

Spring 2015



The Practice of Patience:

Of all of the virtues a successful farmer must possess, patience is probably one of the hardest to abide by. As the abnormally cold winter takes it's time moving into spring, soil conditions have remained cold and wet. It is hard to resist the temptation to pull the plow through muddy soil on the first warm day of spring, but the good farmer realizes mud soon turns to muck, and by summertime that muck will turn hard as a brick. Crops planted to early face a myriad of challenges not confronted by their later planted counterparts--soil-borne diseases, slugs, seed corn maggots, and nutrient deficiencies to name a few can be much worse on cold, wet ground. However, as the dates on the calendar continue to pass by, it's not easy to be patient when the work continues to mount. In due time, the sun will shine, the soil will warm, and rains will halt readying the land to receive the spring planting. As is often the case with farming, it is a game of hurrying up to wait.

On the grain front, I encourage growers to take time to rethink their herbicide strategies for this summer. The days of relying on a straight glyphosate (Roundup) herbicide program are now over. Marestalk in the area is now widely tolerant of glyphosate. There are also isolated areas in

Southern Maryland with Palmer amaranth, which is also resistant to glyphosate and potentially to herbicides with the ALS mode of action. One palmer amaranth plant can produce up to 1/2 million seed, which can germinate throughout the summer. I encourage growers to utilize a residual herbicide in their soybean program and think about alternative modes of action to avoid future resistance. Keep a careful eye out this summer for weeds that escaped control and plan to tailor a program for those weeds next year. Using multiple control methods, such as tillage, rotating modes of actions, rotating crops, cleaning equipment between infested fields and even hand pulling isolated weeds can help prevent these weeds from becoming established on your farm.

As the growing season begins to hit full swing, let me remind you that the University of Maryland Extension Office is here to serve you. If you have a question or need information, please give us a call. We rely upon our clientele-- partnering with you to solve issues and finding solutions-- just as you rely upon us for accurate information.

-Ben Beale

Upcoming EVENTS

May 3-4, 2015:

Maryland Sheep and Wool Festival
Harward County Fairgrounds

May 4 & May 11, 2015:

Landlord & Tenant Leasing Webinars

May 12, 2015:

Food Business Risk Mgmt. Class-Cockeysville

May 26, 2015:

Strawberry Twilight, Wye REC, Queenstown

August 6, 2015:

Crops Twilight & BBQ, Upper Marlboro

Landlord & Tenant Leasing Webinars May 4 and May 11

UME will be holding two webinars on landlord-tenant issues the first 2-weeks in May. Perfect topic for beginning farmers, anyone looking to get into becoming a farmer, or a landowner looking to lease their land out.

Sign up is available at
<https://arecleasingwebinar.eventbrite.com>

Food Business Risk Management Class Tuesday, May 12, 2015

Because consumers have grown more concerned about how their food was grown and processed, every food business owner (and every farmer who is selling products directly to the public) needs to understand the ways that he or she can lessen the liability associated with placing food products in the marketplace. To respond to this need, Penn State Extension, in collaboration with the Maryland Rural Enterprise Development Center and University of Maryland Extension, is offering a one-day class, Managing Risk for Food Businesses, at the Maryland Agriculture Resource Center, 1114 Shawan Rd., Cockeysville, Maryland 21030, on Tuesday, May 12 from 9:15 a.m. to 3:30 p.m. Cost is \$40.00 (includes lunch and all handouts,) payable by credit card or personal check.

For further details and to register go to:
<http://managingriskforfoodbusinesses.eventbrite.com>



2015 Annual Strawberry Twilight Meeting Wye Research and Education Center Queenstown, MD 21658 Tuesday May 26, 2015 6:00 PM until Dark

Please join us for this educational field event, rain or shine, so bring weather appropriate gear.

Come see and taste fruit from our variety trial grown in the annual plasticulture system. Varieties include; Albion, Benica, Radiance, San Andreus, Wendy, Jewell, Allstar, Camarosa, Flavorfest and Chandler. We are also showcasing several advanced selections from the Rutgers University breeding program.

