Field Observations from Southern Maryland
By Ben Beale
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June 5, 2013

- Rains throughout the region and moderate temperatures have created good growing conditions. Soil moisture levels are limiting in many non-irrigated fields, particularly in the southern region.
- Most crops have good fruit set. Farmers are busy weeding, cultivating, spraying and beginning to harvest early season crops.
- The first squash and zucchini are coming off now. High tunnel harvest of tomatoes, cucumbers and other crops is well underway.
- Strawberry harvest is now winding down.
- Cucumber beetles can now be observed in the field, especially near the base of the plant and under the plastic near the planting hole. Cucumber beetles populations have increased quickly in many fields, so be sure to scout regularly.
- Vine crops are beginning to run.
- Early sweet corn is starting to tassel and form ears, but none has been harvested as of yet. It is behind last year.
- Reports of timber rot in tomatoes have increased over the last 2 weeks.
- Grapes are in bloom now, meaning it is a critical time for fungicide applications.

Field Observations from WyeREC
By Michael Newell
Horticultural Crop Program Manager, Maryland Agricultural Experiment Station
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June 5, 2013

Peach
Leaf symptoms of bacterial spot have been observed here at the Center. Using very low rates of copper products before rain can help keep the disease in check. Higher spray volumes per acre will help minimize phytotoxicity from the copper sprays.

Apple and Asian Pear
Despite what appeared to be a heavy bloom, fruit set is somewhat less. Possible cold injury during or shortly after bloom or poor pollination conditions due to cool cloudy conditions during bloom may have been a factor in the low set.
Other than the brown marmorated stinkbugs still trying to leave my house, none have been observed in the orchards. I am applying Surround Kaolin clay at 12 lbs. per acre in all tree cover sprays this summer.

Plasticulture Strawberry
Harvest is winding down quickly. It’s time to get your plants for Fall planting ordered. Growing summer cover crops prior to Fall planting is always a good practice. Various mustard types and Sudan grass, are used regularly here at the Center. Let’s hope that we see less virus issues next year’s strawberries.
If you missed the 2013 Strawberry Twilight meeting last week, the information presented should be posted on our website soon. Go to WREC.UMD.EDU and look for recent program materials.

Grapes
Our research vineyard is early to mid-bloom. These are critical spray times for control of many of the usual diseases in grape. With predicted heavy rains Friday and Saturday, I plan to have all fruit crops planted at the Center sprayed prior to this upcoming rain event.
Vegetable Crop Insects
By Joanne Whalen,
DE Extension IPM Specialist
jwhalen@udel.edu

Cucumbers
With the recent warm weather, we are starting to see an increase in cucumber beetle activity. Fresh market cucumbers are susceptible to bacterial wilt, so treatments should be applied before beetles feed extensively on cotyledons and the true first 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.

Melons
Continue to scout all melons for aphids, cucumber beetles, and spider mites. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf. Since beetles can continue to re-infest fields as well as hide under the plastic, be sure to check carefully for beetles as well as their feeding damage. Multiple applications are often needed to achieve effective control. When fields are in bloom, it is important to consider pollinators when making an insecticide application.

Peppers
Continue to sample for corn borers and watch carefully for egg masses. Before fruit is present these young corn borer larvae can infest stems and petioles. 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), corn borers (ECB) 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 ½ 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 1/3. 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. Once pins are present on fresh market snap beans and corn borer trap catches are above 2 per night, a 7 to 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 blacklight and pheromone trap catches since the spray schedules can quickly change. Trap catches are generally updated on Tuesday and Friday mornings at:
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).

Angular Leaf Spot on Cucumber & Squash
By Kate Everts, Vegetable Pathologist, University of Delaware and University of Maryland; keverts@umd.edu

Angular leaf spot (ALS) is a common disease of cucumber in warm, humid conditions. However, it does infect other cucurbits such as squash. Symptoms on cucumber and other cucurbits appear first as small water soaked spots that eventually expand to the veins. Because they are delimited by the vein, they appear angular. Infected tissue may dry and crack, giving a tan, tattered look. Fruit can also be infected. The pathogen is the bacterium Pseudomonas syringae p.v. lachrymans, which can be seed borne. The pathogen spreads from plant to plant in splashing rain, irrigation, or mechanically (such as on hands, windblown sand, or equipment).

