Dave’s Ramble

The ancient art of teasing a native trout out of a fast moving mountain stream is a rite of passage. With ritual, the angler sneaks in the shadows of the stream bank, stepping softly, careful not to cast even a shadow, and then tactfully settles a darned minnow up-stream of an eddying trout lair. The minnow perfectly split-shot slipped into the darkened swirl as if it intended to willingly trespass. Angered by the intrusion, the native brookie darts from its hiding place flashing its silver side and snatches the minnow with a downward lunge. The angler must complete the hook set, as the brook trout launches to break surface and shake loose. Even the slightest momentary loss in rod tip tension will set this scrappy creature free.

I observed the angler, and learned his craft in the springs of my youth, with my brothers and cousins in the hills of West Virginia. On these annual outings the angler’s wisdom was imparted upon us: water we could and could not drink; snakes we could and could not touch; and when beavers were ready to bite or polecats ready to spray.

The newest members were initiated by eating the dreaded ramp-stuffed toasted marshmallow. Of course, ramp eating is required by all tent dwelling fishermen, it’s a self-defense communal experience; you won’t truly understand this until you have eaten ramps at fish camp.

Fish Camp Menu: Breakfast - eggs with ramps and potatoes; Lunch - hotdogs with Campbell's baked beans cold right out of the can and ramps; Dinner - fish, ramps and anything else we could find to keep from starving to death. Did I mention that it snowed about every night?

Oh “Ancient of Days,” The wonderful thing about becoming the angler, for the brief moment that every fish is on, you’re ten again all the days of your life, and all of those lucky enough to witness, know it’s really true.

Calendar of Events

Mark Your Calendars --- Plan To Participate

- May 21 - Strawberry Twilight, Wye REC
- August 7 – Crops Twilight & BBQ, Upper Marlboro

Inside This Issue

- Spring & Summer Meetings
- Bay Area Fruit School Videos
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- Maryland Woodland Stewards
- MDA News - “Manure Happens” Campaign
- EPA News
- Response to Spray Drift Petition
- Proposed New Safety Measures to Protect Farm Workers from Harmful Pesticide Exposure
- Spray Program for Multi-Small Fruit Plants and Multi-Tree Fruit Orchards
2014 SPRING PLANT SALES
April 22 at 2:30 pm
Joshua E. Rice, Ph.D.
Southern High School, www.SouthernHighFFA.org

Due to the extended presence of winter and the cooler temperatures that we have been experiencing this spring, spring plant sales will begin on April 22, 2014 at 2:30 pm. We look forward to seeing you all then. To view photos of the plants in the greenhouse and see their progress please visit: www.facebook.com/southernhighffa

STRAWBERRY TWILIGHT
May 21, 2014
Wye Research and Education Center
211 Farm Lane, Queenstown, MD

The 2014 Annual Strawberry Twilight Meeting at the WREC in Queenstown, MD, will be held Wednesday, May 21 from 6-8 PM, rain or shine.

University of Maryland and USDA specialists will discuss current research, other small fruit growing topics, and “program production” of small fruit. We’ll have refreshments and pre-registration is not necessary. If you need special assistance to attend this program, please call Debby Dant at 410-827-8056 x 115.

For additional program information, contact Michael Newell, Horticulture Crops Program Manager, 410-827-7388 or

Crops Twilight
Barbecue & Ice Cream Social
CMREC Upper Marlboro Farm
August 7, 2014

You are invited to attend a Field Crops Research Twilight, Barbecue and Ice Cream Social at the Central Maryland Research & Education Center, 2005 Largo Rd., Upper Marlboro, MD on Thursday, August 7, 2014 from 4:30 to 9 pm. A barbecue dinner will be served at 4:30 pm followed by homemade ice cream prior to the evening tour. University of Maryland Extension Educators and Specialists will showcase their field crop, vegetable and fruit research plots.

   Barbecue Begins at 4:30
   Ice Cream Served at 5:15
   Crops Twilight at 6:00

Please arrive on-time as the tour will start promptly at 6:00 pm. This event is free. However, a reserved meal ticket is required.

If you need special assistance to participate, please contact the Anne Arundel County Extension office at 410-222-3906 by August 4, 2014.

For full meeting details, and registration information contact any of the Southern Maryland Extension offices. For more information contact David Myers at the Anne Arundel County Extension office at 410-222-3906.

Missed the Bay Area Fruit School?
February 26, 2014

Videos are on the web at QACTV:

David Myers - UME, Anne Arundel Co.  
Establishing a Hop Yard and Meadow Style Fruit Planting Update  
Video-coverage

Bryan Butler - UME, Carroll Co.  
Spotted Wing Drosophila and Brown Marmorated Stink Bug Updates  
Video-coverage

Jerry Frecon - Adams Co. Nursery, Aspers, PA  
Stone Fruit Varieties for the Mid-Atlantic  
Video-coverage

Anna Wallis - UME, Carroll Co.  
Apple Rootstock Trials  
Video-coverage

Richard Uva - Seaberry Farm, Federalsburg MD  
Beach Plum-New Crop Development and Beach Plum Harvester Demonstration  
Video-Coverage

Kari Peter - Penn State Fruit Research and Extension Center  
Managing Bacterial Diseases on Tree Fruit  
Video-coverage

Mike Newell - Wye REC  
Cold Winter Temperatures and Frost Protection Strategies  
Video-coverage

MDA Representative  
MDA Pesticide Hot Topics  
Video-coverage

New Grape and Small Fruit Extension Pathologist at University of Maryland

Dr. Cassandra Swett has accepted the position of Grape/Small Fruit Extension Pathologist at the University of Maryland. Her primary responsibility is for Extension and research in grape and small fruit pathology and disease management in support of the Mid-Atlantic Fruit Consortium which supports the industries in Maryland, Pennsylvania, and West Virginia. She
will be located in the Department of Plant Science and Landscape Architecture at the University of Maryland. Dr. Swett’s starting date is May 1, 2014.

