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FUNDING OPPORTUNITIES

- **GACC for Corn Research Grant**
  The Georgia Agricultural Commodity Commission for Corn has released the call for proposals to be considered for CY16 funding (January 1, 2016 through December 31, 2016). The GACC for Corn is interested in all proposals but special consideration will be given to the following areas:

  - Programs that increase or improve corn’s competitiveness, marketing and/or risk management.
  - Research on reducing aflatoxin levels in corn and the remediation of post-harvest contamination. The Commission requests that any proposal involving Aflatoxin be submitted to the Aflatoxin Mitigation Center of Excellence prior to submission to the Commission. If the proposal is not funded by AMCOE, then the Commission will then consider the proposal for funding.
  - Increasing water use efficiency or availability i.e. irrigation, surface water collection, conservation tillage, etc.
  - Rotational benefits of corn to other crops.
  - Improved pest (disease, weeds, insect) control methods or efficiencies.
  - Post-harvest technology, research and education (i.e. improving storage, drying such as batch vs. continuous flow, in-bin vs. natural air, etc. and storage insect control).
  - Corn utilization through biofuels.
  - Improvements in fertilizer (nitrogen, phosphorus, potassium) efficiency or effectiveness particularly at high yield levels (300+ bushels per acre). Studies on hormones, plant growth enhancers and other additives.
  - Research aimed towards dry land corn efficiency.

The objective is to provide corn growers with information from research and education projects that is timely, applicable to the conditions found in Georgia, and can be readily assimilated by the growers of Georgia. The Commission requests that researchers submit their 2015 reports and 2016 proposals to the Commission’s office by November 30, 2015 for their review. **Proposals for 2016 should be forwarded to Debra Rucker for review no later than Monday, November 23.** Please include a signed proposal cover sheet ([http://ovpr.uga.edu/docs/forms/osp/pdf/Proposal-Cover-Sheet.pdf](http://ovpr.uga.edu/docs/forms/osp/pdf/Proposal-Cover-Sheet.pdf)), and also enter the proposal into UGA's eResearch Portal for Grants and Awards ([http://ovpr.uga.edu/osp/proposal/submit-proposal](http://ovpr.uga.edu/osp/proposal/submit-proposal)), which will generate the necessary internal transmittal process.
• **Small Business Innovation Research Program - Phase II**

The U.S. Department of Agriculture (USDA) invites previous Small Business Innovation Research (SBIR) Phase I awardees to apply for Phase II funding under this program solicitation. Phase II awards are only provided to those Phase I awardees that meet the eligibility requirements of a Phase II project. To be eligible for a Phase II award, an applicant must have been funded by the USDA SBIR program as a Phase I project and have not previously applied for Phase II funding under this program. Projects dealing with agriculturally related manufacturing and alternative and renewable energy technologies are encouraged across all 2015 SBIR topic areas. USDA SBIR's flexible research areas ensure innovative projects consistent with USDA's vision of a healthy and productive nation in harmony with the land, air, and water. The closing date for the grant application is February 25, 2016. For detail information about the grant application and additional information, please visit the webpage: [http://nifa.usda.gov/sites/default/files/rfa/FY16%20SBIR%20Phase%20II%20RFA.pdf](http://nifa.usda.gov/sites/default/files/rfa/FY16%20SBIR%20Phase%20II%20RFA.pdf)

• **2016 USDA-NIFA Biotechnology Risk Assessment Research Grants Program (BRAG)**

NIFA requests applications for the Biotechnology Risk Assessment Research Grants (BRAG) Program for fiscal year (FY) 2016 to support environmental assessment research concerning the introduction of genetically engineered (GE) organisms into the environment. The anticipated appropriated amount available for NIFA to support this program in FY 2016 is approximately $4 million. The purpose of the BRAG program is to support the generation of new information that will assist Federal regulatory agencies in making science-based decisions about the effects of introducing into the environment genetically engineered organisms (GE), including plants, microorganisms (including fungi, bacteria, and viruses), arthropods, fish, birds, mammals and other animals excluding humans. Letter of Intent (LOI) should be received by February 12, 2016 and applications must be received by April 15, 2016. Please visit the webpage: [http://nifa.usda.gov/sites/default/files/rfa/16_Brag%20RFA.pdf](http://nifa.usda.gov/sites/default/files/rfa/16_Brag%20RFA.pdf) for the grant application, guidelines, and additional information.

