

The University of Maryland Extension Agriculture and Natural Resources Profitability Impact Team proudly presents this bi-weekly publication for the commercial vegetable and fruit industry.

Volume 4 Issue 6

June 20, 2013

Summer Observations from WyeREC

By Michael Newell
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Strawberry Plasticulture

With harvest complete, destruction of plants ASAP will help limit a build-up of insect and diseases. Growers who plan to crop a plasticulture field a second year may need to reconsider in lieu of the recent virus situation. Summer cover crops grown to be chopped and incorporated prior to field preparations for Fall planting is a great way to improve the soil and aids in breaking disease/nematode and insect life-cycles. Don't forget to order your plant material for Fall planting ASAP.

Strawberry Perennial Matted-Row

After harvest is complete, field renovation should be done ASAP. Applications of 2,4-D, Stinger or a post emergence grass herbicide, depending on the target weed species, can be used 7 days prior to mowing. Narrowing the row width at renovation will help thin plants, reinitiate root growth, retain vigor and maintain berry size for next season. After narrowing the rows, fertilize, apply a pre-emergent herbicide and maintain plant health with regular irrigations and control of insect pest and leaf diseases. Neglecting the planting at this time will result in lowers yields next season.

Grapes

Bloom is complete here at the Center, maintaining good fungicide coverage as clusters begin to close is imperative. Continue shoot positioning and consider cluster thinning on heavy setting cultivars. *Monitor for Grape Berry Moth!*

Tree Fruit Apple

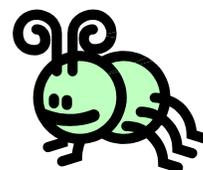
Summer Diseases – Sooty Blotch and Fly Speck, White Rot and Black Rot, plus anthracnose, are critical diseases to control at this time. Topsin-M, Sovran, Pristine or Flint can be included for control. Good coverage is essential for control.

Tree Fruit Peach

With plenty of heavy rain events this season, maintain cover sprays. For early ripening cultivars, an improved fungicide spray program should be initiated several weeks prior to the anticipated harvest

Vegetable Crop Insects

By Joanne Whalen,
DE Extension IPM Specialist
jwhalen@udel.edu



Cucumbers

With the recent rainy weather, we have seen fluctuating cucumber beetle populations; however, higher populations are still present in fields with a history of problems. Fresh market cucumbers are susceptible to bacterial wilt that is vectored by the beetles, so treatments should be applied before beetles feed extensively on cotyledons and the first true leaves. Although pickling cucumbers have a tolerance to wilt, a treatment may still be needed for machine-harvested pickling cucumbers when 5% of plants are infested with beetles and/or plants are showing fresh feeding injury. A treatment should be applied for aphids if 10 to 20% of the plants are infested with aphids with 5 or more aphids per leaf.

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. When fields are blooming, it is important to consider pollinators when making an insecticide application: <http://extension.oregonstate.edu/catalog/pdf/pnw/pnw591.pdf>.

Peppers

As soon as the first flowers can be found, be sure to consider a corn borer treatment. Depending on local corn borer trap catches, sprays should be applied on a 7 to 10-day schedule once pepper fruit is ¼ – ½ inch in diameter. Be sure to check local moth catches in your area by calling the Crop Pest Hotline (instate: 800-345-7544; out of state: 302-831-8851) or visiting our website at: <http://agdev.anr.udel.edu/trap/trap.php>

Potatoes

Continue to scout fields for Colorado potato beetle (CPB) and leafhoppers. Adult CPB as well as the small and large larvae can now be found. A treatment should be considered for adults when you find 25 beetles per 50 plants and defoliation has reached the 10% level. Once larvae are detected, the threshold is 4 small larvae per plant or 1.5 large larvae per plant. As a general guideline, controls should be applied for leafhoppers if you find 1/2 to one adult per sweep and/or one nymph per every 10 leaves.