**Vegetable & Agronomic Crop Insects**

**Joanne Whalen, Extension IPM Specialist**  
[ jwhalen@udel.edu](mailto:jwhalen@udel.edu)

**Small Grains**

As we see more wheat acres planted before the “fly free date” in the fall, I get questions about the potential problems from Hessian Fly. Although populations still remain low in our area, each spring I see an occasional field with an economic problem. Most of the new information regarding the management of this insect pest has been developed by entomologists in states to our south where Hessian fly is a perennial problem. Dominic Reisig from NC State has an excellent blog and a series of you-tube videos that address the biology and management for fall and spring infestations of Hessian fly. Please visit the following links for the most up to date information:

http://www.youtube.com/watch?v=Z4WnuXs0OGc  
http://www.youtube.com/watch?v=uUKHAAqSHUJ&feature=share  
http://www.nccrops.com/

**Field Corn**

With the continued introduction of new BT corn traits, it is helpful to have a quick reference to the most up to date information. Drs. Chris DiFonzo (Michigan State University) and Eileen Cullen (University of Wisconsin) publish a “Handy Bt Trait Table” each year. This great reference provides information for transgenic hybrids on the types of Bt proteins expressed, insects controlled, herbicide tolerance, and refuge requirements for selected traits. They update it frequently so you will want to book mark their site for the latest information:

http://msuent.com/assets/pdf/28BtTraitTable2013.pdf

**Cabbage**

Continue scouting fields for imported cabbage worm and diamondback larvae as soon as plants are placed in the field. With the recent warm temperatures, we are starting to see an increase in moth egg laying activity. As a general guideline, a treatment is recommended if you find 5% of the plants infested with larvae.

**Peas**

Be sure to sample peas for pea aphids as soon as small seedlings emerge. On small plants, you should sample for aphids by counting the number of aphids on 10 plants in 10 locations throughout a field. On larger plants, take 10 sweeps in 10 locations. As a general guideline, a treatment is recommended if you find 5-10 aphids per plant or 50 or more aphids per sweep.

**Alfalfa**

Continue to scout fields for both alfalfa weevil and pea aphids. Under dry weather conditions, you may need to reduce the following thresholds, especially when both insects are present in a field. As a general guideline, you should consider a treatment in alfalfa less than 10 inches tall if you find 40-50 aphids per stem. The treatment threshold for alfalfa 10 inches or taller in height is 75-100 per stem. Beneficial insects can help to crash aphid populations and as a general rule, you need one beneficial insect per every 50-100 aphids to help crash populations. For alfalfa weevil, the following thresholds, based on the height of the alfalfa, should be used as a guideline when making a treatment decision: up to 11 inches tall – 0.7 per stem; 12 inches tall – 1.0 per stem; 13 – 15 inches tall – 1.5 per stem; 16 inches tall – 2.0 per stem; 17 – 18 inches tall – 2.5 per stem.

**Timothy**

Cereal rust mites remain active in fields so if you have not checked for this pest, be sure to sample all fields. Symptoms can appear as retarded growth, leaf curling, stunting, and plant discoloration. Injured plants appear to be drought stressed even when adequate moisture is available for plant growth. There are no established economic thresholds for the pest; however, treatment is recommended in fields with a previous history of cereal rust mites and/or when 25% of the plant tillers exhibit curled tips of the new leaf blades within several weeks following green-up. The use of a 20x-magnifying lens is often necessary to find mites on leaves. The only effective and labeled material on timothy is Sevin XLR Plus. Be sure to read the label for information on the number of applications per season as well as the days to harvest. For effective rust mite control, the use of the higher labeled rate and at least 25 gal/acre of carrier to get good coverage of leaf surfaces generally results in better control.

**Pesticide Updates**

**Joanne Whalen, Extension IPM Specialist**  
[ jwhalen@udel.edu](mailto:jwhalen@udel.edu)

**Metaldehyde Registration on Corn and Soybeans**

Since EPA established the tolerances for metaldehyde use in corn and soybeans in December 2013, we have been in contact with both EPA and the registrants concerning the new labels. We have been told that EPA and the registrants are still working on details of the new labels. I have heard that EPA continues to have questions about broadcast and aerial applications on corn and soybeans so I will keep you posted as I hear more.

The good news is that manufacturers have indicated that there are still existing stocks of the old labeled product that will be available for use for slug management on corn and soybeans in 2014. I have a call into EPA and if I hear anything different I will let you know.

**Exirel™ and Verimark™ (DuPont )**

Both Exirel and Verimark, which contain the new active ingredient cyazypyr, received a state registration in Delaware as of February 15, 2014. Verimark is the soil-applied formulation, while Exirel is a foliar-applied product. Both products provide a new mode of action for control of chewing and sucking insects, including thrips, whiteflies and psyllids.

- Crops on the Exirel label include pome and stone fruit; bushberries; brassica, bulb, cucurbit, fruiting and leafy
vegetables; and commercially grown greenhouse eggplant, peppers and tomatoes. Please follow this link to the label for use rates, restriction and insects controlled: http://www.cdms.net/LDat/ldBNL003.pdf

- Crops on the Verimark label include brassica, cucurbit, leafy, fruiting, tuberous and corm vegetables. Please follow this link to the label for use rates, restriction and insects controlled: http://www.cdms.net/LDat/ldBNM000.pdf

**Calypso**

Bayer CropScience has notified EPA of a voluntary cancellation of the Calypso insecticide registration, including the technical registration of thiacloprid. Bayer Crop Science will notify state departments of agriculture and request that Calypso be allowed for use through the existing stocks provision. They plan to maintain state registrations through 2016.

**Larvin (Bayer Crop Science)** - The insecticide Larvin is under an EPA Cancellation order, effective Jan 15, 2014. The existing stocks provision notes continued sale and distribution of the product after that date is prohibited. Please refer to the following link for more information on this cancellation notice. ([http://www.regulations.gov/#!documentDetail;D=EPA_FRDCC_0001-15304](http://www.regulations.gov/#!documentDetail;D=EPA_FRDCC_0001-15304)).

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**2014 Fungicide Registration Updates**

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

The 2014 version of the **Commercial Vegetable Production Recommendations** is available in print, for purchase, from your county extension educator. In addition, the “Recommendations” are available online from two sites (both sites have the same great information. The University of Maryland Extension’s site is [https://extension.umd.edu/sites/default/files/_docs/2014_ComicialVegRecommend_Maryland%20book.pdf](https://extension.umd.edu/sites/default/files/_docs/2014_ComicialVegRecommend_Maryland%20book.pdf) and University of Delaware Extension’s site is [http://extension.udel.edu/ag/vegetable-fruit-resources/commercial-vegetable-production-recommendations/](http://extension.udel.edu/ag/vegetable-fruit-resources/commercial-vegetable-production-recommendations/).

