.
H351 - Suspected of causing cancer.
H400 - Very toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements (GHS-US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash ... thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective gloves.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a poison center/doctor
P320 - Specific treatment is urgent (see Section 4 on this label).
P337+P313 - If eye irritation persists: Get medical advice/attention.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

No additional information available

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Chlorothalonil	(CAS No) 1897-45-6	38.5	Acute Tox. 1 (Inhalation:dust,mist), H330 Eye Irrit. 2B, H320 Carc. 2, H351 Aquatic Acute 1, H400
Zinc oxide	(CAS No) 1314-13-2	<10	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Propylene glycol	(CAS No.) 57-55-6	≤5	Not Classified

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area.
First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.
First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: May cause cancer. Fatal if inhaled. Causes eye irritation. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
Symptoms/Injuries After Inhalation: Inhalation of vapors may cause respiratory irritation.
Symptoms/Injuries After Skin Contact: May cause skin irritation.
Symptoms/Injuries After Eye Contact: Causes eye irritation.
Symptoms/Injuries After Ingestion: May be harmful if swallowed.
Chronic Symptoms: May cause cancer.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Alcohol foam, carbon dioxide, dry chemical, water spray, fog. Use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses. De-contaminate equipment or materials involved in pesticide fires.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Collect spillage. Clear up spills immediately and dispose of waste safely.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers.

Storage Area: Store locked up.

7.3. Specific End Use(s) Fungicide

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Zinc oxide (1314-13-2)		
USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³ (respirable fraction)
USA ACGIH	ACGIH STEL (mg/m³)	10 mg/m³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	5 mg/m³ (dust and fume)
USA NIOSH	NIOSH REL (STEL) (mg/m³)	10 mg/m³ (fume)
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	15 mg/m³ (dust)
USA IDLH	US IDLH (mg/m³)	500 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³ (fume) 15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
Propylene glycol (57-55-6)		
AIHA	AIHA TWA (mg/m³)	10 mg/m³

8.2. Exposure Controls

Appropriate Engineering Controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment : Protective goggles. Gloves. Dust/aerosol mask.

Hand Protection : Wear chemically resistant protective gloves.

Eye Protection : Chemical goggles or safety glasses.

Respiratory Protection : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

Other Information : When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State : Liquid

Appearance : Medium beige

Odor : Slight

Odor Threshold : No data available

pH : 6.31

Evaporation Rate : No data available

Melting Point : No data available

Freezing Point : No data available

Boiling Point : No data available

Flash Point : No data available

Auto-ignition Temperature : Not applicable

Decomposition Temperature : No data available

Flammability (solid, gas) : Not applicable

Vapor Pressure : 5.72 x 10 (-7) torr @25°C

Relative Vapor Density at 20 °C : 1.1929 g/ml @ 20 °C

Relative Density : No data available

Solubility : Water: 0.6 - 0.9 %

Partition Coefficient: N-Octanol/Water : No data available

Viscosity : 738.1 cSt @ 25°C

: No apparent reaction was observed between the test substance and water, hexane, zinc metal, mono-ammonium phosphate and potassium permanganate.

9.2. Other Information

VOC content : 56 %

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability: Product is stable.

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

10.6. Hazardous Decomposition Products: Carbon oxides (CO, CO2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Inhalation:dust,mist: Fatal if inhaled.

Echo® ZN Agricultural Fungicide	
ATE (Dust/Mist)	0.13 mg/l/4h

Chlorothalonil (1897-45-6)	
LD50 Oral Rat	3500 - 4800 mg/kg
LD50 Dermal Rat	2020 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg

LC50 Inhalation Rat	2.52 - 13 mg/l/4h
ATE (Vapors)	2.52 mg/l/4h
ATE (Dust/Mist)	0.05 mg/l/4h

Zinc oxide (1314-13-2)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 2000 mg/kg

Propylene glycol (57-55-6)	
LD50 Oral Rat	20 g/kg
LD50 Dermal Rabbit	20800 mg/kg

Skin Corrosion/Irritation: Not classified

pH: 6.31

Serious Eye Damage/Irritation: Causes eye irritation.

pH: 6.31

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.

Chlorothalonil (1897-45-6)	
IARC group	2B
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: inhalation of vapors may cause respiratory irritation.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: Causes eye irritation.

Symptoms/Injuries After Ingestion: May be harmful if swallowed.

Chronic Symptoms: May cause cancer.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Chlorothalonil (1897-45-6)	
LC50 Fish 1	0.012 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 Daphnia 1	0.0342 - 0.143 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	0.0076 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

Zinc oxide (1314-13-2)	
LC50 Fish 1	780 µg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.122 mg/l
NOEC chronic fish	0.026 mg/l (Species: Jordanella floridae)

Propylene glycol (57-55-6)	
LC50 Fish 1	51600 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	10000 mg/l (Exposure time: 24 h - Species: Daphnia magna)
LC 50 Fish 2	41 - 47 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 2	1000 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and Degradability

Echo® ZN Agricultural Fungicide	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Echo® ZN Agricultural Fungicide	
Bioaccumulative Potential	Not established.