Snap Beans

Continue to sample all seedling stage fields for leafhopper and thrips activity. The thrips threshold is 5-6 per leaflet and the leafhopper threshold is 5 per sweep. If both insects are present, the threshold for each should be reduced by one third. As a general guideline, once corn borer catches reach 2 per night, fresh market and processing snap beans in the bud to pin stages should be sprayed for corn borer. Sprays will be needed at the bud and pin stages on processing beans. After the pin spray on processing beans, the spray schedule will be determined by a combination of both moth catches and field scouting:

<http://agdev.anr.udel.edu/trap/trap.php>

<http://extension.udel.edu/ag/insect-management/insect-trapping-program/ecb-and-cew-moth-catch-thresholds-for-processing-snap-beans/>

Once pins are present on fresh market snap beans and corn borer trap catches are above 2 per night, a 7-10 day schedule should be maintained for corn borer control

Sweet Corn

Continue to sample seedling stage fields for cutworms and flea beetles. You should also sample whorl through pre-tassel stage corn for corn borers and corn earworms. A treatment should be applied if 15% of the plants are infested with larvae. The first silk sprays will be needed for corn earworm as soon as ear shanks are visible. Be sure to check both black light and pheromone trap catches since the spray schedules can quickly change. Trap catches are generally updated on Tuesday and Friday mornings:

<http://agdev.anr.udel.edu/trap/trap.php> and

<http://extension.udel.edu/ag/insect-management/insect-trapping-program/action-thresholds-for-silk-stage-sweet-corn/>

You can also call the Crop Pest Hotline for the most recent trap catches (in state: 800-345-7544; out of state: 302-831-8851).

University of Maryland Potato Disease Advisory

By Kate Everts, Vegetable Pathologist,
University of Delaware and University of Maryland;
keverts@umd.edu

June 17, 2013

Note: No late blight has yet been reported in Maryland. The isolate that is now confirmed from Berkeley Springs, WV was US23. This strain is very pathogenic on tomatoes and has been sensitive to mefenoxam in the past.

Late blight forecasts are being generated for eight locations across Maryland based on the programs Blightcast

and Simcast. All locations have reached the threshold for the initial fungicide spray. The information below indicates the current spray interval that Simcast has recommended.

Simcast requires information on specific fungicide applications in a field. Therefore, I am reporting the Simcast spray interval as a guideline only. The spray intervals in Table 1, are based on the assumption that chlorothalonil, which has a 5-day spray interval, was used. Table 2 shows the residual activity of some other common fungicides used for potato late blight. If you have sprayed something other than chlorothalonil, find the product in the table and adjust your spray interval accordingly.

There are numerous fungicides now labeled for late blight control. See the 2013 Commercial Vegetable Production Recommendations, Maryland.

Late Blight Disease Severity Value (DSV) Report

Location	DSV	Simcast spray interval recommendation *
Dorchester Co.	92	5-day
Germantown	123	5-day
Clinton	119	5-day
Owings	98	5-day
Severn	119	5-day
White Marsh	41	5-day
Mechanicsville	98	5-day
Oakland	106	5-day

*Spray interval recommendation is based on production of a susceptible cultivar and application of a protectant fungicide such as chlorothalonil. A 50% emergence date of May 1 was estimated for Dorchester Co., Clinton, Owings, Severn, Mechanicsville, and White Marsh. A 50% emergence date of May 5 was estimated for Germantown, and May 10 for Oakland.

Potato Late Blight Control Products

Product name	Active ingredient	FRAC code	Minimum spray interval
Bravo	Chlorothalonil	M5	5
Ranman 400SC	Cyazofomid	21	7
Gavel 75DF	Zoxamide+ Mancozeb	22+M3	7
Tanos DF	Famoxadone+ cymoxanil	11+27	5
Dithane DF	Mancozeb	M3	3
Curzate	Cymoxanil	27	5
Revus Top	Mandipropamide+ difenoconazole	40+3	7
Revus	Mandipropamide	40	5
Previcur Flex SC	Propamocarb hydrochloride	28	7
Forum SC	Dimethomorph	40	5
Presidio	Fluopicolide	43	7
SuperTin 80WP	Fentin hydroxide	30	7
PolyRam	Metiram	M3	5