A few new fungicides received registrations after the “Recommendations,” went to print. These include:

**Proline**
Proline has received a supplemental label for cucurbit vegetables. Target diseases include Fusarium wilt (*Fusarium oxysporum*); gummy stem blight (*Didymella* spp.), southern blight (*Sclerotium rolfsii*), and powdery mildew (*Sphaerotheca fuliginea Podosphaera xanthii* (*Erysiphe cichoracearum*). Proline may be applied by either ground or chemigation application (including drip irrigation). Do not use in the transplant water or in the greenhouse.

We studied management of Fusarium wilt on watermelon with Proline at the UM LESREC Farm a few years ago. In our trials three applications through the drip were necessary for season long management. Unfortunately only one soil (drip) application is allowed on the label. Up to two additional foliar applications may also be applied.

**Priaxor**

Brassica leafy vegetables group, which includes broccoli, Chinese cabbage, collards, kale and mustard greens, received a label for Priaxor. Target diseases include Alternaria leaf spot, anthracnose, Cercospora leaf spot, Rhizoctonia blight and white rust.

**Merivon**

Bulb vegetables, which include garlic, leek, onion and shallot, received a supplemental label for Merivon. Target disease include powdery mildew, purple blotch, Stemphylium leaf blight, and Botrytis.

Cucurbits (pumpkin, gourds, cantaloupe, watermelon, squash, etc.) also received a supplemental label for Merivon. Target diseases include Alternaria leaf blight, powdery mildew, anthracnose, Cercospora leaf spot, gummy stem blight, and Microdochium blight.

Leafy vegetables, including lettuce, spinach and Swiss chard, also received a supplemental label for Merivon. Target diseases include Alternaria leaf spot and Cercospora leaf spot.

Selected root vegetables including, beet, carrot, parsley, radish, and turnip, received a supplemental label for Merivon. Target diseases include Alternaria leaf spot and Cercospora leaf spot.

Read the labels carefully before use. These products should be used in ways that minimize resistance development.
Compost and Vegetable Crops
Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

We have had several new composting businesses come on-line in the last three years on Delmarva and vegetable growers have had questions on whether or not compost would be a good fit for their production systems.

Composting businesses provide a valuable service to the region by taking waste products that might otherwise end up in landfills at a cost to the public, and producing a product that can be used as a soil amendment.

In the composting process, organic stock material sources such as yard wastes, manure and litter, wood waste, food scraps and garbage, paper, hatchery waste, or other waste materials are combined in a proper mix to create a carbon to nitrogen ratio that will promote the growth of microorganisms that then decompose the materials, producing a dark, humus-rich end product. In addition, in the composting process, the compost piles will heat up to over 150°F, killing any pathogens in the materials. A properly produced compost can be used for vegetable production without concerns for transferring plant pathogens or pathogens of concern for food safety.

Compost will contain plant nutrients, the level of which depends largely upon the stock materials used. Nitrogen content may be significant; however, much of the nitrogen will be in organic form and will be slowly available over several years. Most of the phosphorus and potassium will be available.

While compost does contain plant nutrients, the more important benefit that it provides is stable organic matter. Because it has already been decomposed, the organic component contains humus-like materials that will decompose very slowly when added to the soil. This means that compost will immediately raise the organic matter of the soil. This in turn will increase the cation exchange capacity (CEC) of the soil, improve soil moisture holding capacity, and improve soil physical characteristics (reduced compaction, improved aeration, decreased crusting).

Research has also shown that certain composts can reduce the incidence of soil borne diseases and pests. This is most likely because the organic addition promotes more diversity in soil microorganisms that can compete with pathogens and because the improved physical properties of the soil reduce the impact of certain pathogens.

When using compost, growers should first receive an analysis of the material. From this analysis you should look at the following:

Compost Maturity – Only use mature compost that has finished the composting process. Immature compost will continue to decompose, and can cause soil imbalances in some cases.
Bioassays for Root Knot Nematode in Vegetables

Gordon Johnson, Extension Vegetable & Fruit Specialist
gcjohn@udel.edu

A bioassay is the best way to determine potential injury from Root Knot Nematode on vegetable crops, such as lima beans, from spring sampling. It can also be used to survey the distribution of Root Knot Nematodes in the field.

To conduct a bioassay, divide your field into grids of one or two acres and take soil samples to a 12 inch depth for each grid so that you have at least enough soil to plant several 3-4 inch pots. Keep soil from grids separate.

Thoroughly mix composite soil sample for one grid and place in two 3-4” pots with drainage holes. You can use lettuce seedlings, or direct seeded cucumbers as indicator plants. After filling pots, plant with 2 lettuce seedlings or cucumber seeds. Maintain in a greenhouse or on a workbench under lights, watering daily or as needed for 4 to 6 weeks. Fertilize once a week with a solution of complete fertilizer.

After 4 to 6 weeks, remove plants from the pots/containers and wash roots free of soil and rate for root gall severity using the scale below:

- RGS 1 = no galls
- RGS 2 = 1-4 galls
- RGS 3 = 5-12 galls
- RGS 4 = 13-40 galls
- RGS 5 = >40 galls

Root gall severity ratings should not exceed 2 for carrots or 3 for other vegetable crops without treating with a registered nematicide. If levels are high across the field, consider rotating to a crop that is not a good host, such as wheat, barley, or corn.

Below is an example of a bioassay result from a Delaware field. Grids are 2 acres in size. Expect significant yield losses where root gall severity ratings are greater than 3.

Visit this Cornell site for more details on bioassays for Root Knot Nematode:  http://veg-guidelines.cce.cornell.edu/Rootknotnemahowto.pdf

2013 MARYLAND SOYBEAN VARIETY TESTS

Available on-line at:

New Fact Sheets – Changes for Crop Insurance

Crop Insurance Eligibility and Maryland’s Cover Crop Program Risk Management Agency (RMA) adopted NRCS’s rules for cover crop termination. Those producers with cover crops will need to make sure they stay in compliance with NRCS’s rules to stay eligible for the crop insurance program and can insure the commodity crop. That factsheet is available here: https://extension.umd.edu/learn/crop-insurance-eligibility-and-marylands-cover-crop-program

2014 Changes for Organic Crop Insurance

For organic producers or for those considering the switch to organic, RMA made some changes for the 2014 crop year and forward to how crop insurance works for organic crops. That fact sheet is available here: https://extension.umd.edu/learn/2014-changes-organic-crop-insurance
2013 Bay Model Progress Run

The results of the 2013 Bay Model progress run have been released by the Chesapeake Bay Program and the results look excellent for Maryland agriculture. The results for nitrogen and phosphorous loading are amazing as well. Maryland agriculture has achieved 99.6% of the 2017 goal for phosphorous reduction and 95.6% of the goal for nitrogen.