• **Beginning Farmer and Rancher Development Program (BFRDP)**

NIFA requests applications for the Beginning Farmer and Rancher Development Program (BFRDP) for fiscal year (FY) 2016 to support the delivery of education, mentoring, and technical assistance programs to help beginning farmers and ranchers in the United States (U.S.) and its territories with entering, establishing, building and managing successful farm and ranch enterprises. The anticipated amount available for grants in FY 2016 is approximately $18 million. The term “farmer” is used in the broadest sense and should be interpreted to include agricultural farmers, ranchers, and non-industrial private forest owners and managers. Applications from partnerships and collaborations that are led by or include nongovernmental organizations (NGOs), community-based organizations (CBOs), and school-based agricultural educational organizations (SAEOs) with expertise in new agricultural producer training and outreach will be given priority in funding. A detail information about the grant and application procedure is available on the webpage: [http://nifa.usda.gov/sites/default/files/rfa/FY16%20BFRDP%20RFA.pdf](http://nifa.usda.gov/sites/default/files/rfa/FY16%20BFRDP%20RFA.pdf).

The deadline for the grant application is January 21, 2016.
• Food Insecurity Nutrition Incentive (FINI) Grant Program

NIFA requests applications for the Food Insecurity Nutrition Incentive (FINI) Grant Program for fiscal year (FY) 2016 to support projects to increase the purchase of fruits and vegetables among low-income consumers participating in the Supplemental Nutrition Assistance Program (SNAP) by providing incentives at the point of purchase. Applications are requested in each of the following three categories: (1) FINI Pilot Projects (awards not to exceed a total of $100,000 over one year); (2) Multi-year, community-based FINI Projects (awards not to exceed a total of $500,000 over no more than four years); and (3) Multi-year, FINI Large-Scale Projects (awards of $500,000 or more over no more than four years). Grantees will be expected to conduct a project assessment and to cooperate with and contribute to an independent evaluation to determine the relative effectiveness of the grant program in achieving the legislative goals of “increasing fruit and vegetable purchases” and “improving the nutrition and health status” of participating households (Food, Conservation, and Energy Act of 2008, § 4405(b)(4)(A)). The appropriated amount available for NIFA to support this program in FY 2016 is approximately $16.8 million. For additional information, please contact Jane Clary Loveless, Ph.D., RN (email:jclary@nifa.usda.gov). The deadline for the grant application is December 16, 2015. For the eligibility criteria for projects and applicants, and the application forms and associated instructions needed to apply for a FINI 3 grant, please visit the webpage: http://nifa.usda.gov/sites/default/files/rfa/FY%2016%20FINI_to%20POST.pdf

• Specialty Crop Research Initiative (SCRI)

NIFA requests pre-applications for the Specialty Crop Research Initiative (SCRI) for fiscal year (FY) 2016 to solve critical United States specialty crop issues, priorities, or problems through the integration of research and extension activities that use systems-based, trans-disciplinary approaches. The intent of the SCRI program is to solve the needs of the various specialty crop industries through the promotion of collaboration, open communication, the exchange of information, and the development of resources that accelerate application of scientific discovery and technology. The SCRI program will give priority to projects that are multistate, multi-institutional, or trans-disciplinary (see Definitions, Part VIII (E)), and include clearly defined mechanisms to communicate results to producers and the public. The anticipated amount available for grants in FY 2016 is approximately $48 million. For the grant application and detail information, please visit the webpage: http://nifa.usda.gov/sites/default/files/rfa/FY16%20SCRI%20RFA.pdf Pre-applications due date is December 3, 2015 and the applications due date is December 3, 2015.

• Plant Feedstock Genomics for Bioenergy: A Joint Research Solicitation- USDA, DOE

The USDA's, National Institute of Food and Agriculture (NIFA), Institute of Bioenergy, Climate, and Environment (IBCE) and the Department of Energy's Office of Science, Office of Biological and Environmental Research (OBER) announce the interagency Program to support genomics-based research that will lead to the improved use of biomass and plant feedstocks for the production of fuels such as ethanol or renewable chemical feedstocks.