Angular Leaf Spot on Watermelon

By Kate Everts, Vegetable Pathologist,
University of Delaware and University of Maryland;
keverts@umd.edu

This week I have received three watermelon samples that appear to be angular leaf spot. Previously, I wrote about this disease on cucumber and squash. Angular leaf spot is fairly common on cucumber, squash, and muskmelon, however it is uncommon on watermelon in the field. When I have seen it in Maryland or Delaware in the past, it has been in greenhouses. Past experience with the strains that have appeared here on Delmarva is that conditions after transplanting to the field, which are typically hot and dry, usually do not favor angular leaf spot development. However conditions this year differ. The current cool wet weather is highly favorable for angular leaf spot.

Symptoms of angular leaf spot are a chlorotic halo and may appear "shiny" (due to bacteria on the lesion surface). Small irregular lesions expand and become angular. On watermelons the borders are chlorotic. Older lesions may turn brown, dry and tear to produce a tattered appearance.

The disease may be seedborne. In addition it has a wide host range and can also survive as an epiphyte on several weeds. The pathogen spreads from plant to plant in splashing rain, irrigation, or mechanically (such as on hands, windblown sand, or equipment). There are several bacteria (*Pseudomonas viridiflava*, *P. syringae* pv. *lachrymans*, and possibly others) that cause similar symptoms and vary in their ability to cause damage.

It is important to have the disease identified. The symptoms look similar to anthracnose. However the fungicides used to manage the two diseases are different. If angular leaf spot is confirmed in the field, applications of fixed copper plus mancozeb will minimize spread. Also avoid working field when foliage is wet.



ML Ross
UMD

Angular leaf spot. Note the angular tan appearance of lesions, and the "shine" on the cotyledons.

Cucumber Downy Mildew Alert

By Nathan Kleczewski, DE Extension Specialist, Plant
Pathology: nkleczew@udel.edu

&

Kate Everts, Vegetable Pathologist, University of Delaware
and University of Maryland: keverts@umd.edu

Cucumber Downy Mildew has been reported in a research farm in Johnson County, North Carolina. Recent storms have likely facilitated in the movement of the pathogen into the area. Forecasting models located at: <http://cdm.ipmpipe.org/> indicate that the pathogen is likely to spread to Delaware and Maryland. Growers should consider applying fungicides protectively to prevent severe losses resulting from the disease. Fungicide recommendations can be found in the Cucurbit Downy and Powdery Mildew Article found in this issue of WCU or at the University of Delaware website: <http://extension.udel.edu/ag/vegetable-fruit-resources/commercial-vegetable-production-recommendations/>.



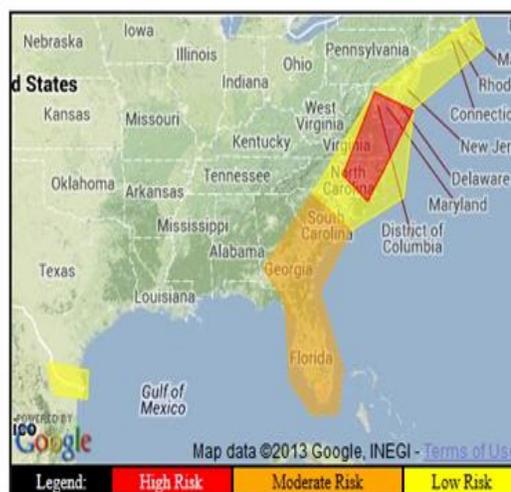
D Egel



D Egel

Upper and lower surface of leaf with symptoms of angular leaf spot.

Risk prediction map for Day 1: Monday, June 10



HIGH Risk for cucurbits in eastern NC, eastern VA, and most of MD and DE. Moderate Risk for FL (except the panhandle), southern and eastern GA, and most of SC. Low Risk surrounds the High risk area in the mid-Atlantic states, extending from northern SC northeastward through NJ, Long Island, and far southern New England. Low Risk also near the TX source. Minimal Risk to cucurbits otherwise.