The University of Maryland has released a report on the “Adoption of Household Stormwater Best Management Practices”

David Newburn, Assistant Professor
Department of Agricultural and Resource Economics
University of Maryland

This report summarizes findings of a household survey regarding demographic and other factors affecting the adoption of stormwater best management practices (BMPs), including rain gardens, rain barrels, low fertilizer lawn care, and conservation landscaping. Furthermore, this study examined the homeowner response to a hypothetical rebate program for rain gardens. The analysis should assist local governments and stormwater professionals to target their educational awareness campaigns and to design effective rebate programs to encourage rain garden adoption. This project received generous financial support from the Chesapeake Bay Trust. Responsibility for the content of this report is the authors alone. Report is available at: http://drum.lib.umd.edu/bitstream/1903/14974/1/Household_Stormwater_BMPs_UMD%20Extension_Bulletin%202013.pdf

New website for University of Maryland Extension Woodland Stewardship Education (WSE) Program

“Green Book 2014” Updates Maryland Woodland Harvest Permit Process

The University of Maryland Extension Woodland Stewardship Education program announces the publication of Extension Bulletin EB-417, entitled “Green Book 2014: How to Apply for Woodland Harvest Permits in Maryland.” The bulletin updates and expands a 1993 publication from the Maryland Department of Natural Resources Forest Service commonly called the “Green Book,” it served as an important reference throughout the state.

Since that time, state and county regulations and practices have been revised and updated. The new bulletin presents the most up-to-date information on a county-by-county basis, based on interviews with soil conservation district personnel, state and county foresters, and county land use officials.

Jonathan S. Kays, Natural Resources Extension Specialist for the University of Maryland Extension, says the bulletin will provide valuable information. “It helps clarify the process of applying for woodland harvest permits in each county to...”
provide sample contracts, etc.

Process (EB 367) that details how to market timber and it

Marketing Forest Products: Understanding the Sales
cases financially and environmentally. I have a bulletin on
consulting forester but landowners come out best in most

8

no longer maintained. Please update your bookmarks.

Our previous website, www.naturalresources.umd.edu
New Website: www.extension.umd.edu/woodland
Email: jkays@umd.edu
Phone: 301-432-2767 x323 Fax: 301-432-4089
18330 Keedysville Road, Keedysville, MD 27156
University of Maryland Extension
Jonathan S. Kays, Extension Specialist Natural Resources

electronically. All this info and much more is on our
newsletter they can subscribe to for free and receive

farm meeting, workshop, etc. Feel free to refer people to
would be a happy to provide it for an upcoming meeting,

I have heard from a few consulting foresters recently that
timber sales are up as the economy has improved a bit.
This means landowners (farmers and non-farmers) may
be contacted directly by timber buyers. In general, my
recommendation to most landowners is to not deal with
timber buyers directly but hire a consulting forester to
handle the sale of timber from a property. A list of
consulting foresters is available at:
http://extension.umd.edu/woodland/your-woodland/find-forester

The research is clear that landowners who use a
consulting forester get more money and fewer trees are
cut, leaving something for the next harvest. Some
landowners don’t like the idea of paying 10-15% to a
consulting forester but landowners come out best in most
cases financially and environmentally. I have a bulletin on
Marketing Forest Products: Understanding the Sales
Process (EB 367) that details how to market timber and it
provide sample contracts, etc. http://extension.umd.edu/learn/marketing-forest-products-understanding-sale-process

If you would like a presentation on marketing timber I
would be a happy to provide it for an upcoming meeting,
farm meeting, workshop, etc. Feel free to refer people to
me that have questions about marketing or managing
woodlands. We have a quarterly forest stewardship
newsletter they can subscribe to for free and receive
electronically. All this info and much more is on our
website at www.extension.umd.edu/woodland.

Joint BARC-UMD Symposium that
was held on January 23, 2014
You may view all the presentations from the Symposium
at the following link:

The bulletin is available on line, free of charge as a PDF
document. Find it on the Woodland Stewardship
Education’s website at

For more information, contact faculty extension assistant
Andrew Kling via email at akling1@umd.edu or by phone
at 301-432-2767, ext. 307, website: https://extension.umd.edu/woodland

Maryland Department of Agriculture News

MDA Launches New “Manure Happens” Campaign

ANNAPOLIS, MD - The Maryland Department of Agriculture (MDA) today launched a new web portal as part of its new “Manure Happens” public outreach campaign. The new page centralizes resources for the general public to better understand farming practices and rules governing those practices. It also provides information for farmers who currently use chemical fertilizers and may want to consider switching to manure and farmers who are currently recycling manure as part of their crop production. The page provides links to additional resources available for farmers (i.e., grants, tax credits, technical guidance), and scientific research that describes manure management practices required by Maryland’s nutrient management program and that explains the benefits of manure.

“For centuries farmers have incorporated manure into their operations as part of a managed recycling program that provides crops with a natural fertilizer and soil conditioner. Today farmers are using the latest scientific techniques and conservation practices to protect water quality while following strict environmental rules,” said Agriculture Secretary Buddy Hance. “We hope this campaign will help people better understand life on the farm and what our farmers do to protect our precious natural resources.”

The “Manure Happens” campaign will include a series of color advertisements that will launch this weekend. MDA's educational advertising campaign includes three different color ads. The "I Recycle" ad features happy Holstein cows in a field and highlights how farmers recycle manure following the latest scientific and environmental practices and Maryland requirements to prevent manure from washing into area waterways. The "Manure Happens" ad features the backsides of cows in a pasture and explains this fact of life on the farm - that manure is an inescapable element of the food production process and a great natural fertilizer and soil conditioner for farmers. The “Looks Can Be Deceiving” ad features a properly formed poultry litter stockpile during the winter in a field of cover crops. All three ads direct readers to the new MDA webpage www.mda.maryland.gov/manure

The ads will be published in news media outlets across the state in print and online during the next two weeks. Additionally, MDA will incorporate the ads into social media (@MdAgDept onTwitter and Facebook/MdAgDept) throughout the spring.