Chlorothalonil (1897-45-6)	
Log Pow	2.9 (at 22 °C)

Propylene glycol (57-55-6)	
BCF fish 1	< 1
Log Pow	-0.92

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Treatment Methods: Waste portions of this product and contaminated absorbent materials may be disposed of by incineration provided the following conditions are observed:

Incinerate in a suitable oven fed by a mixture of air and methane, at 1100-1200°C; The HCl which may form in the incinerator exhaust gas must be conveyed into an aquaeous absorption system containing 18-20% of Ca(OH)2.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Ecology – Waste Materials: Hazardous waste due to toxicity.

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/IMDG/DOT

14.1. In Accordance with DOT

Ground Transport - NAFTA Non-Bulk: Not regulated Tank Truck
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Chlorothalonil), Marine Pollutant
Hazard Class or Division: Class 9
Identification Number: UN 3082
Packing Group: PG lll
Comments:
Non-Bulk-Not Regulated (DOT defined as container capacities less than or equal to 119 gallons)

14.2. In Accordance with IMDG

Water Transport -International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Chlorothalonil), Marine Pollutant
Hazard Class or Division: Class 9
Identification Number: UN 3082
Packing Group: PG lll

14.3. In Accordance with IATA

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Chlorothalonil)
Hazard Class or Division: Class 9
Identification Number: UN 3082
Packing Group: PG lll

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Echo® ZN Agricultural Fungicide	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
EPA FIFRA Pesticide Product Notice	This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
EPA FIFRA Signal Word	Warning
EPA FIFRA Hazard Statements	May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Do not breathe spray mist. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.
EPA FIFRA Precautionary Statements	Do not breathe spray mist.

Chlorothalonil (1897-45-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Zinc oxide (1314-13-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Propylene glycol (57-55-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

15.2 US State Regulations

Chlorothalonil (1897-45-6)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Chlorothalonil (1897-45-6)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

Zinc oxide (1314-13-2)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

Propylene glycol (57-55-6)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/26/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 1 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 1
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
	May form combustible dust concentrations in air
H320	Causes eye irritation
H330	Fatal if inhaled
H351	Suspected of causing cancer
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)

Proposed Administrative Consent Agreement
Background Summary

Subject: Paul Soucy
Maine Seed Company
295 Leeds Junction Road
Wales, ME 04280

Date of Incident(s): May 21, 2015 and May 29, 2015

Background Narrative:
Through information gathered from a restricted use pesticide dealer inspection, it was determined that a restricted use pesticide dealer sold a restricted use pesticide to a private applicator with an expired license and expired certification. The restricted use pesticide was Lumax EZ Herbicide. Sales were made on two different dates.

Summary of Violation(s):
M.R.S. 22 § 1471-D(3)(B) - No pesticide dealer shall: Distribute limited or restricted use pesticides to any person who is not licensed or certified by the board.

Rationale for Settlement:
The staff compared the violation to similar cases settled by the Board in formulating a penalty proposal.

Attachments:
Proposed Consent Agreement

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

Paul Soucy	)	ADMINISTRATIVE CONSENT AGREEMENT
Maine Seed Company	)	AND
295 Leeds Junction Road	)	FINDINGS OF FACT
Wales, ME 04280	)	

This Agreement, by and between Maine Seed Company (hereinafter called the "Company") and the State of Maine Board of Pesticides Control (hereinafter called the "Board"), is entered into pursuant to 22 M.R.S. §1471-M (2)(D) and in accordance with the Enforcement Protocol amended by the Board on December 13, 2013.

The parties to this Agreement agree as follows:

1. That on August 10, 2015, a Board inspector conducted a routine pesticide dealer inspection with the Company in Wales.

2. That during the inspection in paragraph one, the inspector collected and reviewed invoice # 275. That invoice along with the company's restricted use pesticide sales log, indicated that Kendall Cooper was sold twenty 2 ½ gallon containers of Lumax EZ Herbicide and was invoiced for that purchase on May 21, 2015.

3. That during the inspection in paragraph one, the inspector also collected and reviewed invoice # 369. That invoice along with the company's restricted use pesticide sales log, indicated that Cooper was sold thirty 2 ½ gallon containers of Lumax EZ Herbicide and was invoiced for that purchase on May 29, 2015.

4. That Lumax EZ Herbicide (EPA reg. # 100-1442) is classified as a restricted use pesticide.

5. That CMR 01-026 Chapter 40 Section 1(D) specifies restricted use pesticides may be purchased and used only by applicators licensed by the Board as provided in Chapters 31 and 32 of the Board's regulations.

6. That M.R.S. 22 § 1471-D(3)(B), states that no pesticide dealer shall distribute limited or restricted use pesticides to any person who is not licensed or certified by the Board.

7. That Cooper was not certified or licensed at the time of the Company's sale of restricted use pesticides to him as described in paragraphs two and three.

