

**Extension and Research Activity
Tobacco and Vegetables**

TOBACCO

Section 18 Emergency Exemption for Quadris 2005

I collaborated with Ms. Anne Coldiron at the Kentucky Department of Agriculture in their effort to obtain an exemption (Section 18) from the Section 3 label of Quadris for use on tobacco to control target spot and frogeye leaf spot. Together, these two diseases have caused significant problems in areas around Kentucky, and labeled fungicides were ineffective.

The exemption was in place by June 24 and expired on October 15, 2005. Educational materials pertaining to the Section 18 exemption and proper use of Quadris were delivered statewide by radio tape, newsletters (KY Pest News), the KY Blue Mold Warning System, and the KY Blue Mold Alert mailing list. The availability of Quadris during the 2005 season gave our tobacco producers an important tool to manage frogeye and target spot, and also protection against blue mold (the Section 18 did not sanction use of Quadris for control of blue mold, however).

According to the manufacturer, Syngenta, Quadris will receive a Section 3 label in 2006 on tobacco that will include blue mold, target spot, and frogeye.

In the event that the full label is not completed in time for the 2006 growing season, we would likely support a renewal of the emergency exemption for Quadris. A renewal of the Section 18 exemption would be warranted based upon results obtained in field trials with Quadris in 2005 that demonstrated its efficacy against target spot and frogeye and upon increased yields associated with control of these diseases.

Kentucky Blue Mold Warning System

The Kentucky Blue Mold Warning System, developed and maintained previously by Dr. William Nesmith, was significantly re-designed and new materials were added to provide tobacco growers with easy-to-find information on the status of blue mold in Kentucky and surrounding states, along with up-to-date control recommendations and labels for disease control products.

The site will be further revised to provide a more modern interface and will be folded into a larger "Tobacco and Vegetable Disease Information" page. The new page is currently being designed by the Ag. Communications CALE (Creative Applications for Learning Environments) Lab and will replace the existing page in 2006.

This activity is also of regional importance, as the KY Blue Mold Warning System is accessed by tobacco producers, extension personnel, and members of industry outside of Kentucky.

A mailing list (listserv), KY Blue Mold Alert, was also used to deliver timely information on the status of blue mold and on control recommendations for blue mold and other diseases of tobacco throughout the season. This information included guidance on when to initiate

fungicide applications and on proper timing of fungicide applications (an issue identified during last year's meeting of the KAAC).

Applied Research - Disease Management

Research on chemical options for control of blue mold and black shank was conducted during the summer and fall of 2005. These projects will continue in 2006, and the information gathered will be extended at grower meetings and through fact sheets.

Fungicides and host resistance were evaluated in combination for management of blue mold and black shank, with inconclusive results due to drought; this project will continue in 2006.

Fungicides and biopesticides are being evaluated for management of diseases that occur during production of transplants, such as Pythium root rot and Sclerotinia rot (collar rot).

Oospore Survey

Tobacco samples from all 15 counties that reported blue mold in 2005 were prepared and shipped to USDA-APHIS officials in North Carolina to be inspected for the presence of oospores. Clearance from USDA-APHIS is required in order to export U.S.-grown burley tobacco to China and is stipulated in the tobacco trade agreement between the U.S. and China.

We provided lab equipment and diagnostic expertise to a plant quarantine official (part of a purchasing delegation from China) who inspected warehoused tobacco before sale. All tobacco was certified oospore-free, and the sale was completed successfully.

Important Issues

Black shank. Educational programs need to be strengthened and delivered to growers regarding the importance of balancing cultural practices, host resistance, and fungicide tools that are currently available to manage black shank and slow its spread in Kentucky. Applied research is needed in the areas of evaluation of fungicides and fumigants, integrated management tactics, and epidemiology. New tools and tactics to manage black shank are needed to help tobacco growers achieve and maintain profitability in the post-buyout era.

Transplant production. Few fungicides are available that can be used legally in the production of tobacco transplants, primarily for management of Pythium root rot, blue mold, and target spot. Collar rot, an increasingly important disease in our transplant systems, lacks any legal fungicide option for its control. New fungicides and cultural practices should be evaluated in applied research projects to address losses to disease in transplant production. Educational programs should raise grower awareness to these problems and emphasize the importance of cultural practices to manage diseases of tobacco transplants.

Foliar diseases. Target spot was a serious problem in certain areas of Kentucky in 2005. Until the arrival of Quadris, no effective fungicide was available to growers to manage this disease. Research is needed to develop a greater understanding of the biology and epidemiology of target spot on tobacco, which in turn could be used to develop an

effective management strategy (integration of fungicide timing, resistant varieties, cultural practices).

VEGETABLES

2005 Extension and Research Programs

Extension. A number of educational programs were delivered at field days, grower meetings, and agent trainings. Topics included management of diseases (cucurbits, tomatoes, peppers), proper application of fungicides (including resistance management), and identification of diseases on major vegetable crops in Kentucky. Spray schedules for major crops, along with fungicide guides, were released through Kentucky Pest News.

Applied Research. Trials were conducted to evaluate efficacy of fungicides for control of gummy stem blight on watermelon and powdery/downy mildew on summer squash. The combination of protectant fungicides and host resistance was evaluated for management of powdery mildew on squash.

Issues

Extension. There is a need for extension publications to address identification and management of diseases on crops such as tomato, pepper, cucurbits, and cole crops. A yearly fungicide/biopesticide guide is also needed that can complement information that appears bi-annually in ID-36 (Veg. Production Guide for Commercial Growers).

Applied Research. Items of importance include: research on emerging diseases (tomato yellow leaf curl, for example), fungicide evaluations, cultivar evaluations, and integrated disease management.