For more information, visit MDA’s new manure management resources page at www.mda.maryland.gov/manure

Jonathan S. Kays, Extension Specialist Natural Resources
University of Maryland Extension
18330 Keedysville Road, Keedysville, MD 27156
Phone: 301-432-2767 x323 Fax: 301-432-4089
Email: jkays@umd.edu

New Website: www.extension.umd.edu/woodland
Our previous website, www.naturalresources.umd.edu is
no longer maintained. Please update your bookmarks.
EPA Response to Spray Drift Petition Now Available

March 31, 2014 - EPA’s response to the petition, “Pesticides in the Air – Kids At Risk: Petition to EPA to Protect Children From Pesticide Drift,” dated March 31, 2014, has been posted to the Web. The petition was submitted in October 2009 by Earthjustice and Farmworker Justice on behalf of a group of health and environmental organizations that included Pesticide Action Network North America and the United Farmworkers. The petition asks EPA to:

1. evaluate the risks to children exposed to pesticides through drift and volatilization,
2. establish a separate process or modify its pesticide re-evaluation process to expedite assessment and management of these risks, and
3. impose interim buffer zones for certain types of pesticides, including the organophosphates and n-methyl carbamates, between treated areas and places where children congregate

We agree with the petitioners that the agency should account for exposure to spray drift and volatilization and have granted some of their requests.

EPA has developed and recently released for public comment methodologies for assessing the risks to bystanders from pesticide drift and volatilization. EPA has used similar methodologies in the past and will be finalizing them, with refinements that have been made over time, after considering public comment. The agency plans to use these methodologies during registration review to address concerns it shares with the petitioners about drift and volatilization.

The agency does not believe that adopting the process suggested by the petitioners for assessing these risks is an efficient or effective way to use resources. Many of the specific pesticides the petitioners identified as being of particular concern have already entered registration review, and the agency intends to integrate consideration of drift and volatilization risks into its registration review human health risk assessments.

Although EPA imposes buffers as appropriate, we believe that requiring interim buffers of one width for all pesticides of special concern, as proposed by the petitioners, is neither appropriate nor scientifically supported.

To view EPA’s response, go to the link in the Quick Resources box on the Pesticide Spray and Dust Drift Web page. Related documents are available at www.regulations.gov in docket EPA-HQ-OPP-2009-0825, and the agency’s response will also be posted there shortly.

EPA Proposes New Safety Measures to Protect Farm Workers from Harmful Pesticide Exposure

February 20, 2014 - Today, the U.S. Environmental Protection Agency announced proposed revisions to the agricultural Worker Protection Standard in order to protect the nation’s two million farm workers and their families from pesticide exposure.

“Today marks an important milestone for the farm workers who plant, tend and harvest the food that we put on our tables each day,” said EPA Administrator Gina McCarthy. “EPA’s revised Worker Protection Standard will afford farm workers similar health protections to those already enjoyed by workers in other jobs. Protecting our nation’s farm workers from pesticide exposures is at the core of EPA’s work to ensure environmental justice.”

We want your input on these proposals. Please help us by sharing this message with your contacts.

Below are links to the agency’s press release, a blog from Administrator Gina McCarthy and other social media posts for you to share with your members through electronic mailing lists, Web and social media.

PRESS RELEASE
EPA ADMINISTRATOR GINA MCCARTHY BLOG
GREENVERSATIONS BLOG
FACEBOOK AND TWITTER:

- Share your thoughts on new measures to protect 2 million farm workers & their families from pesticide exposure: http://go.usa.gov/B77x
- We’re proposing new safety measures to protect farm workers from harmful pesticide exposure. Share your thoughts: http://go.usa.gov/B775

For more information and to comment on the proposed rule: http://www.epa.gov/oppfead1/safety/workers/proposed/index.htm
Happy Earth Month from EPA!

April 22 is Earth Day, but we’re celebrating all month, sharing a new tip each day to help you act on climate change.

Below, we’ve listed many ways you can take action yourself and spread the word to your friends and family. Try one or many, but either way, let’s all #ActOnClimate!

Help us get the message out
Please help us share a message at noon on Earth Day, along with the link to a page full of things everyone can do to act on climate. We’re using a new system called Thunderclap to coordinate, so a message will go out from everyone at noon on Earth Day. Here’s the catch: we need 500 people to sign up or the message won’t go.

The message is: “For Earth Day, I commit to protect the climate. Take small actions that add up! #ActOnClimate http://epa.gov/climatechange/wycd/ “

We need your help, both to send the message and to invite your friends to send it, too. Join the effort at https://www.thunderclap.it/projects/10319-on-earth-day-actonclimate , or if you want more information about how it works, see our blog post: http://blog.epa.gov/blog/2014/04/we-need-your-help-to-protect-the-planet

Share daily tips through our website and social media
We’ve created 30 daily tips to act on climate, and we’ll post one each day. Help us get them out there:

Check out all of the tips at http://epa.gov/earthday/actonclimate/ and hit the share buttons below today’s tip. You can also sign up to get one via email every day in April.

Follow us as we post each daily tip and retweet/share:
Blog posts: http://blog.epa.gov/blog/category/earthmonthtips
Twitter: http://twitter.com/epa
Facebook: http://facebook.com/epa
Google+: http://www.google.com/+EPAgov
Flickr: http://www.flickr.com/photos/usepagov
Instagram: http://www.instagram.com/epagov
Pinterest: http://www.pinterest.com/epagov/act-on-climate

Join a Twitter chat about climate issues
We’re going to have EPA experts available to discuss various climate issues on our @EPAlive account every Tuesday in April:

April 15, 2:00 pm EDT - What is EPA doing to act on climate?
April 22, 2:00 pm EDT - EPA Research and Climate: What does the research show about climate change and what we can do about it.
April 29, 2:00 pm EDT - Why is climate action important for our water?

How can you join the conversation? Just follow @EPAlive and the #ActOnClimate hashtag on Twitter. Ask us a question or share your ideas, or just read along with the conversation. In addition to using Twitter, we’ll publish a blog post for each chat, and you can ask your questions or send your thoughts as comments on the post. Here’s the first one: http://blog.epa.gov/blog/2014/04/lets-chat-about-how-to-act-on-climate/

Knowing the soil temperature is imperative when battling pests and diseases. Since certain pests thrive in certain soil temperatures, having that information can really help you stay ahead of the game. A click on map lets you zoom in and see the soil temperatures in your area or use the menu and select a region. You can even see soil temperature forecasts for the next five days. Here is the link: http://greencastonline.com/tools/SoilTempMaps.aspx?maps=East5Day
A new issue of Branching Out is now available! The Spring 2014 issue is attached as a PDF, and is also available through our website below. Branching Out Vol. 22, No. 1 ~ Spring 2014 URL: http://extension.umd.edu/news/newsletters/spring-2014

Branching Out, Maryland's Forest Stewardship Education newsletter, is published four times per year by University of Maryland Extension. Branching Out provides educational information and current news and events, and is intended to reach anyone interested in forest stewardship including landowners and natural resource professionals. You can subscribe to this free newsletter at http://extension.umd.edu/woodland/subscribe-branching-out.