8. That the circumstances described in paragraphs one through seven constitute two separate violations of M.R.S. 22 § 1471-D(3)(B)

9. That the Board has regulatory authority over the activities described herein.

10. That the Company expressly waives:

    A. Notice of or opportunity for hearing;

    B. Any and all further procedural steps before the Board; and

    C. The making of any further findings of fact before the Board.

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

12. That in consideration for the release by the Board of the cause of action which the Board has against the Company resulting from the violations referred to in paragraph eight, the Company agrees to pay a penalty to the State of Maine in the sum of $500.00. (Please make checks payable to Treasurer, State of Maine).

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

MAINE SEED COMPANY
By: _____ Date: _____

Type or Print Name: _____

BOARD OF PESTICIDES CONTROL

By: _____ Date: _____
Henry Jennings, Director

APPROVED:

By: _____ Date: _____
Mark Randlett, Assistant Attorney General

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

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

June 2, 2016

David Adams
Dasco Inc
1455 Central Drive
Presque Isle, Maine 04769

Mr. Adams:

Thank you for your variance application.

The Board adopted a policy in 2013 allowing for the issuance of multi-year variances for the control of invasive species. In determining this policy the Board emphasized the need for a long-term plan for re-vegetation of the site, and demonstration of knowledge of efficacy and appropriate practices—the goal being to ensure that the site is reverted to native species, and not made available for another invasive species. The management plan you submitted indicates that you have adequately addressed these concerns.

This letter will serve as your Chapter 29 variance permit until December 31, 2018 for the treatment of invasive plants within 25 feet of the water at the Howland Dam Bypass Channel Project in Howland, Maine as identified in the management plan.

Please bear in mind that your permit is based upon adherence to the precautions listed in Sections V and X of your variance application. If it is determined that a different product needs to be used, you must contact the Board first and get a new variance. Also, please remember that mixing and loading must occur at least 50 feet from the water body.

If you have any questions concerning this matter, please feel free to contact me at 287-2731.

Sincerely,

Henry Jennings

Henry Jennings
Director
Maine Board of Pesticides Control

HENRY JENNINGS, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING

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

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

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

May 20, 2016

Donald J. Dubois
Dubois Contracting
295 St. John Road
Fort Kent, ME 04743

RE: Variance Permit for CMR 01-026, Chapters 29 for Vegetation Control on the Fort Kent Levee

Dear Mr. Dubois:

This letter will serve as your variance permit for 2016 for broadcast application of herbicides along portions of the Ft. Kent levee along the St. John and Fish Rivers. Please bear in mind that your permit is based upon your company adhering to the precautions listed in Section X of your application. You also need to receive a new variance if you choose to use any products other than those listed.

I will alert the Board at its July 1, 2016 meeting that the variance permit has been issued. If you have any questions concerning this matter, please feel free to contact me at 287-2731.

Sincerely,

Henry Jennings
Director
Maine Board of Pesticides Control

HENRY JENNINGS, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING

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

THE UNIVERSITY OF MAINE
Cooperative Extension

Potato Program
59 Houlton Road, Presque Isle, ME 04769, (207) 554-4373; Fax (207) 554-4373

June 22, 2016

Mary E. Tomlinson
(Mary.E.Tomlinson@maine.gov)
Pesticide Registrar
Maine Board of Pesticides Control / 28 SHS /
Augusta, ME 04333

Dear Mary:

I wrote a letter supporting a 24c SLN label in Maine for Omega 500F® in furrow at the rate of 1.5 to 3.0 pints per acre. The Board approved the request. At that time, I was requested to do a follow up on the amount of material used. From the survey I did, there were 1051 acres treated with Omega 500F® in furrow for a total of 1971.5 pints of material. Please feel free to contact me if have questions or require further information.

Sincerely,

Steven B. Johnson, Ph.D.
Crops Specialist

Augusta council OKs emergency bedbug measure

www.centralmaine.com/2016/05/05/augusta-council-oks-emergency-bedbug-measure/

By Keith Edwards Staff Writer | 207-621-5647

Local & State

Posted

Updated 33 mins ago

increase font size

The temporary ordinance, which drew criticism for holding landlords chiefly responsible for dealing with infestations, lasts 60 days and is likely to be replaced by a permanent ordinance.

AUGUSTA — City councilors adopted an emergency bedbug ordinance Thursday to give city officials the tools and rules they said they need to fight and prevent infestation of the hard-to-remove biting bugs from housing in the city.

As an emergency measure, the ordinance takes effect immediately, will be in place for only 60 days, and required a vote in favor by at least six councilors.

Councilors passed it unanimously, 7-0, despite concerns from the property manager of two boarding houses that were infested with bedbugs, who said the emergency has been addressed, and other concerns from a certified entomologist and pest control worker who said the ordinance places the burden of dealing with the bugs only on landlords, not on tenants.

