



Georgia Extension Vegetable News

The University of Georgia

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Frequent Rains Bring Disease Problems

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Extension Vegetable Pathologist - UGA

It is never good to complain about too much rain, but vegetable growers sure are facing some issues because of the frequent rains we have been getting lately. The one major thing that has and is still causing problems is the damping-off of transplants cause by certain species of *Pythium* that thrive during warm, wet weather. *Pythium* is a water mold organism that must have water to be able to move to a susceptible host and cause infection. This disease has a swimming stage that allows it to by pass most of our fumigation or tillage disease prevention measures. The more water in the soil the easier it is for the organism to move around. Peppers (mostly bell) have suffered great losses to this disease this fall due to the frequent rains we have experienced. It does not seem to matter how well the land was fumigated prior to planting or what the soil was fumigated with. The abundance of soil moisture is there to allow inoculum from outside of the treated zone to move into the areas that were fumigated. Once there, the biological vacuum created by

fumigation allows the organism to move through the soil to the host with no antagonists or competitors to stand in the way. Preventive applications of Ridomil Gold EC, Ultraflourish or any other mefenoxam-type product would be the best fungicide choice. Applications through drip tape are preferred.

The prolonged periods of leaf moisture are going to increases the amount of foliar diseases of other vegetables too. Of utmost concern to me are downy mildew of cole crops and cucurbits and bacterial spot of peppers and tomatoes. We already have a lot of inoculum in the area for both diseases and all we need now are for the host crops to start getting symptoms. The weather is certainly favorable for major losses to both of these diseases and I can only warn growers to be extra vigilant with their preventive spray programs and stay on at least a 7 day program. Both of these diseases are controlled by fungicide/bactericide sprays more effectively if effective materials are used prior to disease development. Nothing works well after you can see a problem.

Q-Biotype of Sweetpotato Whitefly Found in Georgia

Stormy Sparks
Extension Entomologist- UGA

First a little background for clarification. The sweetpotato whitefly, poinsettia whitefly and silverleaf whitefly are currently considered the same species (although this is still debated). The various biotypes are designated on a variety of characteristics including host range, damage symptoms, and insecticide tolerance (and for those keeping count, Q represents either the 17th biotype or 17th species of this whitefly). The Q-biotype whitefly is of concern because of resistance to many of the insecticides on which we currently rely for control of this pest. The Q-biotype has been reported to have high levels of resistance to Knack and Applaud and reduced susceptibility to the neonicotinoid insecticides (Admire, Platinum, Assail, etc.). Recent data I saw also indicates resistance to Danitol+Orthene (which suggests that all pyrethroid plus organophosphate combinations would not work). Obviously, if this pest were to become widespread in the vegetable production areas of south Georgia, control options would be greatly limited.

The Q-biotype has been found in south Georgia. The only detection to date has been in an ornamental greenhouse. Dr. David Riley and I will conduct a survey of fall vegetables to see if we detect the Q-biotype in the field. County Agents, producers and other interested parties should report field control failures so that we can sample those populations and determine whether the Q-biotype is becoming established or not (there are many possible reasons for control failures).

What does this all mean? There are many factors that will influence whether or not this whitefly will have an impact on our industry. The literature suggests that without insecticide selection the Q-biotype can not compete with our 'common' silverleaf whitefly and thus may have difficulty

establishing in the field. The fact that we in Georgia do not have to fight whitefly year round (as they do in more southern areas) should help us manage both 'biotype selection' and insecticide resistance - yet another reason to practice good insecticide resistance management. Given that we typically only battle whitefly in the fall, with our reduced selection pressure, we may not see the Q-biotype establish as a large proportion of the population in the field.

While the detection of the Q-biotype in Georgia is of concern, it simply means we need to be aware of the potential problem and monitor efficacy of our current programs a little closer. Based on the assumptions you choose, it is as easy to predict that this pest will be of minor concern in Georgia as it is to predict disaster. In either case, there is very little reason to expect to detect any significant numbers of this whitefly in Georgia vegetable fields in the near future.

Caterpillars on the Crawl

Stormy Sparks
Extension Entomologist- UGA

Based on reports from several different people and the situation in test plots on station, populations of a variety of caterpillars have increased dramatically in the last week or so. The most common complaints have been about beet armyworm and loopers. We have had several new insecticides registered for control of caterpillars in the last few years, including SpinTor, Proclaim, Avaunt and Intrepid. All four of these are good against most caterpillars, but they do have a little higher price tag than our older chemistries.