2014 Junior Sheep & Wool Skillathon

The Junior Sheep & Wool Skillathon, held annually in conjunction with the Maryland Sheep & Wool Festival, has been changed to the Junior Sheep & Goat Skillathon. All skillathon stations will pertain to both sheep and goats, including meat, fiber, and dairy production.

Youth should begin making plans to participate in this year's skillathon. The skillathon will be held Sunday, May 4, 8 a.m. to 2 p.m. at the Howard County Fairgrounds in West Friendship, Maryland

The Junior Sheep & Goat Skillathon is open to any youth between the ages of 8 and 18. Individuals and teams (of 3 or 4) from any county, or state may compete. Youth compete according to their age as of January 1st of the current year. Youth ages 8 to 10 compete as juniors; youth ages 11 to 13 compete as intermediates; and youth 14 to 18 compete as seniors.

The pre-registration deadline for individuals (requested) and teams (required) is April 28.

Pre-register by sending names, ages, and team affiliations via e-mail to Susan Schoenian at sschoen@umd.edu (or via fax at (301) 432-4089).

http://www.sheepandgoat.com/programs/skillathon/skillathon.html
County Website Features:
Anne Arundel County Extension website:
http://extension.umd.edu/anne-arundel-county

Ag Newsletter Production Pointers
The current and past agricultural newsletter additions are available for viewing or copy at:
https://extension.umd.edu/anne-arundel-county/agriculture/anne-arundel-county-agnr-newsletter#

Ag Bulletins
An agricultural bulletin page is also available for viewing or copy under our hot topics section at:
https://extension.umd.edu/anne-arundel-county/agriculture/agriculture-bulletins

Ag Web Modules
New website features in Anne Arundel County - Agricultural Program Teaching Modules:
http://extension.umd.edu/anne-arundel-county/agriculture/farm-production-web-modules

1. Pasture Management
2. Pasture Herbicides
3. Handling Tall Fescue Toxicity Events
4. Modern Vegetable Production Technology for Early Market
5. Vegetable Herbicides for Controlling the Top 10 Weeds of Southern Maryland
6. Sustainable Low Input Strip-Till & No-Till Vegetable Planting Tactics
7. Fruit Establishment Tactics to Maximize Our Coastal Plain Advantage
8. Vineyard and Orchard Weed Control
9. Vineyard Establishment Supplies & Equipment

Farmer School
On-Line Farming Education Series
“Tomorrow’s Farmers” Web Modules”
https://extension.umd.edu/anne-arundel-county/agriculture/tomorrows-farmer-web-modules

Module 1: Introduction to Farming & Course Orientation: “Tomorrow’s Farmers”
Module 2: The Science and Stewardship of Soils
Module 3: Fundamentals of Farm Machinery
Module 4: Plants that Farmers Grow
Module 5: Integrated Pest Management

Future Module Topics:
Farm Business and Enterprise
• Development Modern Vegetable Farmer
• Modern Fruit Farmer
• Grain Farming
• Pasture and Hay Management
• Livestock that Farmers Raise

Whether you grew up on a farm or not, the web modules will open your eyes to the world of farming. A course designed for the young and old alike. It just may make a farmer out of a “city kid” or a “hayseed.”

After viewing the series in its entirety take the Final Exam. All participants receiving a final Exam Grade of 70% or above will receive a “Certificate of Farming Competency,” compliments of the Anne Arundel County Extension Office.

4-H News
Amanda Wahle, 4-H FEA
University of Maryland

Are you between 8 and 18 or know someone who is? If so have you considered joining 4-H?
The Anne Arundel County 4-H program is growing and is always looking for new members and volunteers. The program has community clubs located throughout Anne Arundel County but is also looking for volunteers and members to lead new groups. There are a variety of projects members can participate in including animal science, environmental sciences and human sciences. We are also looking for adults to do seminars or presentations to help 4-Hers learn how they can further their projects.

To receive more information, please contact Amanda Wahle in the Anne Arundel Extension Office at 410-222-3900 or at: awahle@umd.edu

Gardening questions? Pest Problems? The Home and Garden Information Center can help!
Consultants are available by phone Monday -Friday, 8 AM to 1 PM. Call 1-800-342-2507 or 410-531-1757 or visit the HGIC website at: http://extension.umd.edu/hgic
Thanks for Partnering

Thanks for partnering with the University of Maryland Extension, and supporting our programs. I also hope you enjoy this newsletter. If you are no longer interested in receiving this newsletter, please call or write the office for the removal of your name from the mailer.

Anne Arundel County Extension
https://extension.umd.edu/sites/default/files/_docs/AACoflyerUME%20Update.pdf

4-H Youth Development
For more information, contact Amanda Wahle at awahle@umd.edu or call 410-222-3900

Family & Consumer Sciences
For more information, contact Vanessa Bright vbright@umd.edu call 410-222-3903

Agriculture & Natural Resources
For more information, contact Dave Myers myersrd@umd.edu or call 410 222-3906

Master Gardener Program
For more information, contact Mike Ensor mensor@umd.edu call 410-222-3906

Nutrient Management
For more information, call 410-222-3906

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.
Spray Program for Multi-Small Fruit Plantings

Many local farms are composed of multi-small fruit combinations producing fresh market blackberries, raspberries, blueberries, strawberries and grapes. Aggressive fruit spray programs are required to achieve high quality fruit. These multi-small fruit plantings create many spray management challenges for the achievement of good pest control in accordance to label guidelines.

Therefore, the following multi-small fruit spray program for the control of major small fruit pests and diseases may offer some assistance:

Labeled as noted in 2014 for All Small Fruit – Strawberries, Brambles, Blackberries, Raspberries, Blueberries, and Grapes.