City Manager William Bridgeo said a bedbug infestation at the two Water Street boarding houses prompted him and other members of an impromptu task force that formed last week to propose an emergency ordinance to enable the city staff to take stronger enforcement action to prevent the spread of the insidious biting insects.

“What we have available for tools right now is almost nothing, either in state law or city ordinance,” Bridgeo, before the ordinance was approved, said of rules governing what landlords are required to do when bedbugs are discovered in rental housing in the city. “I thought we had residents in our community who were at risk, and somebody needed to step in.”

The ordinance gives landlords responsibility for having a pest control agent treat bedbug infestations. Landlords would be required to submit a plan, after consulting with a pest management professional, to decontaminate the dwelling unit, the people living there and their personal belongings, and provide a bug-free place for tenants to live while their apartments are being decontaminated. If the city deems the planned abatement measures insufficient, the city may require additional action. Landlords also would be responsible for all costs of decontamination of tenants and their belongings.

If a landlord fails to comply with the ordinance’s requirements to deal with bedbugs, the city could enter the building, remove the bedbug infestation and recover the costs of doing so by assessing a special tax on the property, to be included in the owner’s next property tax bill, or place a lien on the property.

City officials who entered two buildings at 382 and 384 Water St. last week reported seeing an infestation of bedbugs in common areas and in individual units, including a shower floor, bedding, and furniture covered in dozens of the bugs and their exoskeleton shells.

Bedbugs shed their exoskeletons as they grow, leaving the empty exoskeletons behind.

Bridgeo said the landlord of those properties, River City Realty owner Larry Fleury, has been cooperative and the city is working with him and tenants to rid the buildings, tenants and their belongings of bedbugs.

Karla Lilley, office manager of River City Realty, said no emergency exists because the company already had a licensed pest control company spray chemicals in the infested buildings on Saturday. She also criticized the city for not including a landlord on the task force that drafted the ordinance, said city officials are not qualified to determine the adequacy of treatment plans, and the ordinance — unlike state law — puts the burden of the cost of getting rid of the bugs on landlords alone, even when tenants don't cooperate with efforts to get rid of them. She also said bedbugs don't cause diseases or deaths, as other insects such as fleas, ticks and mosquitoes can do.

Councilors and Bridgeo noted that the council will consider a more permanent ordinance and it should be put in place by the time the 60-day emergency ordinance expires. They said the proposal is not perfect and changes can be made, with input from pest control experts and landlords, in the meantime.

"I don't see this an issue between landlords and tenants," Ward 1 Councilor Linda Conti said. "At this point, this is so bad the entire city is at risk. They can be spread to schools, businesses. I don't feel like I'm protecting just the tenant. I'm protecting all of the citizens of the city."

Stephen Langsdorf, city attorney, said state law gives tenants the right to take legal action to force their landlords to address bedbug infestations, but many tenants aren't able to take that action.

"You're dealing with tenants who, very often, aren't at all sophisticated and who feel intimidated going after a landlord, and may be one step away from being homeless," Langsdorf said. "And this situation was extreme. Not one or two bedbugs. Hundreds, thousands, of bedbugs were in these buildings."

Bridgeo said he heard, anecdotally, one or more other landlords with buildings in Augusta also might have a bedbug infestation in their buildings.

Bridgeo said a task force was formed to deal with the problem last week, and it met again Monday. Task force members include city codes and public safety personnel, Langsdorf, a representative of the Maine Center for Disease Control, the city health officer, the Fire Department's medical officer, an attorney from Pine Tree Legal Services, Bridgeo and Ralph St. Pierre, assistant city manager.

Mike Peaslee, a certified entomologist and technical manager for Modern Pest Services, said the ordinance probably was well-intended, but it has multiple flaws. He said there is no established industry method for decontaminating a person of bedbugs; the ordinance removes all responsibility for bedbugs from the tenants who can contribute, or even cause, the problem; it could force landlords to move tenants in bedbug-infested buildings to other, "clean" buildings, which could be costly and make the problem even worse; and the ordinance in general is overreaching and too broad. He also said it is impossible to say, for sure, where an infestation started.

"I think it is well-intended, but there are serious problems with it," Peaslee said of the ordinance.

Tenants' duties, under the proposed emergency ordinance, would include promptly notifying their landlord when they know of or suspect an infestation of bedbugs in their dwelling unit, granting the landlord and pest control agent access to their unit for inspection and treatment, and taking all reasonable measures to eliminate a bedbug infestation.

The bugs are brown, flat and about one-quarter-inch long with a soft, rounded look. After a blood meal, they are dark red and larger.

They feed on human blood but are not believed to carry disease.

Keith Edwards — 621-5647

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Posted Yesterday at 6:58 PM
Updated at 12:15 AM

Cumberland adjusts plan to spray for browntail moths in response to environmental concerns

The Town Council chooses a natural insecticide to kill off caterpillars after residents raise concerns about harm from synthetic chemicals.