See and hear about the latest cutting-edge technology in wireless technology and how this technology is helping growers apply and monitor water usage remotely. This technology is also being used to monitor and alert growers to weather conditions that could impact crop production.

University and other specialists will be on hand to discuss current issues in disease and insect pest management. Speakers and Specialists in attendance include:

Bruk E. Belayneh, University of Maryland, PhD Candidate
Jerry Brust, University of Maryland Extension Specialist
Kelly Hamby, University of Maryland Entomologist
John Lea-Cox, University of Maryland Extension Specialist
Kim Lewers, Plant Breeder, USDA-Fruit

Lab, Beltsville, MD Michael Newell, Wye
Research and Education Center
Pete Nitzsche, Rutgers University, Agricultural
and Resource Management Agent Cassandra
Swett, University of Maryland Small Fruit
Pathologist

Dessert will be served following field activities.

Please let us know if you'll be attending:
ddant@umd.edu, 410-827-8056 Ext 115 For
program information, mnewell@umd.edu, 410-
827-7388



**Crops Twilight Barbecue & Ice Cream
Social
CMREC Upper Marlboro Farm
August 6, 2015**

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 6, 2015 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 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 3.

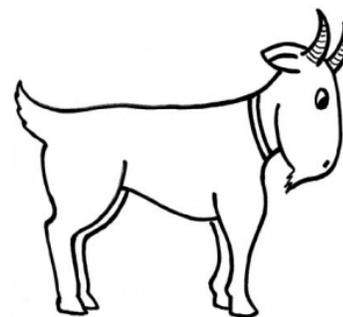
For registration information contact any of the
Southern Maryland Extension offices.

**Goat Test Nominations Being Accepted
April 15 – June 1**

The nomination period for the Western Maryland
Pasture-Based Meat Goat Performance Test is
April 15 through June 1. Any goat producer may
nominate up to five male goats, of any breed or
breed cross, with or without registration eligibility.
Eligible goats must have been born between
January 1 and March 15, 2015, and weigh between
40 and 70 lbs. upon delivery to the test site on June
26.

This is the 10th year of the Maryland test. It was
established in 2006 to evaluate the post-weaning
performance of meat-type bucklings consuming a
pasture-based diet, with natural exposure to
internal parasites. While on test, goats are
evaluated for growth, parasite resistance, and
parasite resilience. The 10 top-performing bucks
will be recognized.

For more information or to consign, visit the meat
goat test blog at <http://mdgoatstest.blogspot.com>.
All documents pertinent to the test can be
downloaded from the blog. Contact Pam Thomas
at (301) 432-2767 x315 or pthomas@umd.edu to
have a nomination packet mailed to you. Only
nominations received by the deadline will be
treated equally.



Interested candidates should contact 301-475-4200 extension 1700. Volunteer Applications can be downloaded from <http://www.stmarysmd.com/voluntr/>

Volunteers Needed

The Commissioners of St. Mary's County are seeking applications from citizens interested in serving on the Agriculture, Seafood and Forestry Board.

The Agriculture, Seafood and Forestry Board holds monthly meetings on the second Thursday of the month at noon in the Conference Room at the Agricultural Service Center. The purpose of the St. Mary's County Agricultural, Seafood and Forestry Board shall be:

1. to identify and implement activities aimed at preserving agriculture and seafood harvesting as prosperous components of the County's economy;
2. to promote the agriculture, aquaculture, seafood and forestry industries of the county;
3. to provide a permanently established forum for the discussion of public policy issues relating to concerns of agriculture, aquaculture, seafood and forestry;
4. to advise the Commissioners of St. Mary's County on issues related to agriculture, aquaculture, seafood and forestry.
5. to make recommendations regarding effectively protecting land in the Rural Preservation District that is of great agricultural and/or environmental value.
6. In addition, the Agricultural Preservation Advisory Board shall perform the duties enumerated in §2-504.1 of the Agriculture Article of the Annotated Code of Maryland, as amended from time to time:
7. In addition, the Agricultural Reconciliation Committee shall perform the duties enumerated in Chapter 254 of the Code of St. Mary's County, Maryland, as amended from time to time.