Management begins with the use of clean seed and host resistance where possible. A two year rotation will reduce initial pathogen inoculum in soil. In season copper sprays can reduce spread of the disease.

Angular leaf spot of cucumber (Pseudomonas syringae pv. lachrymans) on cucumber.
Late blight forecasts are being generated for eight locations across Maryland based on the programs Blightcast and Simcast. Because 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 table below is based on the assumption that a susceptible cultivar is being grown and that a protectant such as chlorothalonil is being applied. The interval accounts for disease severity values (DSV's) and when the last spray was applied.

On June 4th I received information that late blight is CONFIRMED in a tomato greenhouse in Berkeley Springs, West Virginia. Berkeley Springs is near Allegany and Washington Counties. This outbreak is an active threat to the potato and tomato crops in western Maryland. Both crops should be scouted aggressively and protected with fungicides. There are numerous fungicides now labeled for late blight control. See the 2013 Commercial Vegetable Production Recommendations, Maryland at: [http://extension.umd.edu/mdvegetables/2013-commercial-vegetable-production-recommendations](http://extension.umd.edu/mdvegetables/2013-commercial-vegetable-production-recommendations)

<table>
<thead>
<tr>
<th>Location</th>
<th>DSV</th>
<th>Simcast spray interval recommendation*</th>
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</thead>
<tbody>
<tr>
<td>Dorchester Co.</td>
<td>34</td>
<td>5-day</td>
</tr>
<tr>
<td>Germantown</td>
<td>43</td>
<td>9-day</td>
</tr>
<tr>
<td>Clinton</td>
<td>43</td>
<td>6-day</td>
</tr>
<tr>
<td>Owings</td>
<td>35</td>
<td>5-day</td>
</tr>
<tr>
<td>Severn</td>
<td>43</td>
<td>6-day</td>
</tr>
<tr>
<td>White Marsh</td>
<td>29</td>
<td>8-day</td>
</tr>
<tr>
<td>Mechanicsville</td>
<td>74</td>
<td>5-day</td>
</tr>
<tr>
<td>Oakland</td>
<td>45</td>
<td>5-day</td>
</tr>
</tbody>
</table>

*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.

In the last week I have seen tomatoes from different counties in Maryland that had the same unusual disease symptoms, called tomato pith necrosis. Although all of the problem tomatoes were from high tunnels, we might expect to see the same problem from tomato fields starting in late June or early July. Tomato pith necrosis is caused by the soilborne bacterium *Pseudomonas corrugata*. Pith necrosis has occurred infrequently in Maryland over the past few decades. The disease usually is found in early planted tomatoes when night temperatures are cool, but the humidity is high, and plants are growing too rapidly because of excessive nitrogen application. Once night temperatures warm up, the plants usually outgrow the problem. We have had a cool spring with many cool nights in May and now in June and at times high humidity. In the high tunnel or field, diseased plants occur randomly with initial symptoms often being seen as the first fruit clusters reach the mature green stage. Symptoms include chlorosis (yellowing) of young leaves and shoots followed by wilting of the infected shoots in the upper part of the plant canopy (fig. 1). This wilting is usually associated with internal necrosis at the base of the stem. Black streaking may be apparent on the surface of the main stem, which often splits (fig. 2). When the stem is cut open along its length (fig. 2) or cross-wise (fig. 3) the pith will be discolored, and may have hollow areas (Fig. 4). There is often prolific growth of adventitious roots in the stems with discolored pith, and the stems may appear swollen.