Please note that applicants will submit applications through DOE and a preapplication is requested rather than a letter of intent. To apply go to: http://science.energy.gov/~media/grants/pdf/foas/2016/SC_FOA_0001444.pdf

extension.uga.edu
EMERALD ASH BORER UPDATE

In 2015, 710 Emerald Ash Borer traps were distributed across the state by USDA – APHIS, GFC and USFS. At the close of the 2015 EAB trapping season, EAB was detected in seven new counties: Barrow, Cherokee, Douglas, Fannin, Habersham, Murray and White. Georgia Forestry Commission and Georgia Department of Agriculture have agreed to expand the quarantine area to include these seven new counties. **Quarantined Counties now include Barrow, Carroll, Cherokee, Clayton, Cobb, DeKalb, Douglas, Fannin, Fayette, Fulton, Gwinnett, Habersham, Henry, Murray, Newton, Rockdale, Walton, White and Whitfield (see attached map).** Changes to the Quarantine Area are effective immediately. For more information, questions about the EAB regulations or to view the map, please visit our website: [http://www.gatrees.org/forest-management/forest-health/eab/index.cf](http://www.gatrees.org/forest-management/forest-health/eab/index.cf)
FROM THE FIELD

Suggestions for fungicidal spray programs in 2016

Phillip M. Brannen

Department of Plant Pathology, University of Georgia

In 2015, we continued to have disease control failures on a limited basis. Most of these failures could be directly correlated to spray programs that were either poorly timed or nonexistent for some period of the season. The following will address a few key points that may be of value for 2016 – new information and a suggested spray schedule.

Keep in mind that there are numerous ways you can mix and match fungicides to cover the diseases of concern; go to the IPM spray guide at www.smallfruits.org to review all the possible alternatives, and always follow label directions.

Proline fungicide has been available for a couple of years. It is another demethylation inhibitor (DMI) fungicide, so it falls in the same category as Indar, Orbit, Tilt, Quash and various generics of these same active ingredients. I have generally not been that excited about the addition of a new fungicide from the DMI class, as these have performed in a similar fashion. However, in a 2015 trial conducted with Forrest Connelly in Stephens County, though Proline was statistically equivalent to Indar for control of mummy berry (Table 1), it was numerically and strikingly superior in the field. Results from a 2014 trial were similar. The bottom line is that Proline has excellent efficacy against all phases of the mummy berry disease – early season strikes and mummified fruit. You might consider use of this product if you have had issues with mummy berry in the past. It is still too early to conclude that one DMI is substantially better than the others, but in 2016, we hope to develop additional information as we compare all four DMIs simultaneously for mummy berry control. Stay tuned.

In the same trial, we were able to collect Exobasidium leaf spot data. As in past trials, Captan did provide suppression of Exobasidium, as expected. Likewise, the DMIs (Proline and Indar) also suppressed Exobasidium. Ph-D is a new fungicide that mainly has activity on Botrytis, but it did not provide substantive control of either mummy berry or Exobasidium.

Table 1. Efficacy of Proline and other fungicides for management of mummy berry and Exobasidium leaf spot (Stephens County, GA).

<table>
<thead>
<tr>
<th>Treatment and rate/A</th>
<th>Treatment date*</th>
<th>Strike severity*</th>
<th>Mummy incidence</th>
<th>Exobasidium severity</th>
<th>Exobasidium incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated control</td>
<td>---</td>
<td>211.7 a</td>
<td>43.7 a</td>
<td>0.7 a</td>
<td>22.3 a</td>
</tr>
<tr>
<td>Indar 2F 6 oz</td>
<td>GT, B1, B2, B3, LB</td>
<td>56.7 de</td>
<td>12.2 cd</td>
<td>0.4 ab</td>
<td>10.7 bc</td>
</tr>
<tr>
<td>Proline 480 SC 5.7 oz</td>
<td>B1, B2, B3, LB</td>
<td>3.2 e</td>
<td>0.6 d</td>
<td>0.1 b</td>
<td>7.4 c</td>
</tr>
<tr>
<td>Ph-D 11.3 WDG 6.2 oz</td>
<td>GT, B1, B2, B3, LB</td>
<td>141.7 bc</td>
<td>38.8 ab</td>
<td>0.6 a</td>
<td>14.8 abc</td>
</tr>
<tr>
<td>Ph-D 11.3 WDG 6.2 oz + Captan 80WDG 3.125 lb</td>
<td>GT, B1, B2, B3, LB</td>
<td>160.0 ab</td>
<td>28.4 b</td>
<td>0.1 b</td>
<td>7.2 c</td>
</tr>
<tr>
<td>Ph-D 11.3 WDG 6.2 oz + Tebucon 45DF 4 oz</td>
<td>GT, B1, B2, B3, LB</td>
<td>95.7 cd</td>
<td>14.8 c</td>
<td>0.5 ab</td>
<td>16.8 ab</td>
</tr>
<tr>
<td>LSD (a = 0.05)</td>
<td></td>
<td>60.5</td>
<td>13.0</td>
<td>0.4</td>
<td>8.7</td>
</tr>
</tbody>
</table>

*Treatment dates: GT = 21 March (green tip); B1 = 26 March (10-20% bloom); B2 = 4 April (full bloom); B3 = 10 April (full bloom); LB = 18 Apr (late bloom).