Agriculture Tax Credit

St. Mary's County Land Preservation District 5-Year Agreement was implemented on July 1, 1998 and reauthorized on August 18, 2009. The tax credit provides a 100% *county* tax credit on agriculturally assessed land and agricultural improvements to participants who have no plans within the next five (5) years to subdivide their property. The credit is calculated from values provided by the St Mary's Maryland County Tax Assessor . One hundred twenty-seven parcels of land are currently enrolled under the program representing approximately 15,290 acres of land. This represents a savings of over \$48,000 to landowners. The average savings per tax account is \$381.

If you have agricultural assessed land with no intentions to subdivide or develop within the next 5 years and would like to participate in this program, please contact the Department of Economic Development, at 240-309-4021.

St. Mary's Farmer's Markets 2015 Season Calendar



California Farmer's Market - A producer only market located at the BAE Systems parking lot at the corner of Town Creek Drive and Route 235
Open Saturdays from 9 am until 1 pm until
November 28, 2015

North St. Mary's County Farmer's Market -
located at 37600 New Market Road, Charlotte
Hall, MD 20622

- Open Mondays - Saturdays from 8 am until 6 pm May, September & October
- Open Mondays - Saturdays from 8 am until 7 pm June, July & August
- May be open select days November & December depending on weather and product availability.

Home Grown Farm Market - a producer only market located at 21078 Three Notch Road, Lexington Park, MD 20653

- Spring Season – April 4, 2015 until June 13, 2015 on Saturdays only from 9 am to 1 pm.
- Peak Season - June 17, 2015 until October 31, 2015 on Wednesdays from 10 am to 4 pm and Saturdays from 9 am to 1 pm
- Winter Season - November 7, 2015 until December 19, 2015 on Saturdays only from 9 am to 1 pm.



Ag Law Center Update Paul Goering; Research Associate and Extension Legal Specialist lgoering@umd.edu

The following publications have been added to the website <http://umaglaw.org/publications-library.html> :

When Can the Government Enter Your Farm?
by Sarah Everhart

Using a Business Organization Structure to Limit Your Farm's Liability by Ashley Newhall and Paul Goering

Legal Liability of Saving Seeds in an Era of Expiring Patents by Paul Goering

Model CSA Contract

In addition to the publications, we are adding short youtube videos over legal issues <http://umaglaw.org/videos.html>. Right now we have videos on leasing, contracting, and what is a law/regulation. We should have some additional ones available in the future over premise liability, defenses to negligence, and adverse possession. Along with that we continue to post shorter pieces at <http://umaglaw.org/publications-library.html>, many of which are cross posted on the UME website as well.



WANTED: STINK BUGS
University of Maryland Researchers
Seeking Thousands of Live Stink Bugs
By Sara Gavin Communications
Coordinator University of Maryland

As the weather turns warmer, stink bugs stowed away for the winter in houses and buildings will start to seep out of cracks and crevices much to the dismay of residents all over the region. Before simply getting rid of the pests, however, scientists at the University of Maryland are urging people to collect them and donate them to research.

Galen Dively, Ph.D., an Extension specialist in integrated pest management and entomology professor at the university, says his lab collected roughly 13,000 stink bugs last fall, most of which died due to a suspected virus that causes colony collapse.