There is not much that can be done for control of pith necrosis. The best practice is prevention by avoiding the use of excessive amounts of nitrogen in tomato, especially early in the season when nights are still cool. There is some evidence that the pathogen may be seedborne, but more research is needed on the epidemiology and management of this disease.
Growers and an alert county agent, Ben Beale, have found what most likely will be an infestation of spotted wing drosophila (SWD) in cherries in southern Maryland (St. Mary’s County). I say “most likely” because I have the cherries and the maggots but it is very difficult to identify SWD from other fruit or vinegar fly maggots. You have to, well OK I have to, wait until the maggots pupate and emerge as adults to positively identify them. But I am putting out this alarm so growers will start looking for the flies, damage and the maggots in their small fruit—especially cherries. The damage starts with the female fly cutting a slit into ripening fruit with her serrated ovipositor, this later looks like a “sting” in the berry (fig. 1). Maggots will then feed by tearing and shredding the interior of the fruit often causing a softened collapsed brown area (fig. 2). When ready to pupate the maggot will exit the fruit causing an exit hole, which can allow entry of microorganisms that cause rot. Fruit should be examined very carefully for any of these signs of SWD presence. SWD are active now, but their activity becomes reduced at temperatures above 86°F with adult males becoming sterile. I do not want growers to just start spraying unless they know they have SWD—you’d just be wasting your money and the sprays. Growers need to check their fruit for the first signs of adult activity and maggots. If you do have suspicious looking fruit you can determine very quickly the presence of maggots by placing the fruit into a bowl of salt water (the salt solution is made by dissolving 1 to 2 tps. of salt in 1 cup of water and submerging the fruit) after about 10-15 minutes the maggots will come out of the fruit. All maggot species will come out not just SWD, but this lets you know you have maggots in your fruit. If you combine this larval detection method with SWD adult traps you’ll have pretty reliable information about the presence of SWD in your field.

Studies in California suggest that early season treatment, when fruit is green, has little effect on the amount of SWD fruit damage at harvest (treatment is just too early and few SWD are around). Insecticide treatments should begin when the earliest maturing fruit in the orchard turn from yellow to light pink. Fruit remains susceptible through harvest and repeat applications are required at 7 to 14 day intervals until harvest. Studies suggest that 2 or 3 applications are required to control SWD as long as there is not a heavy infestation already in the fruit. Organophosphate, pyrethroid, and spinosyn insecticides provide effective control for one to two weeks after application. The organophosphate insecticide (Malathion) has good adult knockdown but provides little control 7-14 days after treatment. The pyrethroid insecticides (particularly Warrior and Baythroid) provide moderate knockdown but offer some measure of control 14-days after application. The spinosyn insecticides (Delegate, Success and Entrust) provide moderate to good knockdown and moderate control for 7-days. Pyrethroids provide the best control after one week, followed by spinosyns. Be sure to check the label before you apply any insecticides. Rotate between materials of different chemical classes to slow the development of pesticide resistance.
Central/Western Maryland
Invasive Update
Submitted By Bryan Butler*
Senior Agent, Carroll County & Mid-Maryland
Tree Fruit Agent, UME

Brown Marmorated Stink Bug (BMSB) are finally really began their big move last week. It is time to start watching all fruit and vegetable crops closely for that fist big movement of BMSB from overwintering site into crops for a good meal so they can begin mating. It is important not to let them begin laying eggs in your plantings. It appears there’s been a big increase in BMSB activity this past week, which would be expected with the warm temperatures. Adults have seen in peach and apple trees in a number of locations, increased numbers in traps and in those leaving overwintering sites, and egg masses detected in the field.

For peaches, we know this is a vulnerable time and it is a highly favored host for BMSB. Spotted Wing Drosophila (SWD) traps are showing very little so far central and western Maryland but it is important to keep an eye out for Cherry fruit flies in sweet cherries. In strawberries, sap beetles will be causing a serious challenge this season with the slow ripening then rapid onset of high temperatures. Applications made for sap beetle sprays should pick up SWD. However, it will be important to keep watching as the season move on and then on ever bearers for the entire season.

Below in a very helpful chart if you do get into a situation with SWD in small fruits.

### Management of Spotted Wing Drosophila

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Potatoes</th>
<th>Blackberries</th>
<th>Strawberries</th>
<th>Cherries</th>
<th>Effectiveness</th>
</tr>
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<tbody>
<tr>
<td>Pyrethroids and pyrethrins (IRAC activity group 3A)</td>
<td></td>
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</tr>
<tr>
<td>Brigade</td>
<td>bifenthrin 3 3 0 X</td>
<td>Excellent</td>
<td>7 days</td>
<td></td>
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<tr>
<td>Danitol</td>
<td>fenpropathrin 3’ 3’ 2’ 3’</td>
<td>Excellent</td>
<td>7 days</td>
<td></td>
<td></td>
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<tr>
<td>Baythroid</td>
<td>beta-cyfluthrin X X X 7’</td>
<td>Excellent</td>
<td>7 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mustang Max</td>
<td>zeta-cypermethrin 1’ 1’ X 14’</td>
<td>Excellent</td>
<td>7 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PyGanic**</td>
<td>pyrethrins 0 0 0 0</td>
<td>Good***</td>
<td>2 days</td>
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### Spinosyns (IRAC activity group 5)

