



PAUL R. LEPAGE  
GOVERNOR

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

WALTER E. WHITCOMB  
COMMISSIONER

HENRY JENNINGS  
DIRECTOR

To: Board of Pesticides Control Members  
From: Mary Tomlinson, Pesticides Registrar/Water Quality Specialist  
RE: FIFRA Section 18 recertification request for use of HopGuard to control Varroa mites in honey bee colonies  
Date: March 1, 2013

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This request to seek recertification of Maine's 2012 FIFRA Section 18, 12-ME-04, for the use of HopGuard (potassium salt of hop beta acids), to control Varroa mites in honey bee colonies, is submitted at the request of Tony Jadcak, State Apiarist. Varroa mites continue to be a major pest of honey bees in Maine. Enclosed is the recertification request packet to be submitted to the EPA for your consideration.

Approval of this request will ensure beekeepers will continue to have another control option available in lieu of other products to which mites are resistant, as well as provide an organic alternative for use during honey production. HopGuard, extracted from hops (*Humulus lupulus*), has demonstrated miticidal activity. In vivo studies have shown that HopGuard strips are effective in killing Varroa mites without harming bees.

The Section 3 label for HopGuard continues to progress through the EPA review process.

The attached recertification package includes the following documents for your review. Please let me know if you have any questions.

1. Recertification request to EPA
2. Amendments to Section 18, 12-ME-01, Description of Proposed Use
3. Final Report – Section 18 HopGuard 2012
4. Letter of support from Tony Jadcak, Maine State Apiarist
5. Letter of support from Lloyd Schantz, BetaTec Hop Products, Inc.
6. HopGuard container label
7. Draft Maine Section 18 label with use directions



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March 1, 2013

Ms. Tawanda Maignan  
Emergency Response Team  
U.S. EPA Office of Pesticide Programs  
Document Processing Desk (EMEX)  
Room S4900, One Potomac Yard  
2777 Crystal Drive  
Arlington, VA 22202

**RE: Request for streamlined re-certification of continuing Section 18 Specific Exemption (12-ME-04) for use of HopGuard (potassium salt of hop beta acids) to control Varroa mites**

Dear Ms. Maignon:

Under a Specific Exemption pursuant to Section 18 of FIFRA, The Maine Department of Agriculture, Conservation and Forestry hereby submits a request for continued use of HopGuard (potassium salt of hop beta acids), an unregistered pesticide, for control of Varroa mites in honey bee colonies, with amendments to the description of proposed use, from March 2013 through December 31, 2013. These amendments are based on changes to the original HopGuard Section 18 granted for Maine (12-ME-04). The list of amendments is attached.

The Varroa mite, *Varroa destructor*, continues to be a pest in honey bee colonies in Maine. Although HopGuard did not provide 100% eradication of Varroa mites, it did provide control consistent with studies conducted by the USDA and BetaTec Hop Products. Users of HopGuard under the 12-ME-04 reported no adverse effects to the colonies except for slight adult bee mortality during cool, fall weather in northern Maine, possibly the result of chilling during treatment. HopGuard remains an effective and important alternative in rotation with other available options in current integrated pest management plans for Varroa mite control as well as an alternative control option for organic honey producers.

In addition to the amendments requested in this renewal, attached is the final report for the 2012 HopGuard Section 18, 12-ME-04. Should you have any questions, please contact me at (207) 287-7544. Thank you for your consideration to this request.

Sincerely,

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

Cc: Stacey Groce, EPA

Attachments:

1. Amendments to Section 18, 12-ME-01, Description of Proposed Use
2. Final Report – Section 18 HopGuard 2012
3. Letter of support from Tony Jadzak, Maine State Apiarist
4. Letter of support from Lloyd Schantz, BetaTec Hop Products, Inc.
5. HopGuard container label
6. Draft Maine Section 18 label with use directions

**Amendments to 2012 FIFRA Section 18 Emergency Specific Exemption  
For the Use of HopGuard to Control Varroa Mites In Honey Bee Colonies in Maine**

The following changes have been made to Section 18 Emergency Specific Exemption, 12-ME-04, for use of HopGuard.

40 CFR 166.20(a)(3): Description of Proposed Use

**(v) Total number of honey bee colonies to be treated:**

Revised to 80,200 colonies that could be treated

There was an increase in the number of migratory colonies entering the state as well as an increase in the number of beekeeping hobbyists in 2012. Commercial blueberry growers expect to import more hives in 2013.