*Means within columns followed by the same letters are not significantly different according to Fisher’s protected LSD test (P≤0.05).
Exobasidium leaf and fruit spot is a disease of blueberries that has been increasing in prevalence in the southeastern US since 2008. We really do not have a good explanation as to why Exobasidium has increased throughout the Southeast, but studies indicate that it is not likely due to a recent introduction of the fungus. Additionally, disease emergence is not specifically related to the development of fungicide resistance, though resistance to some products has been observed. Lime sulfur or Sulforix applied as late dormant applications are very effective management tools, especially for susceptible varieties, such as ‘Premiere’ or ‘Tifblue’. Captan fungicide applied during bloom, petal fall, and early cover sprays adds substantially to control of Exobasidium. The DMI fungicides applied for mummy berry also suppress the disease, so the combination of DMI and Captan applications during bloom are critical for control of numerous diseases, including Exobasidium leaf and fruit spot.

Where this disease has shown up, resistance of *Exobasidium maculosum* to the active ingredients found in Pristine is often observed. This has rendered Pristine alone as an unacceptable product for use against mummy berry, since bloom applications of Pristine would allow unchecked Exobasidium infections. However, tank mixing of Pristine and Captan is now allowed through a label amendment. This is the only tank mix combination that has been approved; Pristine cannot be legally mixed with any other product when applied to blueberries. However, the combination of Pristine + Captan now allows for application of Pristine for mummy berry, while adding extra protection against the Exobasidium leaf and fruit spot pathogen through Captan. This will be important, in that this tank mix provides a resistance management partner for the DMI fungicides such as Indar, Proline, Quash, and Tilt when controlling mummy berry, while also controlling Exobasidium.

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One area of particular concern in 2015 was the rise of anthracnose fruit rot (Fig. 1). For whatever reason, anthracnose was prevalent on numerous commodities last year. The only surprise for us in Georgia is that we rarely see this disease as a fruit rot on blueberries. However, we may have become complacent, as a spray program for rots should have prevented this – unless fungicide resistance was an issue. In light of the fact that the disease was prevalent throughout the state on multiple commodities, I gravitate towards an environmental explanation, as opposed to resistance development. We definitely need to consider fungicides with anthracnose activity as we are developing our spray programs for 2016. I hope anthracnose will crawl back into the deep recesses from which it came, but we can’t count on it.

The blueberry disease management program below (Fig. 2) is but one of many that could be developed for use in blueberry. Therefore, I am not suggesting that this is the only program you can utilize to control blueberry diseases. However, this program does take into account resistance management, while also providing efficacious materials at the time they would be needed. If Exobasidium is not present, you could remove the late-dormant Sulforix and Captan applications where combined with Pristine, Abound, and Switch. We will discuss spray programs in detail at our meetings this winter, but you can use this one as a template which will allow you to start planning for 2016. As always, contact your local county agent if you have questions, and between all of us, we will try to answer them. I hope everyone has a wonderful holiday season, and I look forward to working with all of you in the next year.
Figure 1. Anthracnose fruit rot of blueberry. This disease was more prevalent than normal in 2016. Efficacious, preventative fungicidal spray programs are required to control this disease.

Figure 2. A suggested spray program for management of blueberry diseases after the introduction of Exobasidium leaf and fruit spot. If Exobasidium is not present, you could remove the late-dormant Sulforix and Captan applications where combined with Pristine, Abound, and Switch.
A review of blueberry disease issues from 2015 and implications for 2016

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This last year was a relatively benign year for blueberry diseases, but this is largely a testimonial to good spray programs and active fungicides – not a lack of opportunities for disease development. The following are my observations from the last year, comments on what we learned in 2015, and implications for disease management in 2016.