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<th>Active Ingredient</th>
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<th>Strawberries</th>
<th>Cherries</th>
<th>Effectiveness</th>
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<tbody>
<tr>
<td>Delegate</td>
<td>spinetoram 1’ 1’ X 7’</td>
<td>Excellent</td>
<td>5-7 days</td>
<td></td>
<td></td>
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<tr>
<td>Spintor</td>
<td>spinosad 1 1 1 7</td>
<td>Excellent</td>
<td>5-7 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td>spinosad 1’ 1’ 1’ 7’</td>
<td>Excellent</td>
<td>5-7 days</td>
<td></td>
<td></td>
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<tr>
<td>Entrust**</td>
<td>spinosad 1’ 1’ 1’ 7’</td>
<td>Excellent</td>
<td>5-7 days</td>
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### Organophosphates (IRAC activity group 1B)

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<th>Effectiveness</th>
</tr>
</thead>
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<tr>
<td>Malathion</td>
<td>malathion 1 1 3 3</td>
<td>Excellent</td>
<td>&gt;7 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diazinon</td>
<td>diazinon X X 5 21</td>
<td>Excellent</td>
<td>&gt;7 days</td>
<td></td>
<td></td>
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</tbody>
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**The Stale Seedbed Technique:**
A Relatively Underused Alternative Weed Management Tactic for Vegetable Production

By Cerruti Hooks, Assistant Professor & IPM Extension Specialist, University of Maryland
crhooks@umd.edu
&
Amanda L. Buchanan and Guihua Chen
Graduate Students, University of Maryland

**Background problem**

Weed management in vegetable cropping systems typically consists of crop rotation, manual weeding, weed mats, herbicides, and cultivation. Herbicide options in conventional and organically grown vegetables are limited because of infrequent registration of new herbicides and product loss due to regulatory actions. Further, vegetable crops are sensitive to many herbicides and this limits the number of products that can be safely applied. The list of organic herbicides is especially limited and there are no pre-emergent organically registered herbicides to prevent weed seed germination. In addition, organic herbicides are mostly
unaffordable for commercial vegetable production if sprayed over the entire field. Cultivation has its limits because while weeds between crop rows can be managed with cultivation in some cropping systems, weeds within crop rows generally escape cultivation. Crop rotation is an important weed management practice but is only effective when integrated with other weed management tactics. Manual weeding is effective for organic producers but is costly and one of the most labor-intensive production practices.

An often overlooked weed management practice is the stale seedbed technique; a weed management practice in which weed seeds just below the soil surface are allowed to germinate and then killed prior to planting the cash crop while minimizing soil disturbances. The stale seedbed technique is based on the premise that weeds which germinate and emerge before the crop is planted are easier to manage. Ideally when using this technique, only the seeding or transplanting operation should be responsible for disturbing the soil. Some researchers have suggested that stale seedbed weed management is critical to maximize yields of crops that have limited herbicide options. If implemented correctly, the stale seedbed weed management tactic may have a positive impact on vegetable production because it does not depend on new herbicide registrations or require equipment not commonly used in vegetable production. This weed management option can be adopted by organic and conventional growers and has the potential to reduce herbicide use, hand-labor, and overall weed management cost.

Precisely how does the stale seedbed works?