“We really need bugs,” says Dively, who heads up a team of graduate students all dedicated to studying the invasive Brown Marmorated Stink Bug (BMSB) and figuring out how to eradicate it. “If you have a large stink bug population in your home or office or school, our lab would really appreciate you capturing the little critters.” Dively suggests collecting the bugs in household items like plastic food containers or old coffee cans, throwing a piece of apple inside for food and poking holes in the lid. However, he cautions not to throw the bugs together inside confined spaces like Ziplock bags as the pests will “stink” each other to death. Dively and his colleagues are

offering to come pick up collections of at least 50 stink bugs or more. Contact the researcher at: galen@umd.edu or 202-812-9828.

The BMSB was accidentally imported from Asia to North America in the late 1990s and with few known natural enemies in this country, quickly became a nuisance inside homes, office buildings and warehouses. Although the insect doesn’t bite humans, it lays hundreds of eggs during its lifetime and is particularly dangerous to farmers because of the fact that it will feed on almost anything.

While the BMSB is known as more of a nuisance in the summer and fall months, Dively says it only takes a couple of warm days to coax them out of their winter hiding spots. Dively and his research team are currently studying some of the BMSB’s natural predators – parasitic wasps who feed on the bug’s eggs – and testing the effectiveness and safety of various spray treatments.

Alfalfa Weevil

The cool spring weather and ample moisture has resulted in excellent early spring alfalfa growth. Alfalfa weevils can now be found in many of these fields, and should be scouted to determine if a treatment is needed.

Joanne Whalen, Extension IPM Specialist with University of Delaware provides the following recommendations for threshold levels warranting treatment. Examine 5-10 stems for damage and weevil larvae. A full stem sample is not needed until damage or larvae are found on the plants. Once larvae are found, a decision to treat should be based on collecting a minimum of 30 stems throughout a field and checking for the number of larvae per stem. The following thresholds, based on the height of the alfalfa, should be used as a

guideline when making a treatment decision for alfalfa weevil: (a) up to 11 inches tall – 0.7 per stem; (b) 12 inches tall – 1.0 per stem; (c) 13 – 15 inches tall – 1.5 per stem; (d) 16 inches tall – 2.0 per stem and (e) 17 – 18 inches tall – 2.5 per stem.



Mid-Atlantic Berry Pathology Twitter
By Cassandra Swett
Grape and Small Fruit Pathologist
University of Maryland

<https://www.psla.umd.edu/research/research-lab-pages/swett-lab-berry-pathology>

Announcing the Mid-Atlantic Berry Pathology Twitter site to provide Mid-Atlantic berry growers with real time disease updates as a compliment to the Penn State Tree Fruit pathology Twitter site, we have initiated a pilot run of a Berry Pathology Twitter page. You can follow online at: https://twitter.com/berry_pathology, or on your smart phone: @Berry_Pathology. Postings are sent out on an as-needed basis to provide notification of high disease pressure, control considerations, and links to other helpful resources.

Resources

Fungicide Resistance Management Guidelines for Vegetable Crops Grown in the mid-Atlantic region -2015: <http://extension.psu.edu/plants/vegetable-fruit/productionguides/2011%20FRAC%20Guide.pdf>

2015 Southeast Regional Strawberry Integrated Pest Management Guide:
<http://www.smallfruits.org/SmallFruitsRegGuide/Guides/2015/2015StrawberryIPMGuide.pdf>



MD Grain Marketing Site Updated for 2015: Field Crop Budgets and Custom Rates

By: *Shannon Dill, Extension Educator, Talbot*

The University of Maryland Extension has updated www.extension.umd.edu/grainmarketing site with new input data for 2015 crop budgets. Also posted is the 2015 Maryland Custom Rate Survey.

Crop Budgets

Cost of production is very important when making decisions related to your farm enterprise and grain marketing. Enterprise budgets provide valuable information regarding individual enterprises on the farm. This tool enables farm managers to make decisions regarding enterprises and plan for the coming production year. An enterprise budget uses farm revenue, variable cost, fixed cost and net income to provide a clear picture of the financial health of each farm enterprise.