Freeze damage. We had significant cold damage at two points in the season. A mid-November freeze caused damage to blueberries and other commodities that were not adequately hardened off, and February freezes were particularly damaging to southern highbush varieties. Overall production was sufficient, though reduced. Cold damage can increase infection by Botrytis (bloom and twig blights) and Botryosphaeria species (stem and crown cankers); Botrytis issues were minimal, but Botryosphaeria dieback and crown diseases were observed. Plants may continue to decline and die in 2016 as a result of the freeze damage incurred in late 2014 and 2015. Cutting out diseased tissue can help with Bot stem blight, but crown infections generally kill the plant over time. Stress reduction and avoiding overfertilization with nitrogen fertilizers are recommended as cultural management methods.

Exobasidium leaf and fruit spot (Fig. 1). This disease continues to spread and increase in importance. We really do not have a good explanation of why Exobasidium has increased throughout the Southeast. However, increased disease incidence is not specifically related to fungicidal resistance development, though that is occurring.

Testing continues to show that lime sulfur and Sulforix, applied at a late dormant timeframe, are very effective management tools. When applied during bloom, petal fall, and early cover sprays, Captan also adds substantially to control.

Where Exobasidium has shown up, resistance to the active ingredients found in Pristine is often observed; resistance to Exobasidium has therefore rendered Pristine an unacceptable product for use against mummy berry, since bloom applications of Pristine would allow unchecked Exobasidium infections. The Pristine label specifically prohibited mixture with other products of any kind, so tank mixes with other Exobasidium-active fungicides was not allowed by label. However, due to testing conducted at the blueberry research farm (Alma, GA) in 2015, BASF has now approved application of Pristine + Captan in a tank mix. Testing of the tank mix combination was conducted on numerous rabbiteye and southern highbush cultivars, and no phytotoxicity was observed after multiple applications of these products (Pristine or Captan) in solo or mixed applications applied during bloom and early cover sprays. This is the only tank mix combination that has been approved, so Pristine cannot be legally mixed with any other product when applied to blueberries. However, the combination of Pristine + Captan now allows for application of Pristine for mummy berry, while adding extra protection against the Exobasidium leaf and fruit spot pathogen, *Exobasidium maculosum*, through Captan. This will be important, in that this tank mix provides a resistance management partner for the DMI materials (e.g. Indar, Proline, Quash, Tilt, etc.) when controlling mummy berry, while also controlling Exobasidium.

Mummy berry (Fig. 2). Mummy berry was prevalent in unsprayed berries in 2015, but otherwise, little was observed. Producers are doing a much better job of applying early green tip fungicides for management, and this has allowed for better control. In 2014 and 2015 trials, Proline provided exceptional control of both mummy berry leaf/bloom/shoot strikes and mummified fruit.
In 2016, we will conduct head-to-head comparisons of the DMI fungicides for mummy berry control. This should allow us to determine whether any of the DMIs are more effective than the others at this time.

**Rust (Fig. 3).** This leaf spot disease is becoming more problematic as the industry expands and new varieties are introduced. Rust was especially significant on the ‘Rebel’ variety in 2015, but numerous varieties were impacted to one degree or another. Producers should be aware that defoliation is possible if rust-active fungicides are not applied, and loss of leaves will impact plant health and reduce the next year’s yield. Recommendations for rust management can be found at [www.smallfruits.org](http://www.smallfruits.org) in the Blueberry IPM Guide.

In general, the strobilurin-containing fungicides, such as Abound or Pristine, and the DMIs, such as Indar, Orbit, Quash, Proline, etc., will have some activity against rust. Check the PHIs carefully if applying fungicides at or near harvest. Abound is not specifically registered for rust on blueberry, but I am hopeful that it would have activity when applied for other diseases -- no guarantees though, and research needs to be conducted to compare the efficacy of various fungicides for rust control. As with mummy berry, though there might be distinctions among the DMIs as to activity on rust, we have not specifically tested this premise; in general, DMIs do have activity, and Indar definitely has activity. I would also consider applications of Bravo after harvest, but it damages fruit and is not registered for use till after harvest. If rust continues to be an issue next year, tank mixes of DMIs and strobilurins might provide increased efficacy; combinations are sometimes recommended in other commodities for rust management, so they might work well for blueberry rust.

A leaf spot program is always something one should consider for Septoria and anthracnose leaf spots. Rust is the wild card disease relative leaf spots (difficult to predict and manage on some varieties). If one is spraying for Septoria and anthracnose, one generally hits rust pretty well also. However, rust is coming in earlier and hitting harder as the industry grows.