BY PETER MCGUIRE STAFF WRITER
pmcguire@pressherald.com | @PeteL_McGuire | 207-791-6325

The browntail moth caterpillar damages trees and has prickly hairs covering its body, and hairs cause skin rashes. *Maine.gov Photo*

CUMBERLAND — Town officials have modified their plan to spray insecticide to fight a browntail moth infestation, in response to residents' concerns about environmental threats posed by chemical pesticides.

The town proposed using a truck-mounted sprayer to coat trees along three miles of Foreside Road with a chemical insecticide to kill browntail moth caterpillars. The invasive insects defoliate trees and can shed tiny hairs that cause skin rashes and respiratory problems in some people.

Although many residents support using pesticides to curb the worst moth infestation in more than a decade, some worried that a synthetic insecticide could harm people and the environment, including marine life in Casco Bay.

Terry Traver, a licensed pesticide applicator with Whitney Tree Service, said the town decided instead to use a naturally derived pesticide to tackle the infestation.

“We feel like it is a more environmentally friendly approach with some of the residents who were concerned about spraying pesticides, with their gardens and pets,” Traver said.

The natural treatment could be less effective than a synthetic spray, but it is less harmful to the environment, he said.

Browntail moths nest high in oak and apple trees. In May, 2-inch-long caterpillars break out of the nests and start feeding on new leaves before spinning cocoons in late June to pupate into moths.

The caterpillars can do extensive damage to trees and are covered with toxic hairs that can drift through the air and cause a rash similar to poison ivy and provoke respiratory problems for some people. The moths shed their skins five times a season, and the hairs stay in the environment and can cause problems for months after the caterpillars are gone.

Ivy Frignoca, the bay keeper for Friends of Casco Bay, said her office received half a dozen calls from residents with concerns about the spraying program before a public meeting on the proposal last week. Concerns about damage ranged from people and pets to marine animals along the coast.

“As the lead advocate for Casco Bay, when an issue like this comes up that threatens the health of the bay, we have to look into it,” Frignoca said.

The town planned to use Tempo, a synthetic neurotoxin, to kill the caterpillars. Tempo is extremely toxic to fish and aquatic invertebrates and should not be allowed to run into storm water, according to the warning documents for the treatment. Even though state rules prohibit spraying pesticides within 250 feet of any shoreline, people were concerned that the chemical could find its way into Casco Bay and harm shellfish.

During the last browntail moth infestation, in the late 1990s, communities around Casco Bay used aerial sprays to counter the insects, but that was controversial because of its negative effect on shellfish, particularly lobsters. Cumberland is not considering an aerial spraying program this year.

For the spraying to be effective, the town needs a majority of Foreside Road residents to sign consent forms allowing the town's contractor to spray on their properties. The deadline for signing the forms is Friday, and the town intends to start spraying next week.

Town Councilor Tom Gruber, a Foreside resident, said in response to resident concerns that the council decided to spray with spinosad, a chemical derived from soil bacterium that is toxic to insects and sold under the brand Conserve SC. The pesticide is less harmful to shellfish and it sticks to soil, giving it less potential to move to groundwater.

The town planned to spray only along Foreside Road, but now is expanding the scope of the project to include 18 private side streets. Private roads will be charged $300 to $500 for treatment, depending on the length of the road, according to a letter to residents from Town Manager Bill Shane.

The cost of the natural treatment is expected to be slightly more than the synthetic chemical, but Gruber said it shouldn't exceed the $15,000 budgeted for the project.

"After a long discussion and concerns, we came up with a more environmentally friendly plan," Gruber said.

Maine’s parks are fertile places for research

www.pressherald.com/2016/06/05/beyond-recreation-maines-parks-are-fertile-ground-for-research-on-everything-from-invasive-species-to-air-pollution/

By Mary Pols Staff Writer | @MaryPols | 207-791-6456

While you’re hiking and melting s’mores over your campfire, scientists at Maine parks are taking samples, studying wildlife and discovering new species.

Maine Forest Service entomologist Colleen Teerling picks her parks very carefully. Whereas the average camper might chose their destination based on which Maine park has the prettiest campsite or best lake to cool off in, Teerling is partial to parks that might be favored by Midwestern tourists, say Camden State Park, or Lake St. George.

Colleen Teerling, an entomologist with the Maine Forest Service’s Insect and Disease Lab, strips the bark from an ash tree at Lake St. George State Park in Liberty to investigate whether the destructive emerald ash borer has reached Maine.

That’s because she’s choosing her parks to lay traps for an invasive species called the emerald ash borer, a green beetle from Asia that has already devastated Midwestern forests and has spread to most eastern states. Not Maine yet, but it has been found in New Hampshire and Massachusetts and scientists fear it’s only a matter of time before it begins to chew through Maine’s ash trees. By monitoring likely entry points, the Maine Department of Agriculture, Forestry and Conservation hopes to get a jump on managing any infestation of the emerald ash borer (or EAB as entomologists typically refer to it).

