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ANNOUNCEMENTS

CREATOR OF *KENTUCKY PEST NEWS* HONORED BY KNLA

By Paul Vincelli

Dr. John Hartman, the founder of *Kentucky Pest News* (originally called *Pest News Alert*) and UK Extension Plant Pathologist for 37 years, was honored this month for his many contributions to the nursery and landscape industry. He was chosen as a Member of the Honorary Hall of Fame of the Kentucky Nursery and Landscape Association at this organization's annual meeting in Louisville on January 13th.

We are very proud of the excellent work John has done over the years on behalf of Kentuckians, and we wanted to share this recognition with you, our readers.

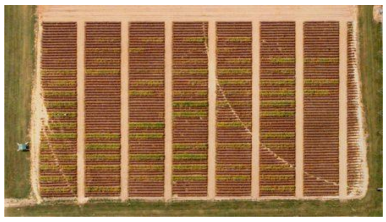
2009 IPM TRAINING – MARCH 4

The 2009 IPM Training will be held on Wednesday, March 4, at the UKREC in Princeton. We will start at 9 and end at 3:30. Topics on the program include – Fungicide Use in Corn & Soybeans, Improving Nutrient Use Efficiency in Corn & Soybean Production, What's New in Weed Control for 2009, plus Corn and Soybean Insect Issues. We will be applying to offer CEU's for Certified Crop Advisors and pesticide safety education hours. Lunch will be provided. To reserve a lunch, call 270-365-7541 extension 216 or e-mail plucas@uky.edu. Be sure and check your next issue of Kentucky Pest News for more details.

SOYBEAN

SOYBEAN RUST MONITORING NETWORK A "GO" FOR 2009

By Don Hershman



As many of you know, the soybean rust (SBR) monitoring network has been successfully used to monitor the distribution and severity of SBR in the U.S. since 2005. An important goal of the network is to function as an early warning system for producers. The sentinel network has proved to be very effective and has saved U.S. soybean producers an estimated $209-$299 million, annually. Savings have mostly come as a result growers not spraying a fungicide when they otherwise would have. Additional savings were based on application of fungicides when the SBR risk was high. In other words, the SBR monitoring

network as been embraced by soybean producers as a very effective tool for assisting them in making appropriate fungicide use decisions.

Since 2006, the USDA Risk Management Agency (RMA) funded most SBR monitoring activities in the South, and also provided limited funding for the Northern monitoring network. The balance of the program in the North was funded by soybean Check-off Sources (mostly, United Soybean Board and North Central Soybean Research Program). RMA also provided funds to support an information technology framework that has been an integral part of the ipmPIPE, including SBR efforts. This is how the SBR website, which includes the well-known SBR observation map and disease prediction information (www.sbrusa.net), are funded.

In June of 2008, RMA announced that it had restructured its research budget and, as a result, was pulling all funding for the ipmPIPE, including SBR monitoring and IT support. Since that time, and after many meetings and discussions, we have found a way to continue SBR monitoring and information activities for 2009 at about the same level as has occurred the past four years. Costs will be covered through a variety of public and private sources, including at least $364K from soybean Check-off sources. 2010 is another matter, but I am optimistic we will work things out. It is just way too early to be more specific.

As of January 26, 2009, SBR can still be found in Florida and in protected areas in Louisiana.

GREENHOUSE CROPS

AVOID GERANIUM BACTERIAL BLIGHT
By John Hartman

Annual plants to be sold for spring sale and placement in the landscape are grown in many Kentucky greenhouses. Geraniums are popular and growers are ordering cuttings or rooted cuttings for pot plant production later in the spring. In past years, bacterial blight of geranium has been devastating in some geranium crops.

Geranium Bacterial Blight. This disease causes brown leaf streaks, leaf spotting, leaf wilt, whole plant wilt, and decay of the stem as the infection spreads from the vascular system to the pith and cortex. In the diagnostic laboratory, geranium leaves with brown streaks along the veins or brown spots are typically examined for evidence of bacteria. These leaf infections normally yield large numbers of bacterial cells of the causal agent, *Xanthomonas campestris* pv. *pelargonii*, which can be observed via microscopic examination.

X. campestris pv. *pelargonii* can be harbored on plants overwintered in the greenhouse from the previous year's crop. Stock plants in the propagation greenhouse may be free of visible symptoms while harboring the bacteria as a latent infection. In this way, bacterial blight can be introduced into the greenhouse on contaminated cuttings. Once in the greenhouse, it can be spread easily from infected to healthy plants via splashing water and via contaminated hands pots, and tools.

Managing bacterial blight. Bacterial blight is extremely infectious and diseased plants cannot be cured. To control bacterial blight of geraniums, use cultural practices that prevent the disease.

1. Promptly remove and destroy diseased plants.
2. Keep production areas clean by disinfesting work areas and tools. The bacterial pathogen also may survive in potting media and soil and can be moved by shoes, shovels and hands.
3. Use good growing practices such as proper fertilization, good plant spacing, and proper watering practices that will minimize wet foliage. Avoid frequent handling of the plants.
4. Purchase cuttings from propagators using culture-indexing programs to lessen the chance of bacterial blight from getting into the crop.