New Invasive Pest Reported in Maryland: The European Pepper Moth

Jerry Brust, IPM Vegetable Specialist
University of Maryland
jbrust@umd.edu

Stanton Gill has identified a new invasive pest of ornamentals and vegetables in Maryland: the European pepper moth *Duponchelia fovealis*. The European pepper moth was found on petunia and geraniums from a wholesale greenhouse operation in Ann Arundel County in the last 10 days. The moth has spread around the U.S. and Canada (but only in the GH) since first being reported in 2004. The Government considered putting it under quarantine, but it spread so rapidly the idea was abandoned. It is not known yet if this pest has or will become established in the landscape, or is just found in the nursery and containerized vegetable trade. Based on the climate of its native habitat in the Southern Mediterranean, this pest has a chance of becoming established in states along the west coast and the southeastern U.S. How far north the pest could move up the SE coastline is not known at this time. This caterpillar feeds on a wide range of plants including ornamentals but also on several vegetables including tomato, pepper, squash and strawberries.

The larvae feed on roots, leaves, flowers, buds and fruit. On leaves, this feeding damage appears as rounded or crescent-shaped holes on the outside of the leaves, but eventually the whole leaf is eaten. Usually the leaves that are attacked are at the base of the plant.

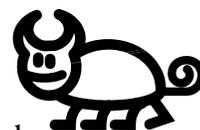
Late instar larvae also can burrow into the plant stem (pepper, tomato, squash). I do not think this insect will become established in our area, but it may be a problem for some vegetable growers during the summer when it escapes from a greenhouse operation. If you see any odd leaf feeding or stem boring and the larva looks something like the picture (photo 1) below give me a call at 301-627-8440 or jbrust@umd.edu.



Photo1: Larva of the European Pepper Moth.

Central/Western Maryland Invasive Update

Submitted By Bryan Butler*
Senior Agent, Carroll County & Mid-Maryland
Tree Fruit Agent, UME



As of right now we have not picked up SWD in any of the traps in Central/ Western Maryland but this is the week fist saw the first maggots showing up in blackberries and ripe tart cherries last year (**Photo 1**).

As we know this is a very different year but we know so little about this pest it is very important to be extra vigilant as we move into blueberries, blackberries and especially later in fall raspberries. If you do begin to treat for SWD be sure you get very good coverage of the plants and fruit and alternate your chemical families to avoid resistance.



Photo 1: SWD Injury in Blackberry

BMSB are in peaches and should continue to move into horticultural crops so be sure to be monitoring the edges and treating so that nymphs do not become established in your fields (**Photo 2**). We have Section 18 labels for bifenthrin and dinotefuran again this season. See the attached labels. Be sure to follow label instructions with regard to timing, rates and PHI.



Photo 2: BMSB Injury in Peaches.

Produce Safety Rule within the Food Safety Modernization Act

By Donna Pahl
GAP's Educator, FEA
University of Maryland
dpahl@umd.edu

The FDA has released the proposed regulations for the Produce Safety Rule within the Food Safety Modernization Act (FSMA; docket # FDA-2011-N-0921). If these proposed regulations are passed, many farmers in Maryland growing **fruits and vegetables for raw consumption** will be required to follow them. Among other areas, the proposed regulations require worker hygiene training, testing the quality of water used in agriculture, minimizing contact with wild and domestic animals, and mandatory intervals between manure application and harvesting produce. Appropriate documentation and record-keeping will be required as well.

The produce rule in its entirety is 550 pages, but abridged factsheets can be found online at:

<http://www.fda.gov/food/guidanceregulation/fsma/default.htm>.

Information can also be found by searching "Food Safety Modernization Act" online, or by contacting me for information.

The FDA has asked growers, extension officials, and anyone interested to write in their comments on these proposed rules -- **the official comment period has been extended to September 16, 2013**. For anyone affected by these proposed regulations, please write in a comment. The FDA must investigate and respond to the contents of every comment and before passing the final regulations.