It has been stated that the stale seedbed technique is based on three principles: 1) cultivation promotes weed seed germination, 2) a small percentage of weed seeds in the soil is non-dormant and able to germinate at any given time and those that can, mostly germinate quickly, and 3) the vast majority of weeds only emerge from seeds in the shallow layer of the soil (i.e., top 2.5 inches), and most typically emerge only in significant numbers from the top one inch of the soil. Stale seedbed works by targeting weed seeds in the shallow layer (i.e., germination zone) of the soil. These nondormant seeds are allowed to germinate and then killed just prior to planting the cash crop. Non-dormant seeds have the capacity to germinate over a wide range of normal physical environmental factors, as opposed to dormant seeds which will not germinate until a specified period of time has passed, even when conditions are favorable for their germination. Weed emergence from the germination zone depends on weed species, soil type and physical characteristics, as well as prior land management practices. When adequate moisture is available, most weeds found on crop land emerge from the top 2.5 inches of the soil profile. Therefore, the stale seedbed technique works by depleting shallow

“germinable” weed seeds that would normally develop and compete with a crop after it is planted. This technique works especially well if these shallow weed seeds germinate just prior to crop planting or during the early period of the crop cycle while germinable weed seeds at deeper depths remain undisturbed. Although weed emergence stimulated by irrigation and other production practices is often thought to complicate weed management efforts, this intentional or forced germination may be used as a valuable weed suppression tool.

What practices can be used to kill weed flushes during stale seedbeds?

Once weeds are flushed several methods may be used to kill emerged weeds and complete the stale seedbed technique. In reality, methods that minimize soil disturbances and associated movement of dormant seeds from deeper depth of the soil into the germination zone are ideal choices. Herbicide sprays are generally used as part of stale seedbed practices because of minimum soil disturbances during herbicide applications. Other products such as flamers and shallow tillage equipment may be used to control emerged weeds. If cultivation is used to kill weeds that are flushed during stale seedbed practices, it must involve the minimum depth of tillage necessary to kill all emerged weeds but must be less than 2.5 inches so as not to bring up more weed seeds that will then germinate during the crop growing season. In spinach, it was shown that weed control levels achieved with two “no-disturbance” techniques (herbicide and flamer) were generally better than with techniques that disturbed the soil (e.g., rotary cultivator and hoe, top knives, etc.). However, in a separate study, it was found that shallow cultivation was more effective than glyphosate for weed management in cucumbers and peanuts.

Not all tillage operations facilitate the stale seedbed technique equally. For example, one study indicated that peanut yields tended to be higher with shallow tillage than no-tillage stale seedbed technique. Timing and chemical makeup of herbicides are additional factors that are critical for optimizing their weed suppressive potential via stale seedbed. For example, researchers found during a no-till pumpkin study that paraquat provided better broadleaf weed control than glyphosate as part of a stale seedbed practice and this led to improved pumpkin yield. Further, it was suggested that applying paraquat in no-till pumpkin before it starts vining is warranted to control weeds that may emerge later in the growing season.

What are some disadvantages of the stale seedbed technique?

Though the stale seedbed technique can be effective, like any weed management tactic there are some
drawbacks. Weeds with lengthy emergence periods may not be managed as well with this technique. Soil conditions such as moisture and temperature affect weed emergence and these factors cannot be controlled. For example, in the absence of adequate rainfall, fields may require pre-irrigation events to initiate weed flushes. Finally, under certain conditions, especially when dealing with “wimpy” or less competitive (e.g., small and slow growing) crops, multiple weed flushes over time may be required before planting the crop to effectively prevent weeds from competing with the crop after planting. Because the standing weed seed bank and soil conditions will differ from field to field, the optimal waiting period between pre-plant irrigation and final killing of weeds may not be known. The stale seedbed technique can be initiated several days, weeks, or months prior to seeding or transplanting a crop. A study involving cucumbers indicated that the optimal timing of stale seedbed preparation was 20 to 30 days before planting. If tillage is used to kill weeds that are flushed during stale seedbed techniques, this could result in more weed seeds being brought up to the soil surface. Stale seedbed technique should not be viewed as a stand-alone treatment that maintains weed suppression during the entire cropping cycle and thus may often require it be part of an integrated weed management (IWM) program.

Will there be research on this technique in Maryland or neighboring states?