Teerling’s research involves finding an ash tree, as she did on a hot morning at Lake St. George State Park earlier

this week, relatively close to campgrounds or visitors centers, then stripping away the bark in a one-foot belt around the trunk, a process called girdling.

“That stresses the tree out,” Teerling explained.

A weakened tree should attract the beetles if they’re around. In the winter foresters will cut the tree down, peel more bark back and look for signs of an EAB infestation. “We’d find little galleries under the bark,” Teerling said, referring to the tunnels the beetles literally bore in the tree trunk. If so, they’d quarantine the area and work to combat the destructive beetles.

Why pick state parks that tend to attract out-of-state visitors, particularly those from the Midwest? Because firewood transported into an area from an already infected region is believed to be the primary way the emerald ash borer has spread so fast. It was only discovered in 2001, in the Detroit-Windsor area (likely it came in through the port on a boat), but is already in 27 states. Campers tend to bring firewood with them, even when warning signs tell them not to, so Teerling expects that if and when the emerald ash borer arrives in Maine, it will have tagged along with a visitor from out of state.

Although most of us view parks as a resource for recreation, a look behind the scenes at parks around the state reveal how often our public lands are used as a resource for researchers. There are 65 to 70 active research projects in Acadia National Park alone every year, according to the Schoodic Institute, which manages collaborations between scientists, educators and citizen scientists in the park. Whether they be national or state-run, Maine’s parks are fertile ground for researchers tracking endangered or invasive species, botanists looking for rare or undiscovered plants and biologists tracking birds. More often than not, campers and hikers never know the research is going on, but sometimes the public not only overlaps with environmental scientists working in the park, they actually help them.

DRAGONFLIES AND DATA

Sarah Nelson, an associate research professor in the School of Forest Resources at the University of Maine, began researching mercury and acid rain chemistry as a masters and then Ph.D. candidate. As her research progressed, she started sampling the larvae of dragonflies in Maine streams and waters for mercury, getting an assist from high school students. In 1998, she began sampling within Acadia, where 80 species of dragonflies can serve as bio-sentinels for mercury pollution.

They are an easy insect to catch as larvae and, when ground up back in a laboratory, to test for the presence of mercury that may have traveled on air currents and ended up in water sources as rain. To the non-scientific brain it might seem as though a national park in a relatively pristine part of Maine is a strange place to look for signs of air pollution, but Nelson says it is just the opposite.

“Most people think of national parks as pristine, but they really are not,” she said. Yes everything within the park is wild or barely developed in theory, but the wind knows no borders. “It doesn’t really matter if there is a line around parks. The air is the same.”

Moreover, there is a greater chance to gather accurate data on a long-term basis because the level of development doesn’t change. “You know you will be able to come back in 20 years and be able to get to the same site,” she added. “We don’t have those confounding effects like there is suddenly a mall in the middle of a site.”

Not only are dragonflies less complicated to test for mercury than say, fish, they stay close to the aquatic ecosystems where they were born, making the samples more useful for linking data to specific locations.

The Schoodic Institute got involved in 2011 and the program within Acadia has proved so popular, with citizen scientists happily signing on to contribute to the research by gathering dragonfly larvae in the park, that Nelson began working with other scientists to expand it to other national parks. In 2013, the National Park Service funded

the expansion of the mercury study to 25 parks. Now they're up to 71 parks, including Denali in Alaska and the Great Smoky Mountains in North Carolina and Tennessee.

Acadia is a particularly rich resource for Maine-based researchers. Ongoing projects by UMaine professors include studies of bird migration on Mount Desert Island and the Schoodic peninsula, bird use of rockweed, ecosystem response to climate change in Acadia and even studies in forest recreation management by students in the University of Maine's Parks, Recreation and Tourism program.

BUNNIES AND BUGS

Teerling has already girdled ash trees in eight state parks and will add Cobscook and Lamoine state parks to the are monitoring list this spring. Other state parks with ongoing research and monitoring programs include Crescent Beach and Kettle Cove, where scientists are researching New England cottontail rabbits, listed as an endangered species in Maine since 2007. Then there are the piping plover and least tern programs at various state-run oceanfront parks, like Popham Beach State Park in Phippsburg.

But Baxter State Park is particularly rich research territory. Nearly 210,000 acres, 75 percent of which are managed as wildlife sanctuary, it has been spectacularly untouched since it was acquired by Gov. Percival P. Baxter beginning in the 1930s. This was Baxter's gift of purest Maine to the people of Maine, and as such, he made it a mandate that the priority be resource preservation.

Emerald ash borer specimens.

That's both why it is such great research territory and why it's not easy to get permission to conduct research within the park. "He was very clear about what his priorities were, and we work for those priorities," said Jean Hoekwater, the park's naturalist.

Hoekwater is a member of the committee that reviews research requests. "We say no sometimes to perfectly sound

science," she said. "The stories I could tell you about research that was proposed that didn't happen."

Once the committee turned down a prestigious forestry school's request to research the fir waves, a natural phenomena on the slopes of Katahdin, where a die-back zone of balsam fir affected by the prevailing winds creates wavy grey stripes following the slope's contours.