Comments on the produce safety rule aspect of the FSMA can be sent electronically via:

<http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm334114.htm>.

Alternatively, each comment can be mailed in to:

Division of Dockets Management (HFA-305)
Food and Drug Administration
5630 Fishers Lane
Room 1601
Rockville, MD 20852

If writing and mailing in a comment, please specify Docket # FDA-2011-0921 and Regulatory Information Number (RIN) 0910-AG35. Our lab at the University of Maryland has written in a comment based on our published food safety research on water quality and tomatoes. We expect to write more comments this fall based on forthcoming data.

If anyone has questions, please contact me at: dpahl@umd.edu or 301-405-4372.

CDMS Pesticide Labels and MSDS On-Line at:
<http://www.cdms.net>



The **American Vegetable Grower eNews** highlighted the recently published **National Commodity-Specific Food Safety Guidelines for Cantaloupes and Netted Melons** or also known as the **National Cantaloupe Guidance**.



This 40-page document contains the recommended GAPs and GHPs developed by a committee made up of large farmers, marketing organizations, food store chains, and university personnel. Jeff Stoltzfus from Lancaster Co. PA is the closest member of the committee. Available at the following link:

<http://www.cantaloupe-guidance.org/sites/default/files/docs/032913%20Nat%20Cantaloupe%20Guidance%20V1.1.pdf>



See the Attachments!

Emergency Section 18 Labels:

- 1) **Scorpion for BMSB in Stone and Pome Fruit.**
- 2) **Venom for BMSB in Stone and Pome Fruit.**
- 3) **Brigade for BMSB in Stone and Pome Fruit.**
- 4) **Bifenture for BMSB in Stone and Pome Fruit.**

Vegetable & Fruit Headline News

A bi-weekly publication for the commercial vegetable and fruit industry available electronically in 2013 from April through September on the following dates: March 21; April 18; May 9 & 23; June 6 & 20; July 11 & 25; August 15; September 12.

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Submit Articles to:

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myersrd@umd.edu



Article submission deadlines for 2013: March 20; April 17; May 8 & 22; June 5 & 19; July 10 & 24; August 14; September 11.

Note: Registered Trade Mark® Products, Manufacturers, or Companies mentioned within this newsletter are not to be considered as sole endorsements. The information has been provided for educational purposes only.

SECTION 18 EMERGENCY EXEMPTION

FOR USE AND DISTRIBUTION ONLY WITHIN THE STATE OF MARYLAND

FOR CONTROL OF BROWN MARMORATED STINK BUGS IN POME AND STONE FRUIT.



EFFECTIVE DATE: 5-31-2013
EXPIRATION DATE: 10-15-2013

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- All applicable directions, restrictions, Worker Protection Standard (WPS) requirements, and precautions on the federally registered product label for Scorpion 35 SL Insecticide (EPA Reg. No. 10163-317), as well as the Section 18 directions, must be followed.
- This label must be in the possession of the user at the time of pesticide application.
- Do not use Scorpion 35 SL Insecticide on pome and stone fruit after the expiration date of 10-15-2013.

This compound is highly toxic to honey bees. The persistence of residues and potential residual toxicity of dinotefuran in nectar and pollen suggests the possibility of chronic toxic risk to honey bee larvae and the eventual instability of the hive.

This product is toxic to bees exposed to treatment for more than 38 hours following treatment.