The 2015 Maryland enterprise budgets were developed using average yields and estimated input cost based upon producer and farm supplier data. The figures presented are averages and vary greatly from one farm and region to the other. It is therefore crucial to input actual farm data when completing enterprise budgets for your farm.

How to Use University Enterprise Budgets:

The enterprise budgets can be used as a baseline for your operation. Make changes to these budgets to include your production techniques, inputs and overall management.

The budgets are available electronically in PDF or Excel online at www.extension.umd.edu/grainmarketing. Use this document as a start or reference to create your crop budgets. If you have problems downloading any of these budgets contact information is located on the website.

COST PER ACRE 2015

Corn- No Till	Corn- Conventional	Soybeans	Wheat	Wheat/ Beans
\$589.64	\$585.36	\$357.51	\$439.52	\$659.73

2015 Custom Rate Survey Now Available

Financial and economic considerations such as limited capital, untimely cash flow, insufficient labor, small acreage or other reasons require farmers to hire custom service for field operations.

Custom work charges are determined by demand and supply and are negotiated between farmers and custom operators. The purpose of the publication is to provide information on custom work charges in Maryland and to provide data to assist in decision making regarding purchasing equipment.

Custom Work Charges

A mail survey was conducted in the fall of 2014 to determine custom works charges in Maryland. Rates were collected from 77 custom operators and farmers, and summarized for the state. Participants indicated the rates they charge for various field operations. The charges reported in this publication

may serve as a guide in determining an acceptable rate for a particular job where little other information is available. The charges can also be compared with costs and returns and may be used as a basis for working out more equitable charges for both the custom operator and customer. These are available online at www.extension.umd.edu/grainmarketing or contact your local Extension Office.

Beware of “Alternatives” when Purchasing Agricultural Lime

Amy Shober, Nutrient Management and Environmental Quality Extension Specialist; ashober@udel.edu, Richard Taylor, Extension Agronomist; rtaylor@udel.edu, Josh McGrath, Extension Soil Specialist University of Kentucky and Edwin Ritchey, Extension Soil Specialist University of Kentucky

Maintaining soil pH in the proper range is one of the most important parts of soil fertility management. Soil pH is considered the “master variable” because it influences many of the chemical and biological functions of the soil. Recall that pH is a measure of the activity or concentration of hydrogen ions (H⁺), which is represented mathematically as $pH = -\log[H^+]$. The more hydrogen ions present in the soil solution the lower the pH value. Values below 7.0 are considered acidic and values above 7.0 are considered alkaline. The target soil pH for crops grown in Delaware is crop specific but, in general, is as follows:

- Grain crops (corn, soybean, small grains): 6.0
- Forages (alfalfa, corn silage, grass/legume mixtures): 6.0 to 6.8.
- Vegetable crops (beans, peas, peppers, etc.): 6.0 to 7.0

In this soil pH range, the essential mineral macro- and micro-nutrients are in a chemical form that is most available for uptake by growing plants. At pH below 5.0, soluble aluminum (Al), iron (Fe), and manganese (Mn) may be toxic to the growth of some plants and phosphorus (P) availability is decreased.

Delaware soils are naturally acidic. In addition, nitrogen (N) fertilizers that contain urea or ammonium (NH_4^+) also contribute to soil acidity when NH_4^+ is converted to nitrate (NO_3^-), releasing many H^+ ions into the soil solution. Therefore, periodic liming may be required to maintain Delaware soils in the optimum pH for grain and vegetable crops. Remember to have your soil tested before applying any lime to the soil. The lime requirement test is offered as part of the routine soil analysis by the University of Delaware soil testing lab and many private labs in the region. You need both the water pH and the lime requirement (buffer pH) test run to obtain an accurate estimate of the quantity of lime needed to raise the pH back to the target pH.