**Bacterial scorch (Fig. 4).** Unfortunately, bacterial scorch, caused *Xylella fastidiosa*, has reared its ugly head again. ‘Rebel’ is particularly susceptible to bacterial scorch, and several Rebel plantings had significant losses to scorch in 2015. Producers may have questions as to where Rebel or other scorch-susceptible varieties should fit in their production program. Bottom line, if you need a variety to fit within a particular harvest window, you have little choice but to plant it. I wish we had numerous varieties with 100% resistance and the quality attributes and timing we desire for southern highbush blueberries, but this might be a difficult order. Producers may want to consider additional sharpshooter insect management on susceptible cultivars, though we honestly do not know the degree to which this impacts disease management. Anecdotally, I have noted that producers who spray more insecticides for sharpshooters, SWD, etc. tend to have less disease, but this is not research-based information. I would also want to reduce stress on any variety, and there is a likely stress relationship with either susceptibility or expression of bacterial scorch.

Whatever the source of plant stress, always reduce plant stress when possible.

**Blueberry necrotic ring blotch virus (Fig. 5).** This viral disease, though not prevalent, has caused significant damage in some locations in 2015. The good news is that this is not caused by a systemic virus, and disease severity can vary dramatically from year to year. We still assume that an arthropod vector, likely a mite, is responsible for this disease.

**Fruit residues.** At one point, there was a potential concern about phosphite residues from phosphate fungicides, but this concern was short-lived.

However, while discussing MRLs for the EU, etc., I had some further discussions with some of the packers relative fruit residues in general. To my surprise, I was told that many of the fungicides

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utilized during bloom can still be detected as fruit residues at harvest – even if they are only utilized during bloom. The levels of these fungicides would be minimal and legal based on MRLs, but this brings up an important point. I think most blueberry producers are really careful to utilize only registered fungicides, as they realize that an illegal residue could grind the whole industry to a halt (as an example, see the quote below from a 13 January 2012 article in the Southwest Farm Press; illegal residues of carbendazim [related to thiophanate methyl found in Topsin M] were involved in shutting down orange juice imports from Brazil). All products that blueberry producers utilize should be fully labeled. I fear that products that might be labeled for some other fruits (but not blueberries) might accidentally be utilized at some point. Many producers are growing multiple fruit commodities, so one can see how this might happen. Please make sure that you utilize the correct fungicides during bloom, as mistakes could hurt the whole industry.

Quote from a 2012 Southwest Farm Press article on orange juice contaminated with carbendazim:

“On Jan. 11, the FDA announced it was temporarily halting all imports of foreign orange juice over fears some foreign orange juice, especially juice imported from Brazil, contains traces of carbendazim, a fungicide currently banned from use on oranges in the United States. Fungicides like carbendazim are used to control fungi or fungal spores in agriculture.

Carbendazim is still legal in Brazil, and the European Union allows foods to contain up to 200 parts per billion of the fungicide. As recently as 2008, the fungicide was used to kill black fungus on Florida oranges, but recent studies linked it to increased rates of cancers and infertility, causing the FDA to restrict the use of the chemical in all U.S. food products. But according to the Juice Products Association in Washington D.C., one of the fungicides of which carbendazim is a breakdown product (Thiophanate-methyl) is currently allowed for use on a number of food crops in the U.S.”

Needless to say, I hope that 2016 will be a great year for blueberry production in Georgia. I hope we capture the #1 national production spot without issue, and disease management will be critical to achieving maximum production. We continue to have disease challenges, both new diseases and expansion of old diseases. To date, we have been able to keep our heads above water. But as I often say, though my head is above water, I am always looking for a snorkel.

Figure 1. Symptoms of Exobasidium fruit (A) and leaf spot (B). Fruit symptoms are green, firm spots and blotches that do not mature with the rest of the berry. Leaf symptoms are light green spots on the upper leaf surface which are white or lighter green on the lower surface.
Figure 2. Early-season symptoms of mummy berry strikes. Mummy berry spores can infect young tissues of leaves, blooms, and stems, causing extensive damage and losses.

Figure 3. Leaf rust on the lower surface of blueberry leaves infected with *Pucciniastrum vaccinia*.
Figure 4. Bacterial scorch symptoms (late summer) observed on plants which are infected by the bacterium *Xylella fastidiosa*.

