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

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August 2, 2012

Dr. Tawanda Maignan, Team Leader
Risk Integration, Minor Use and Emergency Response Branch
U.S. EPA / Office of Pesticide Programs (7505P)
Document Processing Desk (EMEX)
1200 Pennsylvania Avenue, NW
Washington, DC 20460-0001

RE: Issuance of a FIFRA Section 18 Crisis Exemption for the Use of Gowan Malathion 8 Flowable on lowbush and highbush blueberries to control spotted wing drosophila

Dear Dr. Maignan:

This letter is to notify you that the Maine Board of Pesticides Control, Maine Department of Agriculture, has declared a crisis and issued a FIFRA Section 18 Crisis Exemption under the provision of Section 18 of the Federal Insecticide Fungicide and Rodenticide Act as Amended, 7 U.S.C. 136p., 40 CFR 166.40, to allow the use of Gowan Malathion 8 Flowable (EPA Reg. No. 10163-21) on lowbush and highbush blueberries to control spotted wing drosophila (*Drosophila suzukii* (Matsumura)). Spotted wing drosophila (SWD) was recently detected in Maine. The unusually warm weather has caused the crop to mature more quickly and contribute to the rapid rise in populations of SWD in areas of detection. Because the blueberry harvest is currently underway in some regions of the state, there is insufficient time to request a Section 18 Specific Exemption. These factors qualify this as an unpredictable emergency.

The following information details the anticipated use of Gowan Malathion 8 Flowable in Maine during the 2012 growing season:

- 1) **Product Name:** Gowan Malathion 8 Flowable
Active Ingredient: malathion
CAS Number: 121-75-5
Percent of Active Ingredient: 79.5% (8 lb. ai per gal.)
EPA Reg. No.: 10163-21
- 2) **Site:** blueberries in Maine (wild and highbush or cultivated)
- 3) **Use pattern:**
 - a. **Method of Application:** broadcast
 - b. **Rate of Application:** 2.0-2.5 pt/A/application (2.0-2.5 lb. ai/A/application)
 - c. **Maximum Number of Applications:** 2
 - d. **Total Acreage to be Treated:** 10,100 (max) (10,000 acres lowbush, 100 acres highbush)

- e. **Restrictions:** 1 day PHI, 12 hour REI, minimum of 7 day retreatment interval. Total maximum use rate of malathion from all sources of 5 lbs. ai per acre per year.

4) **Use Period:** August 13-28, 2012

5) **Residue Information:**

The current tolerance of malathion on blueberries is 8ppm (40 CFR 180.111).

6) **Earliest anticipated harvest date:** July 15, through September 30, 2012.

7) **Description of Emergency Situation:**

University of Maine Agricultural Experiment Station agricultural research scientists have identified a pest situation in Maine which most registered pesticides will not alleviate. Pest management specialists and growers are finding traps with adults of spotted wing drosophila (SWD) (*Drosophila suzukii*) throughout much of the blueberry growing region in Maine.

With a zero tolerance for insect larvae, such as SWD in blueberry fruit, it is absolutely critical that growers have enough effective chemicals to protect their crop from this invasive pest. As of July 22, the SWD adult trap capture in blueberries continues to increase, even on treated farms (insecticide treatments for blueberry maggot fly). A single detection in harvested fruit means the entire load of fruit is rejected, causing significant economic impact to the grower, processor, and retailer. If unabated, this could destroy the market both nationally and internationally for Maine growers and processors. Even as of early August, this could translate into a \$15 million loss.

With slightly more than 65,000 acres of wild blueberries (harvests range from 80-100 million lbs / year over the past decade), Maine is the largest producer of wild blueberries in the country. During 2011 the Maine blueberry crop was valued at \$100 million, making it the highest valued food crop in the state. Although the industry deals with a number of significant pest issues, the recent detection of SWD is currently the industry's biggest concern.

Maine's cultivated or highbush blueberry crop is currently grown in relatively small plantings throughout the state and sold through fresh, retail markets such as pick-your-own and farmers markets. There are approximately 150 acres grown in the state at present, representing about 75 farms. Fresh cultivated blueberries are a high value crop, representing nearly \$2 million dollars in gross sales. SWD can cause fruit to rot quickly in the field during ripening, causing significant losses in the field and greatly reducing shelf life of fresh fruit, thus severely limiting or eliminating growers' ability to maintain fresh market quality. SWD will quickly become the most important insect pest of highbush blueberries in Maine and, based on recent experience in North Carolina and Connecticut, has the potential to render the entire fresh crop unsalable.