Recently, colleagues at the University of Kentucky alerted us that Kentucky growers were being marketed an “alternative” liquid lime product. After a little investigation, they identified that the material being marketed as a liquid lime was actually calcium chloride (CaCl_2). Unfortunately, CaCl_2 provides NO liming value and is in fact not “liquid lime.” Calcium chloride is used for many purposes including road salt or tractor tire ballast, but it cannot be used to neutralize soil acidity. Therefore, we thought it would be useful to provide some information on liming materials, how liming materials increase soil pH, and explain why CaCl_2 is not a viable alternative to agricultural lime.

What is Lime?

Liming materials are typically oxides (O_2^-), hydroxides (OH^-), carbonates (CO_3^{2-}) or silicates (SiO_4^{4-}) of calcium (Ca) or magnesium (Mg). Some examples include calcitic lime or calcium

carbonate (CaCO_3), dolomitic lime ($\text{CaMg}(\text{CO}_3)_2$), quick lime (CaO), and hydrated lime ($\text{Ca}(\text{OH})_2$). The reason these materials work or “lime” a soil (i.e. neutralize acidity) is NOT due to the Ca or Mg in the material. The oxide, hydroxide, carbonate, or silicate anions in these materials are the active liming agents. When these liming materials dissolve in water, the acidity (H^+) reacts with the negatively charged anions (O_2^- , OH^- , CO_3^{2-} , or SiO_4^{4-}), thereby reducing the concentration of acid (H^+) in the soil solution. The Ca or Mg cation does nothing to reduce soil acidity. Land application of Ca and/or Mg liming agents does, however, serve as a source of these macronutrients to growing plants.

Available Liming Materials

Many common liming materials are available in solid form. It is important to know the liming ability of any material, which is expressed as calcium carbonate equivalents (CCE), because some materials are more effective at neutralizing acidity. High quality solid limes have a small particle size allowing them to dissolve in water more readily.

Liquid lime products are also available. Liquid lime is simply a very finely ground solid liming product that is dissolved in water. Liquid lime usually has a high relative neutralizing ability allowing it to modify soil pH quickly. However, since lime is dissolved in water, it typically consists of approximately 50% lime and 50% water by weight. Therefore, one ton of liquid lime would be equivalent to applying $\frac{1}{2}$ ton of solid lime. If you need 2 tons per acre of 100% CCE lime (based on request of a lime requirement soil test), you would likely need to apply over 4 tons per acre of the liquid lime, which is well in excess of 700 gallons per acre. This large volume of water would require multiple applications of liquid lime throughout the year to get the amount of effective lime on the field as recommended by the soil test. However, because liquid lime is very fast acting (you don't have to wait for the rain to dissolve the lime), in some cases it may be a good option for

growers when only a small amount of lime is required.

Buyer Beware

If purchasing “liquid lime”, read the label to be sure that the material is actually an oxide (O²⁻), hydroxide (OH⁻), carbonate (CO₃²⁻), or silicate (SiO₄⁴⁻) form of calcium (Ca) or magnesium (Mg). The CaCl₂ being marketed to growers in Kentucky is not liquid lime and has no liming ability. Remember, the Ca (and or Mg in some liming materials) is not responsible for neutralizing soil acidity. And while CaCl₂ can provide plant available Ca to the soil, Ca deficiencies are not common in grain or vegetable crops grown in Delaware when proper pH management practices are followed. If you do need Ca or Mg, a calcitic or dolomitic limestone source is a great way to meet those needs. Be a savvy customer when purchasing liming materials and don't forget to get your soil tested before applying lime.

2015 Selected Vegetable Fungicide Updates

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

The following is a brief overview of some of the changes and updates to the Commercial Vegetable Recommendation Guide (CVRG) by the extension plant pathology team for 2015. Some additions to CVRG represent newly registered products and others were added because recent trial data indicated that they were effective. This summary is not comprehensive, please review the CVRG for additional recommendations. Also there are many other products that have been in the CVRG for many years and are still effective. Remember to follow all label safety guidelines, rates, resistance

management guidelines, and tank mix incompatibilities

Beans (snap and lima)

- Ranman and Omega are included in the CVRG for lima bean downy mildew. Ranman has been added for cottony leak.
- Quilt Xcel and Azoxystrobin are recommended for anthracnose, web blight, and common snap bean rust. Azoxystrobin is recommended for root rot and Southern blight.
- Blocker 4F is recommended for Alternaria root/stem rot.