"We denied the application despite the prestige because they wanted to put fertilizer in the zone," she said. "That was an artificial input." (Hoekwater would neither confirm nor deny that it was Yale.)

"It is not an easy thing to get permission," said Beth Swartz, a wildlife biologist with the Department of Inland Fisheries and Wildlife who conducted the research that tracked the rare and elusive Roaring Brook Mayfly deep in the wilds of Baxter. The mayfly had been named for the Maine location

A dragonfly adult next to its shed exoskeleton. Dragonflies serve as bio-sentinels for mercury pollution and are easier to test for contamination than, say, fish. Courtesy Ed Lindsey

olleen Teerling strips the bark from an ash tree at Lake St. George State Park in Liberty. The section of tree will be examined to see if the insect is in Maine.

where it was first spotted in the 1930s, but only one true specimen of it existed and that was in a museum.

“It had been over 60 years since that specimen had been collected,” Swartz said. She spent the better part of a summer searching and found many mayflies in two of the brook’s tributaries. The state was able to move the insect off the endangered list on the basis of that research. But it remains a species unique to a special place, and the very fact of how unusual it is points to the ecological value of high elevation headwater streams, she said.

“These little tumbling streams come down off of the mountain tops and are fed by melting snow and rainwater,” Swartz said. “These are the birthplaces of all those other streams that end up feeding into our rivers, streams that often go unprotected because they are so small.”

LEAVE NO TRACE

Among the other research in Baxter in recent years was a study of marten populations by a University of Maine PhD student who set up game cams and traps to catch hair from the animals. A 2013 tornado that blew through the northwest corner of the park within the Scientific Forest Management Area (a zone designated for study of responsible forestry management) created the opportunity for a multi-year study on beetles and how they responded to a blow-down situation over 400 acres.

“Virtually all the trees were uprooted or blown over,” said Shawn Fraver, a professor in the School of Forest Resources at the University of Maine. “That type of wind damage is really unusual in Maine.”

Outside the park it might have been a disaster, but within its confines, it gave scientists a chance to look at nature’s recovery process.

Hoekwater said Baxter frequently has to turn down request for research that involves collecting samples – removing plants from their natural habitat. But in an effort to put together a comprehensive guide, “The Plants of Baxter State Park,” it has welcomed researchers and volunteers armed with cameras to photograph more than 700 species of plants that grow within the park’s boundaries. The finished guide, a multi-year effort to compile, is expected back from the printers soon.

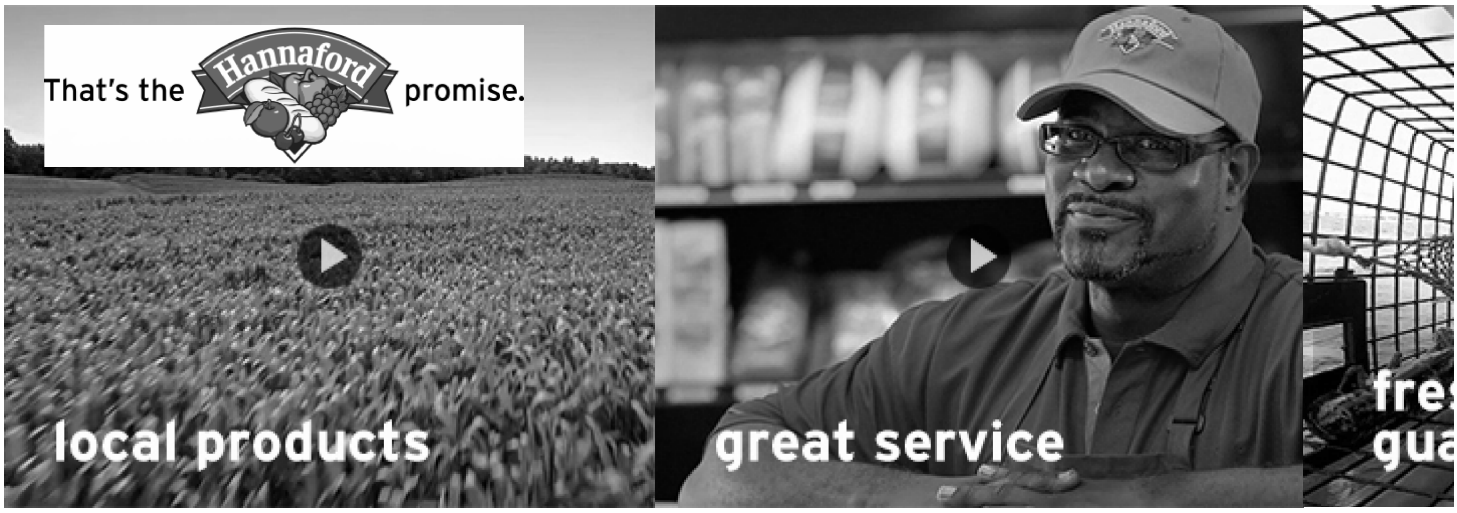
Alison Dibble, an assistant research professor with the University of Maine's School of Biology and Ecology and one of the authors of the guide, has spent many days over many years leading volunteers on plant quests, pushing through dense thickets of young trees to remote bogs untouched by man or paddling by canoe into areas reachable only by water. Even if park visitors never spot these species tucked in remote corners of the park, they have been recorded for posterity.