**FUNGICIDES: [FRAC]**  | **RATE**  | **NOTES**
--- | --- | ---
Lime Sulfur [M2] | 10.0 gals | Dormant Fall Sanitizer
JMS Stylet Oil [NC] | 1.0 gal | Apply Temp 35-85°F
Kocide® DF [M1] | 2.0 lbs | Other Fixed Coppers
Captan® 50W [M4] | 2.0 lbs | General Protectant
Ziram® 76DF [M3] | 5.0 lbs | General Protectant
*Except for Strawberry use Thiram®*
Sulfur 95W [M2] | 3.0 lbs | General Protectant
*(Grape variety sensitivity)*
Rally® 40W [3] | 4.0 ozs | Powdery Mildew & Black Rot
*Except for strawberry use Tilt®*
Pristine® [7/11] | 14.5 ozs | Fruit Rots, Fruit Spots, Powdery & Downy Mildew & Cane Blight
Elevate® 50 WG [17] | 1.5 lbs | Botrytis & Powdery Mildew
Switch® 62.5 WG [9/12] | 11.0 ozs | Anthracnose, Mummy Berry, Phomopsis, Sour Rot & Botrytis
Phostrol® [33] | 4.0 pts | Downy Mildew & Red Stele

**INSECTICIDES: [FRAC]**  | **RATE**  | **NOTES**
--- | --- | ---
Provado® Admire® [2A] | 4.0 ozs | Grubs, Aphids, Hoppers & Curculio
Actara® [4A] | 12.0 ozs | Clipper Beetle, Plant Bug, Mites Root Weevil,
Brigade® WSB [3] | 2.0 ozs | Scale, Fruit Moths & Whitefly
Sevin® 50W [1A] | 4.0 lbs | Japanese Beetles, Hornets & Sap Beestes
*Rate for 50-100gal Acre Concentrate Spray*
**Be sure to follow all labels closely for PHI and REI!**

**Multi-Small Fruit Spray Calendar**

*March 5 - Spring Dormant Spray*

JMS Stylet Oil 1.0 gal (Scales & Mites)

*April 10 - Early Strawberry Bloom*

Captan® 50W 2.0 lbs
Thiram® 75WDG 5.0 lbs (Strawberry Only)

*April 15 - Strawberry Bloom/ Blueberry Early Bloom*

Captan® 50W 2.0 lbs
Ziram 76DF 5.0 lbs (Except Strawberry)
Brigade® WSB 12.0 ozs (Clipper Beetle, 0-3 day PHI)

*April 25 - Strawberry Full bloom/Blueberry Mid-bloom/ Grape Bud Break*

Captan® 50W 2.0 lbs
Pristine® 14.5 ozs
Brigade® WSB 12.0 ozs (Clipper Beetle, 0-3 day PHI)

*May 5 - Strawberry 1st Cover & Early Harvest Spray/ Blueberry Full Bloom/Grape & Bramble Shoot Growth*

Captan® 50W 2.0 lbs (0-3 Day PHI & 4-Day REI)
Elevate® 1.5 lbs (0-day PHI)
Provado® 4.5 ozs (Curculio & Aphids; 7-Day PHI)

*May 15 - Strawberry 2nd Cover & Harvest Spray/ Blueberry 1st Cover/Grape Bloom Spray/ Bramble Cane Development*

Captan® 50W 2.0 lbs (0-3 Day PHI & 4-Day REI)
Switch® 11.0 ozs (0-day PHI)
Malathion® 2.0 pts (Curculio, Scale & Fruit Moths; 0-3 day PHI)

*June 1 - Strawberry 3rd Cover & Harvest Spray/Blueberry 2nd Cover/Grape 1st Cover/ Bramble Bloom*

Captan® 50W 2.0 lbs (0-3 Day PHI & 4-Day REI)
Pristine® 14.5 ozs (0-day PHI)
Malathion® 2.0 pts (Curculio, Scale & Fruit Moths; 0-3 day PHI)

**HERBICIDES: [HRAC]**  | **RATE**  | **NOTES**
--- | --- | ---
Gramoxone® [22] | 1.0 qts | Burndown, Directed Spray
Roundup® [9] | 1.0 qts | Burndown, Shielded & Directed Spray
Devrinol® 50 DF [15] | 4.0 lbs | Spring/Summer 35-day PHI
Princep® 4L [5] | 1.0 qts | Spring Dormant, Avoid High pH Soils
Solicam® [12] | 2.5 lbs | Spring/ Fall Dormant, 1-yr Established
Aim® [14] or Shark® [14] | 2.0 ozs | Directed Spray to Weeds, 3-day PHI
Surflan® [3] | 2.0 qts | Spring/ Summer, Prodi 60-day PHI
*Except strawberry*

Poast® [1] | 1.5 pts | Summer Grasses, Variable PHI
Sinbar® [5] | 4.0 ozs | Fall Dormant, 1-yr Established

**Lowest Use Rate Recommended Initially**

**Organic Approach Substitutions:**

<table>
<thead>
<tr>
<th>Conventional Product</th>
<th>Organic Certificated Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Captain®</td>
<td>Surround® &amp; Sulfur</td>
</tr>
<tr>
<td>Rally®</td>
<td>Kaligreen (Powdery Mildew Eradicant)</td>
</tr>
<tr>
<td>Listed Insecticides</td>
<td>Neem® or Pyganic® or Entrust® or Dipel®</td>
</tr>
<tr>
<td>Gramoxone® or Roundup®</td>
<td>Scythe® or Avenger®</td>
</tr>
</tbody>
</table>

* Important Note: The calendar spray dates given are an average estimate for Anne Arundel and Prince George’s County small fruit production, and may vary by location in Southern Maryland. Be sure to adjust your spray schedule application dates accordingly. The above recommendations very closely reflect the current spray program utilized at the University of Maryland Research and Education Center, Upper Marlboro Facility for its research fruit plots. Remember to always “Read the Label”.

R. David Myers
Extension Agent, Agriculture
### Spray Program for Multi-Tree Fruit Orchards

Many local orchards are composed of multi-fruit combinations producing for fresh market apples, peaches, pears, plums, nectarines, and cherries. Aggressive fruit tree spray programs are required to achieve high quality fruit. These multi-fruit orchards create many spray management challenges for the achievement of good pest control in accordance to label guidelines. Therefore, the following multi-fruit orchard spray program for the control of major tree fruit pests and diseases may offer some assistance: Labeled as noted in 2014 for All Tree Fruit – Pomes: Apples & Pears Stones: Peaches, Plums, Nectarines, and Cherries.