**(vi) Total amount of pesticide proposed (active ingredient and product):**

Revised to a maximum of 3695.62 kg (1679.83 lbs) a.i.; a maximum of 1,924,800 strips

Assuming that 100% of the 80,200 honey bee colonies in Maine will be treated with four strips (two strips x two brood chambers) up to six times per year (usually spring, summer and fall); a maximum of 1,924,800 strips may be used. If 100% of the honey bee colonies in Maine are treated, then the total amount of hop beta acids applied in Maine will be 3,272 kg (1,924,800 strips x 1.92 grams of potassium salt of hop beta acids per strip), which is equivalent to 3695.62 kg (1679.83 lbs).

**2012 FIFRA SECTION 18 EMERGENCY SPECIFIC EXEMPTION  
FOR THE USE OF HOPGUARD TO CONTROL VARROA MITES IN  
HONEY BEE COLONIES IN MAINE**

**Final Report**

**File Symbol: 12-ME-04**

Tony Jadzak, Maine State Apiarist  
May Tomlinson, Maine Pesticides Registrar

Maine Board of Pesticides Control  
Maine Department of Agriculture, Conservation and Forestry  
State House Station 28  
Augusta, Maine 04333-0028

March 1, 2013

**2012 Section 18 Emergency Exemption Final Report  
for Use of HopGuard (potassium salt of hop beta acids) to Control  
Varroa Mite, *Varroa destructor*, in Honeybee Colonies in the State of Maine**

This is a Section 18 Specific Exemption final report in compliance with § 166.32, Reporting and recordkeeping requirements for specific, quarantine, and public health exemptions.

The Varroa mite is a widespread pest in honeybee colonies, affecting adult bees and reducing honey production in Maine. HopGuard, containing potassium salt of hop beta acids, is an effective alternative among available control options, being an effective miticide while not affecting colony behavior.

**(1) Total colonies treated and total quantity used under the exemption:**

During the period of August 3, 2012 to December 31, 2012, approximately 5,500 honey bee colonies were treated with HopGuard (Beta acids) throughout Maine. This estimate is based upon the sale of 220 kits (11,000 strips) sold in the state during the period and an application rate of 2 HopGuard strips/hive. The total amount of active ingredient used was 21,120 grams (at 1.92 g ai/strip).

**(2) Discussion of effectiveness of the pesticide in dealing with the emergency condition:**

The efficacy of Hopguard for Varroa control was consistent with USDA and BetaTec reports. The material was lethal to exposed mites for approximately three days (while the beta acid soaked cardboard strips remained wet).

**(3) A description of any unexpected adverse effects which resulted from use of the pesticide under the exemption:**

There was one report of “bearding” behavior (clustering of adult honey bees outside of the hive) following the application of HopGuard. The bees resumed normal behavior the following day. Two commercial beekeeping operations (1,400 hives) were inspected after application of HopGuard in fall during cool weather in northern Maine. Approximately 15% of hives had slight adult bee mortality with approximately 100-300 adult honey bees found on bottom boards or directly in front of hive entrances. The mortality could have been associated with the chilling of bees during treatment (Hopguard and medicated sugar syrup). No direct link to the HopGuard treatment could be determined.

**4) The results of any monitoring required and/or carried out under the exemption:**

Random inspections immediately following HopGuard treatment verified good Varroa control. Subsequent treatments were warranted for hives actively rearing brood.

**(5) A discussion of any enforcement actions taken in connection with the exemption:**

No enforcement action was carried out under this exemption.

**(6) Method(s) of disposition of a food crop, if required to be destroyed under an exemption:**

No disposition was required.

**(7) Any other information requested by the Administrator:**

No other information was requested by the Administrator.



PAUL R. LePAGE  
GOVERNOR

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DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY  
DIVISION OF ANIMAL AND PLANT HEALTH  
28 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0028

Attachment 3

WALTER E. WHITCOMB  
COMMISSIONER

ELLIS B. ADDITON  
DIRECTOR

January 28, 2013

Mary E. Tomlinson  
Pesticide Registrar/Water Quality Specialist  
Maine Board of Pesticide Control  
28 State House Station  
Augusta, ME 04333

Dear Ms. Tomlinson,

On behalf of Maine's beekeeping industry and the agricultural commodities that rely upon honey bees for pollination purposes, I support a repeat of the Section 18 Emergency Exemption for HopGuard (beta acids) that was granted by the US-EPA August 3, 2012 and expired December 31, 2012.