University of Maryland (UMD) researchers Amanda Buchanan, Guihua Chen and Cerruti Hooks along with colleagues at University of Maryland Eastern Shore, University of Delaware, and Delaware State University submitted a research grant to an USDA granting agency to investigate the use of the stale seedbed tactic in combination with one or more of the following practices: winter cover cropping, strip-tilling, no-till planting, flail mowing, in-row cultivation and herbicide application. If funded, we hope to develop a truly integrated IWM program for conventional and organic vegetable producers. In addition, Amanda, Guihua and Cerruti will establish demonstration plots at the Upper Marlboro Research and Education Facility to show the potential use of the stale seedbed technique in combination with a winter rye cover crop and several cover crop suppression methods including flail mowing, herbicide burn-down, and roller crimper.

Summary

Stale seedbed is a relatively simple weed management tactic that generally involves four steps: 1) a seedbed is prepared, 2) weed seeds in the shallow soil zone germinate naturally or via pre-irrigation and then emerge, 3) emerged weeds are then killed with minimum soil disturbance as necessary, and 4) the crop is promptly seeded or transplanted into mostly weed free soil. A variety of organically acceptable and conventional methods can be used to establish stale seedbeds. Protocols that encourage the greatest amount of “weed flush” without disturbing the soil generally will result in fewer weeds germinating and competing with the cash crop after it is planted. Though the stale seedbed tactic has shown great potential as a weed management option, and may be especially useful in vegetable systems that compete poorly with weeds during the initial period of crop emergence, this technique may require integration with other weed management tactics for season-long weed suppression. For example, the use of an effective stale seedbed technique in combination with cover crop residues may suppress weed development for an entire vegetable cropping cycle. Clearly, improvements in vegetable crop weed management are needed and will depend on refining current tactics and integrating these tactics into a more sustainable and economically feasible system. The stale seedbed technique is a cultural practice that shows great potential as a viable component of an IWM program for conventional and organic vegetable systems, and if properly orchestrated can improve weed control while lowering herbicide applications and overall production cost.

See the Attachments!

1) Section 18
Dinofuran 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.

Published by the University of Maryland Extension Agriculture and Natural Resources Profitability Impact Team

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

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MEMORANDUM

TO: Agricultural Extension Agents and Interested Parties

FROM: Dennis Howard, Chief, Pesticide Regulation Section

SUBJECT: Section 18 Approval of the use of Dinotefuran to control Brown marmorated stink bugs in stone and pome fruit.

The U.S. Environmental Protection Agency has recently approved the Maryland Department of Agriculture's request for a specific exemption under section 18 of FIFRA. This exemption allows the use of Dinotefuran to control Brown marmorated stink bugs in pome and stone fruit in Maryland orchards. This specific exemption expires October 15, 2013.

Under this specific exemption, Venom Insecticide, EPA Registration Number 59639-135, manufactured by Valent U.S.A. Corporation and Scorpion 35SL, EPA Registration Number 10163-137, manufactured by Gowan Company, LLC, to control Brown marmorated stink bugs in stone and pome fruit orchards. Venom Insecticide may be applied to stone and pome fruit at a maximum rate of 4 – 6.75 fluid ounces (0.179 – 0.302 lbs a.i.) of product per acre. Scorpion 35SL Insecticide may be applied to stone and pome fruit at a maximum rate of 8 -12 fluid ounces (0.203 – 0.304 lbs a.i.) of product per acre. For each of these products, a maximum of 2 applications can be made per acre per season and with a minimum 7 – day application interval. No more than 0.608 lbs a.i. may be applied per acre per season. Only foliar applications made by ground equipment are permitted under this specific exemption.

All applicable directions, restrictions, and precautions on the EPA registered products, as well as those outlined on the Section 18 labels use direction must be followed. A maximum of 3,730 acres of stone and pome fruit may be treated in Maryland under this specific exemption. A 12 – hour restricted entry interval (REI) and 3 – day preharvest interval (PHI) must be observed.

To minimize exposure to pollinators, the following statement on the application timing must be observed. “Do not apply this product until after petal fall.”
In addition, the following statements from the section 3 labels are reiterated:

This compound is highly toxic to honey bees.

The persistence of residues and potential residual toxicity of dinotefuran in nectar and pollen suggest 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.

The Maryland Department of Agriculture's Pesticide Regulation Section shall immediately be informed of any adverse effects resulting from the use of this pesticide in connection with this exemption.

Your help in disseminating this information is greatly appreciated.

DWH:dh
cc: Section 18 file