Figure 5. Blueberry necrotic ring blotch virus symptoms. Defoliation results in reduced yields the following year.
FRIENDS OF SOUTHERN IPM AWARDS

The Friends of Southern IPM Awards program recognizes extraordinary achievement in research, Extension and implementation of Integrated Pest Management (IPM) in the southern region of the United States. Winners are chosen by a two separate award panels, one for the regular awards, and one for the graduate student awards.

Call for Nominations is OPEN. Deadline for nominations is Friday, December 18, 2015.

Nominate a graduate student (Masters or Ph.D.) or a colleague for one of our friends of IPM Awards. Award categories consist of the following:

Graduate Student awards:
Masters or Ph.D. student. Each department may nominate one candidate for masters and one for Ph.D. Masters award is $2,000 and Ph.D. award is $3,000, in addition to a presentation in a venue of the winner's choice.

Professional awards:
* Bright Idea: Innovative technology or research project
* IPM Educator: Excellence in teaching or Extension education also can be involved in public school system.
* IPM Implementer: "Boots on the ground" person who implements IPM.
* Future Leader: Promising faculty member early in his or her career.
* Pulling together: Team award.
* Lifetime Achievement: Faculty member or any individual from a category above who is nearing the end of a career.

The Call for Nominations for the professional awards is available at http://bit.ly/1Pq4nP and for the graduate student awards at http://bit.ly/1jZj8MY. Nominations for both award programs consist of a cover form and a two-page written nomination. Further information, please contact Rosemary Hallberg at 919-513-8182 or Henry Fadamiro at 334-844-5098.

UPCOMING EVENTS

GETTING THE BEST OF PESTS: 2015 WEBINAR SERIES

UGA-CAES Announces 2015 Webinar Schedule
The University of Georgia CAES Extension, in cooperation with the DI Group @ Georgia College, announces the 2015 Getting the Best of Pests webinar series schedule. Register at www.gabugs.uga.edu. Webinars are 8:00 to 10:00 AM U.S. east coast time and to-date provide continuing education credit in GA, FL, AL, SC, NC, and TN. This year’s speaker line-up represents some of the greatest minds working in the area of urban pest management research and consulting.

December 9, 2015 Ants
Dr. Robert K. Vander Meer is a senior research scientist and Research Leader of the Imported Fire Ant and Household Insects unit at the USDA-Agricultural Research Service’s Center for Medical, Agricultural and Veterinary Entomology in Gainesville, FL. He is a world class expert on ant communication, particularly the study of pheromones. His presentation will be “Chemical Communication in Ants”. Dr. Chow Yang Lee is a Professor of Urban Entomology in the School of Biological Sciences at the Universiti Sains Malaysia, in Penang, Malaysia. He’s an authority on the biology and management of pest ants, termites, and German cockroaches. He will talk about ant baiting and principles of baiting.

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To learn more about the webinar series, contact Dr. Daniel R. Suiter at the University of Georgia (USA) at 770-233-6114 or email him at dsuiter@uga.edu Webinar Registration: gabugs.uga.edu

December 4 Corn Production Meeting

The Jefferson, Washington and Johnson County corn meeting will be held at the Davisboro VFD on Friday, December 4th at noon. Dr. Dewey Lee, UGA Extension agronomist, will be providing information on corn production and maximizing yields. Please RSVP by Tuesday, December 1st at noon so that we can finalize meal plans. Contact Sharon Goodwin with the Jefferson County Extension at 478-625-3046 to RSVP. Location: Davisboro Volunteer Fire Department Davisboro, GA 31018.

December 18, 2015 Pruning Trees/Ornaments – Home Gardening – Lunch and Learn

Bring your lunch to the Douglas County Extension office and enjoy learning about pruning trees and woody ornamentals while having lunch. For more information contact Douglas County Extension 770-920-7224. Cost is $6. Location: Douglas County Extension 6279 Fairburn Road Douglas County, GA 30134.

January 6, 2015 Georgia Blueberry Growers Annual Meeting

Meeting will be located in Alma GA.

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Dear Readers:

UGA Integrated Pest Management Newsletter is a monthly journal for Researchers, Extension agents, Extension specialists, and others interested in pest management. It provides most updated information on legislation, regulations, and other issues concerning pest management in Georgia.

Do not regard the information in this newsletter as pest management recommendations. Consult the Georgia Pest Management Handbook and other Extension publications, or appropriate specialists for additional information.

Your input in this newsletter is encouraged. If you wish to be added to the mailing list, just call us at 706-542-1320. Or write us:
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