SWD is a tiny vinegar fly that is native to Asia, and causes damage to berries, stone fruit, grapes, and some pome fruit. The tiny (2-3 mm in length) fly was first detected in California in 2008. The first detection in Maine occurred in early October of 2011, well after that year's blueberry harvest.

Because the pest was not identified in Maine until the fall of 2011, researchers have had no time to evaluate its impact on the crop, pest management programs, establish monitoring methods, conduct trials, and develop recommendation programs for growers. Based on experience in other states, trials performed in Michigan and other eastern states (2011), experts have been able to identify a handful of insecticides that can effectively be used to protect blueberries from SWD (Table of Currently Available Products, Appendix).

Unlike other vinegar flies that lay their eggs on harvested or damaged fruit, SWD uses its serrated ovipositor to lay eggs in healthy fruit before picking. This adaptation is important because it means infested fruit could easily be overlooked in the harvesting process, and can go undetected until the fruit reaches the processor or retailer.

One of the key chemicals identified is malathion. However, control results for malathion were obtained at the rate of 2-2.5 lb. ai/A, as was permitted on the now old label. With no data from Maine trials, university researchers in New Jersey and Michigan (the other large blueberry producing states in the U.S.), extension and crop advisors have no experience with the new 1.25 lb. ai/A label rate. Based on experiences with other crops however, experts believe that the lower rate will not effectively protect blueberries from SWD. As such, they can no longer recommend the product. Therefore, growers have essentially lost one of their most important insecticides for this invasive and destructive pest. At the present time growers are treating for this pest with available insecticides, but researchers are finding infested fruit at harvest, by means of a salt flotation test.

To make matters worse, Maine, as the other New England states, has recently experienced record setting temperatures over the last couple of weeks, and the long range forecast is for above normal temperatures to continue. This weather pattern has caused blueberries to ripen earlier than normal with compressed harvesting periods. It has also placed an extra strain on pest management practices, in that with a compressed harvest schedule, growers need to use insecticides with a short REI's and PHI's. Hot weather also impacts the development of the insect, contributing to more rapid development and an increased number of generations occurring during the season. This in turn contributes to rapid population build-up, leading to very high late season populations.

The other problem with the heat is that it significantly impacts the effectiveness of the pyrethroid insecticides. This is the other key chemical class of insecticides that blueberry growers can use for SWD control. Pyrethroids are one of the most temperature sensitive classes of insecticides and readily break down in high temperature situations. This means that the pyrethroids have much less residual activity, and need to be applied more frequently; a practice that greatly concerns growers and researchers, since that practice can likely lead to the development of insecticide resistant insects. Also, because several of the available pyrethroids have longer PHI's (3 days or more), it is difficult for growers to use these chemicals during a compressed harvest schedule. Another major problem with pyrethroids is that some of them have very low MRLs (<0.05 ppm) or do not have established MRLs in Europe and Japan. Since these foreign export markets are a major consideration for the Maine blueberry industry, this also effectively rules out these materials. Another problem issue with pyrethroids in Maine is that the other key pest throughout most of the harvest period is the blueberry maggot fly. While

August 2, 2012

pyrethroids have shown some effectiveness for this insect, they are not the most effective materials under high pest populations.

I trust you will find this petition complete. If you have any questions or need more information, please contact me at (207) 287-7544.

Sincerely,

A handwritten signature in cursive script that reads "Mary E. Tomlinson".

Mary E. Tomlinson
Pesticides Registrar/Water Quality Specialist
Maine Board of Pesticides Control

APPENDIX**Currently Available Products for SWD Control**

Chemical Class	Active Ingredient	Trade Name	PHI	Days of Residual	Comments	MRL for Canada (Yes/No)
Organophosphate	malathion	Malathion	1	5-7		Yes
	phosmet	Imidan	3	7	Long PHI	Yes
Pyrethroid	zeta-cypermethrin	Mustang-Max	1	7		No
	bifenthrin	Brigade	1	7		No
	zeta-cypermethrin+ bifenthrin	Hero	1	7		No
	esfenvalerate	Asana	14	7	Very long PHI	No
	fenpropathrin	Danitol	3	7	Long PHI	Yes
Carbamate	methomyl	Lannate	3	3-5	Short lives, long PHI	Yes
	carbaryl	Sevin	7	5-7	Long PHI, Not as effective as others	Yes
Spinosyn	spinetoram	Delegate	3	7	Long PHI	Yes
	spinosad	Entrust	3	3-5	Short lived, Long PHI	Yes
Pyrethrum	pyrethrum	Pyganic	0.5	2-3	Very short lived	Yes