Hopguard is an effective Varroa mite treatment that provided control consistent with studies conducted by the USDA and registrant, BetaTec Hop Products. The product offers beekeepers an alternative mite control that is both valuable for resistance management and organic treatment alternative.

BetaTec's December 4, 2012 letter supports the Section 18 repeat for HopGuard and also states that the company has initiated the Section 3 label process in cooperation with IR-4 at Rutgers University. On January 16, 2013 Lloyd Schantz, Executive Vice President, BetaTec Hop Products called to report progress and stated that the company is also in the process of modifying the cardboard delivery system in order to improve efficacy.

A repeat of this Section 18 Emergency Exemption is necessary so beekeepers have an alternative Varroa control in lieu of materials that now have wide-spread mite resistance (Apistan, CheckMite) and alternative organic Varroa mite control option that can be used while bees are producing honey.

A healthy beekeeping industry is essential for agricultural production in Maine and the U.S. for pollination purposes. Thank you for considering this matter.

Sincerely,

Anthony Jadczyk  
State Apiarist



5185 MacArthur Boulevard, NW  
Suite 300  
Washington, DC 20016-3341  
Tel: (202) 777-4800  
Fax: (202) 777-4895

December 4, 2012

Mary E. Tomlinson  
Pesticide Registrar/Water Quality Specialist  
Maine Board of Pesticides Control  
28 State House Station  
Augusta, ME 04333

Dear Ms. Tomlinson,

BetaTec Hop Products (a division of John I. Haas, Inc.) is actively working with USDA-ARS to bring to market HopGuard (a Beta Acids rich fraction) for the control of the Varroa mite in the beehive. The US-EPA has reviewed the Section 18 submission and has granted 28 states requests to date. We fully support the Maine Department of Agriculture's request for a Section 18 emergency exemption for the use of our product.

BetaTec Hop Products, Inc. has committed to provide sufficient product, properly labeled, for this emergency use when it is granted by the EPA. We have as well initiated the Section 3 approval process utilizing the services of the IR-4 Project.

We thank the State of Maine for their support in this endeavor. If you have any questions of me, please do not hesitate to let me know.

Best regards,

A handwritten signature in blue ink, appearing to read "Lloyd C. Schantz", is written over the typed name.

Lloyd C. Schantz  
Executive Vice President  
BetaTec Hop Products, Inc.



## HOPGUARD™

### SECTION 18 SPECIFIC EXEMPTION

**THIS IS AN UNREGISTERED PRODUCT AND MAY BE USED FOR DISTRIBUTION AND USE ONLY IN STATES WITH A VALID SECTION 18 EXEMPTION AUTHORIZATION. THE EXEMPTION IS EFFECTIVE FROM JANUARY 1, 2013 AND EXPIRES ON DECEMBER 31, 2013.**

**For use in beehives to control Varroa mites (*Varroa destructor*) on honey bees**

<b>ACTIVE INGREDIENTS:</b>	<b>BY WEIGHT</b>
Potassium Salt of Hop Beta Acids.....	16.0%
<b>INERT INGREDIENTS:</b> .....	84.0%
<b>TOTAL</b>	<b>100.0%</b>

### KEEP OUT OF REACH OF CHILDREN

#### PRECAUTIONARY STATEMENTS

Product may cause eye irritation – flood eyes with plenty of water if contact is made with eyes. Wearing protective eyewear when handling treated strips will reduce the potential for eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or smoking tobacco. Remove and wash contaminated clothing before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT

Applicators must wear chemical-resistant gloves when handling treated strips.

#### DIRECTIONS FOR USE

**Package** - Strips must be applied at the rate of three half strips per 2 lb. or 3 lb. package of adult worker bees. Cut strips in half and attach three half strips to the top of package so that the strips are hanging within the package. Place bees in the package after the strips are attached. The bees should remain in contact with the strips for at least 48 hours.

**Colony** - Strips must be applied at the rate of one strip per five deep combs covered with bees in each brood super or for example two strips per ten frame brood super (chamber) when all the combs are covered with bees. Strips are to be placed only in the brood chamber (not in the honey super). Folded strips must be opened and hung over one of the center brood frame with one-half of the strip on each side of the frame. If using a second strip, apply it to an adjacent center frame about four inches away from the first strip. Strips must be placed hanging between frames, and within the colony cluster, and not laid on top of the frames. Leave the strips in the colony for four weeks. Retreat, as necessary, up to six times per year.