5. Do not place culture indexed geraniums near non-culture indexed plants or near holdovers from a previous crop.
6. Control insects such as whiteflies which could spread the infection.
7. Grow geraniums from different suppliers in separate greenhouses; do not hang ivy geraniums, which are also susceptible to bacterial blight, above geranium crops.

What is a culture-indexed cutting? Bacterial blight can be transported into a geranium crop by an infested cutting. The cutting may appear normal and healthy, but it contains tiny amounts of bacteria that later grow and cause disease in the contaminated plants and spread throughout the crop. Growers reduce the likelihood of getting infested cutting material by purchasing "cultured" or "culture-indexed" cuttings. These cultured cuttings are the end result of a complex and meticulous program to develop and produce pathogen-free geraniums.

Long before a culture indexed cultivar comes on the market, a heat-treated or meristem-derived disease-free plant is selected. Cuttings taken from this plant are taken to the laboratory where parts of the cutting are dissected and cultured or tested for bacteria and other pathogens. The top part of the cutting is carefully rooted and potted in an isolation greenhouse. If all tests are negative, the cutting is grown on to form a nucleus of plants that will yield more cuttings. These, too, are run through the culture-indexing procedure to check for pathogens missed in the first assay. Sometimes, just to be sure, a third round of culture-indexing is done.

Cuttings that survive all the testing for pathogens become "mother" plants that are used to increase the number of plants of the disease-free cultivar. From these cuttings, large groups of production plants are produced. Growers who purchase culture-indexed material get plants from these production blocks. Cuttings from the production blocks are now four generations away from the original culture-indexed plants. If stringent precautions have been taken through these four generations, the cuttings should still be disease-free.

However, production blocks are located in a different greenhouse - possibly even in a different country from the original nucleus material. This is especially true in a global economy where high production costs can be reduced with low-cost labor. Although the material may have been pathogen-free to begin with, it could become infested somewhere in the production process. Growers will have best success with purchasing culture-indexed cuttings from the company that manages the original steps in the program (or a licensed propagator). These companies have their reputations to uphold and take care not to allow their stock to become contaminated.

Kentucky bedding plant producers also have their reputations to uphold and will want to invest in the culture-indexed plants so that their customers have the best quality geraniums possible. Be aware that when these plants are being sold, these more expensive plants are often displayed at the outdoor retail garden centers side-by-side with less expensive and possibly diseased plants. Where possible, growers need to observe how their geraniums are being marketed so that disease-free plants are not becoming contaminated.

Figure 1 – Bacterial blight causing geranium leaf spot and blight.

Figure 2 – Infected geranium plant with dead leaves and stem canker.

LAWN & TURF

SPRING DEAD SPOT INFECTION ACTIVITY IN BERMUDAGRASS
By Paul Vincelli

Spring dead spot of bermudagrass is a destructive but also very interesting disease. It is the most common disease of significance in bermudagrass in Kentucky. It is recognized by the circular to irregular patches of dead grass in the spring as the turf emerges from dormancy.

In Kentucky, three (and possibly four) soil-swelling fungi in the genus *Ophiosphaerella* have been found to cause the disease. These fungi attack roots, stolons, and rhizomes of bermudagrass primarily during the fall and spring. The most damaging infection activity is thought to occur when soil temperatures drop below 70°F in the autumn. These infections lead to rot of these plant parts.

The interesting and unusual aspect of the disease is this: the infection of bermudagrass is necessary for dead spots to occur, but the infections alone do not cause the symptoms. The bermudagrass also needs exposure to freezing temperatures. What researchers have found is that bermudagrass with below-ground infections of bermudagrass make it more sensitive to death from cold temperatures. So the patches of dead grass in the spring died because of winter temperatures. Of course, on a frigid day, freezing temperatures occur throughout a bermudagrass sward, not just in little patches that subsequently appear dead in the spring. However, the soilborne infections by *Ophiosphaerella* occur in patches, and these infected patches then die in winter during exposure to freezing temperatures.

This is interesting biology, at least to plant pathologists, but the practical significance of all this is that by the time the dead spots show up in the spring, there is really nothing that can be done except to promote recovery that growing season. The infection activity led to those symptoms is long past. But it also means that managers of bermudagrass must treat spring dead spot preventively, before or during the autumn when infections are active. In fact, a cultural management program is really the best approach, rather than a chemical approach. (Chemical treatments for spring dead spot have been erratic, at best, under Kentucky conditions.)

Recommendations for managing spring dead spot are available online at: http://www.ca.uky.edu/agc/pubs/id/id130/id130.pdf.

DIAGNOSTIC LAB HIGHLIGHTS
By Julie Beale and Paul Bachi

Samples in the PDDL since January 1, 2009 have included injury from high soluble salts on greenhouse rosemary and tomato transplants; Pythium root rot and foliar blight on creeping bentgrass; Microdochium blight ("pink snow mold") and yellow patch on perennial ryegrass; Volutella canker on boxwood; chronic drought stress symptoms on hemlock and abiotic blackening of arborvitae foliage (exact cause is unknown).

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