#### FUNGICIDES: [FRAC]  
**Rate**  
**Notes**
- Captan® 80WDG [M4]  
  3-5.0 lbs General Protectant  
  (Not Labeled for Pears; Reduce Rates for Cherries)
- Dormant Oil [NC]  
  4.0 gal Apply Temp 35-85°F
- Kocide® DF [M1]  
  6.0 lbs Other Fixed Coppens
- (Stones: Dormant Spray Only)
- Rally® 40W [3]  
  4.0 ozs Powdery Mildew
- Sulfur 95W [M2]  
  3.0 lbs General Protectant
  3.0 ozs Brown Rot & Peach Scab
- (Stones Only)
- Adamant® 50WG [3/11]  
  6.0 ozs Brown Rot, Peach Scab & Powdery Mildew
- (Stones Except Plums)
- Pristine® [7/11] or  
  14.5 ozs Brown Rot, Powdery Mildew
- (Limited to 4 Sprays/Season)  
  Mildew, Scab, Rusts & With Only 2 Consecutively
- Indar® 2F [3]  
  6.0 ozs Powdery Mildew & Rusts
- Tonsin-M® 70W [1]  
  8.0 ozs General Protectant
- Ziram 76DF [M3]  
  5.0 lbs Dormant Peach Leaf Curl
- (Capitn Substitute for Pears)
- General Protectant
- Agrimycin® 17W [17]  
  24.0 ozs Fireblight Control
- (Apples & Pears Only)

**INSECTICIDES: [IRAC]**

#### Rate **Notes**
- Imidan® 70W [1A]  
  2.0 lbs Curcillo, Scale & Fruit Moths
- Warrior® [3]  
  4.0 ozs Borers, Curcillo & Fruit Moths
- Tomblonde® [3]  
  2.0 ozs
- Actara® [4A]  
  4.5 ozs Aphids & Curcillo
- Lorsban® 4E [1B]  
  1.5 qts Dormant & Trunk Borer
- Agrimycin® 50WS [25]  
  1.0 lbs Mites Only
- Sevin® 50W [1A]  
  4.0 lbs Japanese Beetles, Hornets & Sap Beetles
- (Apple Thinning Agent)
- *Rate for 50-100gal Acre Concentrate Spray*
- **Be sure to follow all labels closely for PHI and REI!**

### Multi-Fruit Spray Calendar*

#### March 15 - Dormant Spray
- Dormant Oil 4.0 gal (Scales & Mites)
- Kocide® DF 6.0 lbs
- Lorsban® 4E 1.5 qts (Mites)

#### April 5 - Peach Bloom
- Apple Tight Cluster
- Captain® 80WDG 3.0 lbs

#### April 15 - Peach Petal Fall
- Apple Bloom
- Captain® 50W 3.0 lbs
- Indar® 2F 6.0 ozs
- Agrimycin® 17W 24.0 ozs (Fireblight Control Add for Apples & Pears Only)

#### April 25 - Peach Shuck Split
- Apple Petal Fall
- Pristine® 14.5 ozs
- Warrior® 4.0 ozs (Curcillo)
- Agrimycin® 17W 24.0 ozs (Fireblight Control Add for Apples & Pears Only)

#### May 5 - 1st Cover Spray
- Captain® 80WDG 4.0 lbs (Cedar Apple Rust - Higher Rates for Wetter Conditions)
- Indar® 2F 6.0 ozs (Powdery Mildew & Rusts)
- Actara® 4.5 ozs (Curcillo & Aphids; PHI: 35-Days Pomes, 14-Days Stones)

#### May 15 - 2nd Cover Spray
- Captain® 80WDG 3-4.0 lbs
- Rally® 40W 4.0 ozs (Peach Rusty Spot Only)
- Warrior® 4.0 ozs (Curcillo; PHI 21-Days Pomes, 14-Days Stones)

### June 1 - 3rd Cover Spray
- Captain® 80WDG 3-4.0 lbs
- Tonsin-M® 70W 8.0 ozs (Apple Scab Resistance Likely)
- Imidan® 70W 2.0 lbs (Curcillo, Scale & Fruit Moths; PHI: 7-Days Pomes, 14-Days Stones)
- Acramite® 50WS 1.0 lbs (For Mites If Required PHI: 7-Days Pomes, 3-Days Stones)

### July 1 - 1st Cover Spray
- Early Peach Harvest
- Captain® 80WDG 3-4.0 lbs (0-day PHI; 1-day REI; or Pristine® 14.5 ozs (Early Stones 0-day PHI; Limited to 4 Sprays/Season With Only 2 Consecutively)
- Tomblonde® 2.0 ozs (Borers, Curcillo & Fruit Moths – 7-day PHI)

### August 1 - 7th Cover Spray
- Peach Harvests
- Captain® 80WDG 4.0 lbs (0-day PHI; 1-day REI; or Pristine® 14.5 ozs (Early Pomes 0-day PHI)
- Sevin® 50W 4.0 lbs (Japanese Beetle & Moths – 3-Day PHI for All Fruit)

### September 1 - 9th Cover Spray
- Apples & Pears Only
- Captain® 80WDG 4.0 lbs (0-day PHI; 1-day REI; or Pristine® 14.5 ozs (Pomes 0-day PHI)
- Sevin® 50W 4.0 lbs (Japanese Beetles & Hornets – 3-Day PHI for All Fruit)

### September 15 - Trunk Bore Spray
- Lorsban® 4E 1.5 pts (Post Harvest for Borers)

### HERBICIDES: [HRAC]

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<td>Devrinol® 50 DF [15]</td>
<td>4.0 lbs</td>
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<td>Princep® 4L [5]</td>
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<td>Solcim® [12]</td>
<td>2.5 lbs</td>
<td>Spring/Fall Dormant, 1-year Established</td>
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<tr>
<td>Goal® [14] or Galigan® [14]</td>
<td>2.0 pts</td>
<td>After Harvest to Spring Bud Swell</td>
</tr>
<tr>
<td>Aim® [14] or Shark® [14]</td>
<td>2.0 ozs</td>
<td>Directed Spray to Weeds, 3-day PHI</td>
</tr>
<tr>
<td>Matrix® [2]</td>
<td>4.0 ozs</td>
<td>Late Spring, 1-year Established</td>
</tr>
<tr>
<td>Poast® [1]</td>
<td>1.5 pts</td>
<td>Summer Grasses, Variable PHI</td>
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<tr>
<td>Karmex® [7] or Diuron® [7]</td>
<td>1.6 qts</td>
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Extension Agent, Agriculture