"It was a privilege to me," Dibble said. "And I think the volunteers were feeling this way too, that it is really special that the parks wants us to do this and needs us to do this."

As a researcher, Dibble has had a long relationship with Baxter. Her first foray into Baxter to study plant species was in 1989. Over a five-year period starting in 2001, she self-funded annual five day trips to Katahdin to work with a team studying the lichen of Katahdin. The team identified alpine lichens that had not been found in the United States before. That survey, published in 2009 in The Bryologist, the publication of the American Bryological and Lichenological Society, established a baseline of research that could prove particularly useful to those studying climate change.

"With climate change, the advance of the treeline up the slope will mean that there will be less habitat for unusual lichens than there is now," Dibble said. "The alpine ecosystems are under increased threat. That is just one of the dilemmas of global warming."

For all these scientists, it's not just parks and recreation.



MAINE VOICES Posted **June 17** | Updated **June 17**

INCREASE FONT SIZE

Maine Voices: South Portland plan to ban pesticides a needless and harmful overreach

Regulators already ensure the chemicals are safe for human exposure and little pollution of Casco Bay has been found.

BY **CHARLES MCNUTT** SPECIAL TO THE PRESS HERALD

SOUTH PORTLAND — As a member of the South Portland Conservation Commission, I find it difficult to take a position contrary to what many believe is a positive step forward in the pursuit of environmental stewardship, sustainability and healthy living.

However, despite my reservations about doing so, the proposed ordinance banning pesticides in South Portland needs to be exposed for the unsubstantiated and flawed

ABOUT THE AUTHOR

Charles McNutt is a resident of South Portland. The views expressed in this column are his own and do not represent the South Portland Conservation Commission.

Local pesticide ordinances are allowed in Maine because we are one of seven states in the country where the state constitution doesn't pre-empt that exercise.

Presumably, the other 43 states have precluded that option based on the logical and reasonable assumption that the thousands of scientists who work for the federal Environmental Protection Agency and state environmental agencies and Boards of Pesticides Control have more expertise to regulate these chemicals than do local citizens, as well-intentioned as they may be.

But let's assume for the moment that the city of South Portland and other Maine communities have a vested interest and, indeed, a responsibility to protect their citizens and the local environment, which, in our case, includes part of Casco Bay.

Unfortunately, the South Portland pesticide ordinance is not based on relevant science, and if it takes effect, very few of our citizens will understand its implications. The fact is that the average homeowner who follows the clearly spelled-out application and safety directions on the pesticide label is not at any more risk than he or she would be when handling household cleaning materials, solvents, paints and any other chemical not classified as pesticides.

The truth is that the EPA undertakes extensive testing of these products, and each one of them is categorized as to the level of toxicity and the risk to humans, animals and the environment. Beyond that, the Maine Department of Environmental Protection and the Maine Board of Pesticides Control have an active role in the regulation and management of pesticides, in addition to their responsibility for testing and licensing professional applicators.

To build their case, the framers of this ordinance and their supporters in local environmental groups have crafted "Whereas" statements that cite the supposed linkage between diseases, harm to the environment and pesticides. The problem is that these statements are less than valid unless one considers studies that have no relevance to our situation here in South Portland.

selecting many of these studies and reading through them, I was not able to find a single case study relevant to the theoretical rationale for this ordinance: i.e., residential use. This is a local ordinance prohibiting homeowners from doing something that is not only legal, but also approved by the EPA and the Maine Board of Pesticides Control.

Regarding the impact of pesticides on the environment: Despite the claims that sampled data from Casco Bay indicate that stormwater runoff is creating significant environmental problems, the truth is that to date, we have seen virtually no data to substantiate that claim.

In fact, the last data we have regarding the outflows in South Portland are from a sampling done in 2001. At that time, there were two pesticides detected from one of the city's outflows, one of which was de-listed by the EPA in 2004.

So where are the baseline data to measure the success of this ordinance? There aren't any, and that alone should be a disqualifier for an ordinance that is little more than a feel-good expression of our desire to protect the environment and ensure that our citizens are protected from cancer and other diseases. Noble objectives, to be sure, but at what price?

Without the data, without the baseline, without a massive education program, this ordinance is a draconian regulation of the worst kind. It negatively affects retailers, applicators and citizens for little or no reason – at least none that is discernible.

When compelling evidence is provided to make the case, I will be the first to sign on. Until that time, this ordinance is a bad idea. I urge Mayor Tom Blake and the City Council to step back, think about the lack of material justification for this ordinance and reconsider their support.