Cucurbits (squash, muskmelon, pumpkin, watermelon, cucumber)

- Fontelis is recommended for gummy stem blight, powdery mildew, Sclerotinia stem rot.
- Luna Experience and Proline are recommended for gummy stem blight and powdery mildew on watermelon.
- Proline has been added to the recommendation to manage Fusarium wilt in muskmelon and watermelon.
- Uniform is recommended for damping off on all above listed cucurbits.
- Forum is recommended for downy mildew on pumpkin.

Tomato

- Inspire Super is included in the recommendations for foliar pathogens (Septoria leaf spot, early blight) and fruit rots (early blight, anthracnose).
- Inspire Super was added for control of powdery mildew.
- Blocker 4F is now recommended for Southern blight.

Lettuce

- Fontelis and Merivon are recommended for leaf spots (Septoria, Cercospora and anthracnose.)
- Merivon is added for suppression of gray mold.

Sweet corn

- Prosaro, and Aproach are recommended for leaf spots and blights plus rust.

Pepper

- Azoxystrobin is recommended for Southern blight and damping-off.
Blocker 4F is recommended for Southern blight.

Spinach

- Pristine and Merivon are now recommended for leaf spot and anthracnose.



Strawberry Fruit Rots

By Cassandra Swett

Grape and Small Fruit Pathologist

University of Maryland

<https://www.psla.umd.edu/research/research-lab-pages/swett-lab-berry-pathology>

The strawberry bloom has begun and it's time for fruit rot protection. Our two main targets for bloom time protection of strawberries are grey mold / Botrytis fruit rot (*Botrytis cinerea*), and, if you are growing susceptible varieties like Chandler, anthracnose fruit rot (*Colletotrichum acutatum*).

Most fungicides are labeled for both pathogens, but if your main target is grey mold, you need to consider that the fungus has become resistant to several fungicides. If you use fungicides that the pathogen is resistant to, you will have no protection—it's essentially like missing a spray. Based on the fungicide resistance tests that Guido Schnabel conducted with *Botrytis* from Maryland,

Topsin M is ineffective and at some sites, Scala is also ineffective.

Here's a strawberry spray guide that manages fungicide resistance, when your main objective is grey mold (*Botrytis*) protection:

1. Pre-bloom (crown rot protection) Spray every 7-10 days
Rotating: Captan and Thiram
With: Rovral—this compounds can only be applied once, and only pre-bloom

2. Early bloom (10% to fruit set: Spray every 7-10 days

Rotating: Capt Evate, Switch, Fontelis, and Pristine With: Captan, Thiram

An example: Captan+Fontelis Switch, Captan, Pristine, Thiram , Elevate , Captan

3. After fruit set: Spray every 7-10 days

Rotating: Captan and Thiram

With: CaptEvate, Elevate, or Fontelis (each applied only once during this interval).

We get a lot of rain this time of year, and every time it rains the fungus has a chance to infect plants. So long as it's raining about every week, plan to spray every 7- 10 days.

Some things to bear in mind:

- Control is improved when you rotate between Fontelis and Switch and when you tank mix Fontelis with Captan.
- One of the compounds in Pristine is the same FRAC group as Fontelis, so don't use these sequentially.
- Switch and Pristine are both highly effective, but are at high risk of resistance if they are used too often. Because of this, it is recommended that they are only used ONCE each year, for protection at bloom and in some guides, such as the Fungicide Resistance Management Guidelines for Vegetable Crops in the mid-Atlantic region (2015), Pristine is not recommended for use.
- What about non-synthetic chemicals? There is

some interest in using non-synthetic chemicals for fruit rot control. One such compound is Regalia, a plant extract labeled for use on grey mold and anthracnose fruit rot in strawberry. Trials are lacking for strawberries, but in grape Regalia may be as effective as Pristine against *Colletotrichum*, and moderately effective against *Botrytis*. In trials in California, disease control with Regalia is best when rotated with conventional compounds. We will be doing work on strawberry starting this year to evaluate Regalia and other bio-pesticides / biologicals, so we should have more information on this in future years.