A maximum of six applications per year (twelve strips or approximately 23.04 grams of potassium salt of hop beta acids) per ten frame brood super (chamber) is allowed. This limit includes all applications to the package (if applicable) and to the colony. Application timing (usually during spring, summer or fall) should be based on the levels of Varroa mites observed in the colony. Users may not take honey and wax from the brood chambers, only from the honey supers. For optimal results, apply HopGuard when little to no brood is present in the hive.

Any adverse effects resulting from the use of HopGuard™ under this emergency exemption must be immediately reported to your State Department of Agriculture.

#### RESISTANCE MANAGEMENT

Using this product in rotation with another approved miticide with a different mode of action will decrease the potential for Varroa mites to develop resistance. If the strip remains in the hive more than 4 weeks remove.

#### STORAGE AND DISPOSAL

Unused strips should be stored in a tightly sealed, cool, dark area. Unused, unregistered product must either be returned to the manufacturer or distributor in unopened containers or disposed of in accordance with the Resource Conservation Recovery Act following the expiration of this emergency exemption.

#### NET CONTENTS

Each HopGuard™ kit contains 50 cardboard strips. Each strip is folded in half and contains 1.92 grams of potassium salt of hop beta acids, and the kit contains 96 grams (3.4 ounces) of potassium salt of hop beta acids.

Attachment 5

**Manufactured by:** BetaTec Hop Products, Inc., A Division of John I. Haas, Inc., P.O. Box 1441, Yakima, WA 98907

*efficient by nature™*



**EMERGENCY EXEMPTION USE DIRECTIONS**

**EPA FILE SYMBOL XX-ME-XX4**

**STATE:** Maine  
**CHEMICAL:** Potassium Salt of Hop Beta Acids (HopGuard™)  
**CROP / SITE:** Honey Bees / All counties in the state of Maine  
**PEST:** *Varroa destructor*  
**EFFECTIVE:** January 1, 2013 to December 31, 2013

**PRECAUTIONARY STATEMENTS**

Product may cause eye irritation – flood eyes with plenty of water if contact is made with eyes. Wearing protective eyewear when handling treated strips will reduce the potential for eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or smoking tobacco. Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT**

Applicators must wear chemical-resistant gloves when handling treated strips.

**DIRECTIONS FOR USE**

Package - Strips must be applied at the rate of three half strips per 2 lb. or 3 lb. package of adult worker bees. Cut strips in half and attach three half strips to the top of package so that the strips are hanging within the package. Place bees in the package after the strips are attached. The bees should remain in contact with the strips for at least 48 hours.

Colony - Strips must be applied at the rate of one strip per five deep combs covered with bees in each brood super or for example two strips per ten frame brood super (chamber) when all the combs are covered with bees. Strips are to be placed only in the brood chamber (not in the honey super). Folded strips must be opened and hung over one of the center brood frame with one-half of the strip on each side of the frame. If using a second strip, apply it to an adjacent center frame about four inches away from the first strip. Strips must be placed hanging between frames, and within the colony cluster, and not laid on top of the frames. Leave the strips in the colony for four weeks. Retreat, as necessary, up to three times for the remainder of 2012.

A maximum of six (6) applications per year (twelve (12) strips or approximately 23.04 grams of potassium salt of hop beta acids) per ten frame brood super (chamber) is allowed. This limit includes all applications to the package (if applicable) and to the colony. Application timing (usually during spring, summer or fall) should be based on the levels of Varroa mites observed in the colony. Users may not take honey and wax from the brood chambers, only from the honey supers. For optimal results, apply HopGuard when little to no brood is present in the colony.

The use directions must be in the possession of the user at the time of application.

Any adverse effects resulting from the use of HopGuard™ under this emergency exemption must be immediately reported to the Maine Board of Pesticides Control at 207-287-2731.

**RESISTANCE MANAGEMENT**

Using this product in rotation with another approved miticide with a different mode of action will decrease the potential for Varroa mites to develop resistance. If the strip remains in the hive more than 4 weeks remove.

**Manufactured by:** BetaTec Hop Products, Inc., A Division of John I. Haas, Inc., P.O. Box 1441, Yakima, WA 98907

*efficient by nature™*