DIRECTIONS FOR USE

Direction for use on Pome and Stone Fruits			
PEST	RATE OF SCORPION 35SL INSECTICIDE	REMARKS	RESTRICTIONS
Brown Marmorated Stink Bug	8 - 12 fl oz/A (0.203 lbs - 0.304 lbs ai/A)	Use adequate spray volumes to insure complete coverage. Higher water volumes may provide improved insect control. Begin application when field sampling indicates pest activity. Use higher label rates when pest pressure increases and especially when adults are actively migrating into the orchard. Repeat as needed to maintain control, but not more often than every 7 days. SCORPION 35SL INSECTICIDE may be tank mixed and/or alternated with other approved insecticides. To reduce the potential for resistance, use a recommended IPM program consisting of varying modes of action.	Restriction: Do not apply more than a total of 24 fl oz/A of SCORPION 35SL INSECTICIDE (0.608 lb ai/A) per season. Do not make more than 2 applications per acre per season of this product or other products containing dinotefuran. Do not apply this product until after petal fall. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. Foliar Application Only <ul style="list-style-type: none"> • Apply with ground equipment in adequate water to obtain uniform coverage (For best results, use at least 50 gallons/acre for ground applications). • Do not apply SCORPION 35SL INSECTICIDE within three (3) days of harvest.

Scorpion® is a registered trademark of Gowan Company, LLC.

EPA Reg. No. 10163-317
File Symbol: 13MD06 (pome fruit);
13MD07 (stone fruit)

Gowan[®]

The Go To Company

Gowan Company
P.O. BOX 5569
Yuma, AZ 85366-5569

Section 18 Recommendation



VENOM[®]

I N S E C T I C I D E

SECTION 18 EMERGENCY EXEMPTION USE DIRECTIONS

For use in connection with an emergency exemption authorized under the provisions of Section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended.

For the control of brown marmorated stink bug (*Halyomorpha halys*) on pome fruit and stone fruit in the state of Maryland.

Effective use date: May 31, 2013

Expiration date: October 15, 2013

File identification: 13MD06 (pome fruit); 13MD07 (stone fruit)

Venom Insecticide is a soluble dispersible granule with a 70% concentration of the active ingredient dinotefuran

DIRECTIONS FOR USE

Directions, restrictions and precautions on the registered product label for *Venom* Insecticide® (EPA Registration Number 59639-135) must be followed.

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

Always read and follow all label directions, restrictions and precautions when using any pesticide alone or in tank mix combinations. The most restrictive labeling applies when using a tank mix.

Venom Insecticide is toxic to bees exposed to direct treatment or to residue on blooming crops and weeds. Do not apply *Venom* Insecticide® or allow it to drift onto blooming plants if bees are actively foraging in the treated area.

This section 18 label contains directions for use that do not appear on the EPA registered label of *Venom* Insecticide®. Please refer to the production label for additional information.

Pome fruit

PESTS	PRODUCT RATE
Brown marmorated stink bug	FOLIAR: 4 to 6.75 oz/A (0.179 to 0.302 lb ai/A)

Stone fruit

PESTS	PRODUCT RATE
Brown marmorated stink bug	FOLIAR: 4 to 6.75 oz/A (0.179 to 0.302 lb ai/A)

Foliar Application

- Apply with ground equipment in adequate water for uniform coverage (a minimum of 50 gals/A).
- Do not apply *Venom* Insecticide within three (3) days of harvest
- Apply a maximum of 2 applications per acre per season with a minimum 7-day application interval.
- Do not apply more than a total of 13.5 oz of *Venom* Insecticide or products containing dinotefuran (0.604 lb ai) per acre per season.
- *Venom* Insecticide has a REI of 12 hours
- Refer to label for necessary PPE to handle this product
- Do not apply this product until after petal fall. This compound is highly toxic to honeybees. The persistence of residues and potential residual toxicity of dinotefuran in nectar and pollen suggests the possibility of chronic toxic risk to honeybee larvae and the eventual instability of the hive. This product is toxic to bees exposed to treatment for more than 38 hours following treatment.

Special Instructions

Stink bugs: Coverage is essential for adequate control. Use sufficient water volume to ensure good coverage.

Venom Insecticide may be tank mixed with other insecticides for better knockdown and/or improved control of pests. Use higher rates when stink bugs are actively migrating from neighboring fields.

This labeling must be in possession of the user at the time of pesticide application.

Please contact Valent U.S.A. Corporation at 1-800-6-VALENT (682-5368) to determine if this product is registered in your state.

Registrant: Valent U.S.A. Corporation
P.O. Box 8025
Walnut Creek, CA 94596-8025

Venom is a registered trademark of Valent U.S.A. Corporation.

RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators or persons under their direct supervision, and only for those uses covered by the certified applicator's certificate



Section 18 EXEMPTION

FOR DISTRIBUTION
AND USE ONLY IN
MARYLAND

EPA File Symbols:
13-MD-03,
13-MD-04,
13-MD-05

EMERGENCY CALLS: 800-331-3148

ALL APPLICABLE DIRECTIONS, RESTRICTIONS, AND PRECAUTIONS ON THE REGISTERED PRODUCT LABEL FOR BRIGADE WSB (EPA REG. NO. 279-3108) ARE TO BE FOLLOWED

THESE DIRECTIONS FOR USE MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF PESTICIDE APPLICATION.

This exemption is effective from June 7, 2013 through October 15, 2013

Crop	Pest Controlled	Rate of Application
Apples, Peaches, Nectarines	Brown Marmorated Stinkbug	12.8 - 32 oz/A (0.08 - 0.2 lb ai/acre)

Directions for Use: Application must be made post-bloom, by ground only as a dilute (minimum 200 gallons of finished spray per acre) or concentrate (minimum 50 gallons of finished spray per acre) in sufficient water to provide thorough coverage. Do not apply this product until after petal fall.

Restrictions: Do not apply more than 32 oz/acre (0.2 lb ai/acre) per application. Do not apply more than 72 oz/A (0.5 lb ai/acre) per year. Do not make applications less than 30 days apart. Do not graze livestock in treated areas. Do not apply within 14 days of harvest. Do not allow entry into treated areas for 12 hours following application.

Any adverse effects resulting from the use of Brigade WSB under this emergency exemption must be immediately reported to the Maryland Department of Agriculture.



FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103

Brigade and FMC -FMC Trademarks
©2013 FMC Corporation

For distribution and use only in Maryland under an emergency exemption authorized under Section 18 of FIFRA

All applicable directions, restrictions, and precautions on the EPA registered product labels as well as those on these directions for use must be followed. These directions for use must be in the possession of the user at the time of pesticide application.

Products: Bifenture® EC Agricultural Insecticide (EPA Reg. No. 70506-57)
Bifenture® 10DF Insecticide/Miticide (EPA Reg. No. 70506-227)

Firm Name: United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406

Crop/Site/Commodity: Apples, Peaches, Nectarines

File Symbol: 13-MD-03, 13-MD-04, and 13-MD-05

Target Pest/Problem: Brown Marmorated Stink Bug (*Halyomorpha halys*)

Dosage: Apply 5.12 – 12.8 fl ozs (0.08-0.20 lbs ai) per acre of **Bifenture EC Agricultural Insecticide** (EPA Reg. No. 70506-57), **OR**

Apply 12.8 – 32.0 ozs (0.08-0.20 lbs ai) per acre of **Bifenture 10DF Insecticide/Miticide** (EPA Reg. No. 70506-227)

Use higher rates under heavy insect pressure.

Dilution Rate: **By Ground:** Apply as a dilute spray (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre).
For best control, thorough coverage is necessary.

Frequency/Timing of Applications:

Applications should be applied when populations reach locally determined economic thresholds. Consult the cooperative extension service, professional consultants or other qualified authorities to determine appropriate threshold levels for treatment in your area.

Do not apply more than 32 fl ozs (0.50 lbs ai) of **Bifenture EC Agricultural Insecticide** or 80 ozs (0.50 lbs ai) of **Bifenture 10DF Insecticide/Miticide** per acre per season.

Apply as necessary to maintain control using a minimum of 30-day spray intervals.

Do not apply this product until after petal fall.

Do not graze livestock in treated orchards or cut treated cover crops for feed.

Restricted Entry

Interval (REI): 12 hours

Pre-Harvest Interval

(PHI): 14 days

Restricted Use Pesticide: When used in Maryland, applications can only be made by certified applicators or by persons under their direct supervision and only for those uses covered by the certified applicators certification.

This exemption is effective June 7, 2013 through October 15, 2013.