Nutrient Management Plan Update Spring 2015

Nicole Fennelly
(301)-475-4480
nfennell@umd.edu

As planting season is getting closer and closer, I am busy getting Nutrient Management Plans updated. If you have already begun applying nutrients, I can assemble a partial plan that shows what you have already applied and future applications you may apply. However, if you have applied all of the nutrients you will be applying for that crop season, regulations do not allow me write a “back-dated plan”. We can proceed to update your plan for the fall. So if you are ready to have your plan updated, or if you are unsure, please contact me and I will do my very best to meet your needs.

For those of you that are planting corn, you may consider having a Pre-Sidedress Nitrate Test (PSNT) done on your fields to help you decide whether to apply sidedress nitrogen to your corn. The PSNT can be especially valuable on fields where:

- manure or biosolids have been applied this year or within the past two years
- a forage legume was grown last year
- less than 50 pounds/acre of commercial fertilizer nitrogen applied prior to sidedress

Soil samples for the PSNT should be taken when the corn is between 6 and 12 inches tall, prior to the rapid growth stage when the plant will require adequate nitrogen to fuel its growth. The soil should be sampled to a depth of 12 inches and multiple samples (recommended 30 – 40) should be collected throughout the field/management unit. Just like traditional soil sampling, these samples should be mixed in a clean plastic bucket and a sub-sample taken for testing.

This test can either potentially save you money on nitrogen fertilizer if the results show adequate nitrate-nitrogen in the soil, or it can optimize your yield by making you aware that inadequate nitrate-nitrogen exist in the soil and so a sidedress is recommended. Please contact me early in the season to sign up for this useful test.

I look forward to hearing from you and wish everyone a successful season!

Head Scab Forecasting Model Available

An online modeling tool is available to help you identify the risk of head scab in wheat and help you decide if a fungicide application is warranted. The model is available here: <http://www.wheatcab.psu.edu/> As wheat enters the heading and flowering stage, be sure to check the site to determine the level of risk for a head scab infection.

Fusarium head blight or head scab is caused by the fungus *Fusarium graminearum*. The disease causes tremendous losses by reducing grain yield and quality in many wheat production regions east of the Rocky Mountains.

The experimental models deployed by the Fusarium Prediction Center represent more than a decade of model development and testing by multiple universities. The models estimate the risk of a Fusarium head blight epidemic with greater than 10% field severity using weather variables observed seven days prior to flowering. Weather during this pre-flowering time period influences the reproduction of the fungus that causes head scab. Testing of these pre-flowering models indicates that the models are correct about 75% of the time. The models are only one source of information available to help make management decisions. We strongly encourage you to consult with local extension specialists, and crop consultants to determine if fungicide applications are needed to suppress Fusarium head blight in your area.



On the Lighter Side

"The Season of the Plow"

The green, green grass is growing
There's robins on the wing
Raindrops gently flowing
It's the first new days of Spring
Sunshine's sometimes shining
Come out now from the clouds
Daffodils are peeking
Yellow flowers, nodding, proud...
Time to start the new tomatoes

That will soon be on the vine
Time to buy those seed potatoes
when they're new, they taste so fine
Time to till up that old garden plot
That's rested since the fall
Time to make our summer garden plans
and carry out them all...
There's no time like the present
Cause the reason's here and now
And springtime is the season, yes
The season of the plow.

Author Nan Sexton

**Wishing you a good spring and
productive 2015!**



A handwritten signature in cursive script that reads "Benjamin E. Beale".

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