For loopers, it is hard to beat the efficacy and cost of the pyrethroids. In general, you will get a little better control with the newer generation pyrethroids, but will probably find little or no difference in efficacy among these (this includes the generic brands). Of the four new products, Proclaim is a little weak on loopers.

Beet armyworm is a much more difficult pest to control. Our older chemistries will provide poor results on this pest. All four of the newer products will provide good control if applied timely and with good coverage. SpinTor performs better against small larvae and would not be the first choice if you missed the larvae early and have half-inch worms in the field. The other three products perform well against larger caterpillars as well as small caterpillars. Avaunt and Intrepid have the added benefit of long residual. Intrepid should provide excellent control of beet armyworms of any size, but be aware that the larvae will quit feeding within hours but will take days to die.

FYI - if you are wondering why Intrepid is not generally discussed along with the other three 'new' caterpillar products, it is because we are usually talking about diamondback moth and Interpid is weak on diamondback but pretty good on many of our other caterpillar pest. This chemistry is excellent on beet armyworm. The first product in this line was Confirm, which was pretty much strictly a beet armyworm product.

Crickets and Grasshoppers

Stormy Sparks
Extension Entomologist- UGA

Thanks to one of our more experienced County Agents, I recently encountered another strange insect problem in vegetables (as if the run of the mill problems were not enough). We visited a recently transplanted eggplant field in which many of the plants were missing much or their main stem. Damage on the stems ranged from 'girdling' near the soil line to all but the middle of the stem gone up to about 1.5 inches. I would like to say we immediately analyzed the situation, determined the cause of the problem, and provided the grower with a solution, but that would not be exactly accurate. After fumbling around in the field a few minutes, the producers head field man drove up and told us what he thought it was - crickets. We started tearing up plastic and searching under clumps of dead grass

and weeds and more-or-less verified his analysis. Some newly set plants had been cut off similar to cutworm damage, but on most plants the softer outer tissue had been removed, basically girdling the plant. When I got back to the office, Phillip Roberts looked at the samples and indicated that he had seen grasshoppers do the same thing to cotton. The girdling of the plant will prevent the roots from being 'fed' and more than likely, most if not all of these plants will eventually die. At the very least, they are subject to lodging and soil borne diseases. Control in this situation will be difficult as the insects are protected by the plastic mulch. In a previous indirect encounter with this, the research scientist involved tried an insecticide through the drip and a insecticide directed spray over the row. If the drip is laying on top of the ground, the insecticide through the drip may provide some efficacy, but if the drip is buried the insecticide will go down, not up. The directed spray should be targeted at the transplant holes unless there are enough hiding places (heavy weeds, etc.) to justify a broadcast application. The sprays should be applied late in the day if you are targeting crickets as they are nocturnal. Our urban entomologist indicated that crickets are easy to kill with most any insecticide, the trick is getting the insecticide to them.

Conservation Tillage for Water and Soil Conservation in Vegetable Production

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Pollution Prevention Specialist

How much does your water cost? How much does the soil used to produce a crop cost? These are some of the questions that we may not think about on a daily bases, but maybe some that we should start thinking about for the future health of the farms and land used to produce crops, vegetables and otherwise.

The price of water is directly related to the price of fuel used to pump that water. The price of soil according to Natural Resource Conservation Service numbers is around \$6.32 per ton of eroded

soil. This is not counting the cost associated with the removal of soil from local streams or the relocation of soil that has accumulated at the low lying areas of the fields.

In vegetable production the growing beds are typically covered with plastic, but what about the times of the year that has no crop or the alleyways that are channels for rapidly transporting water, nutrients and soil off of the farm onto the low lying areas and into the local streams.

There is a potential solution to the movement of water and soil while at the same time conserving water for planting this is conservation tillage. Conservation tillage is a systems approach that uses a cover crop in the fallow season to hold soil in place, reduce water movement off site, provide a means to increase organic matter in the soil and provide a means to recycle the unused nutrients applied to previous crops.

In vegetable crops this maybe a little more difficult, but by planning ahead the use of cover cops can be very beneficial to any cropping system. Conservation tillage can even become a friend in future years when and if water resources in Georgia becomes more limited.

If you are interested in how conservation tillage is being used in the production of vegetables, join us for the 2006 Conservation Tillage production Systems Conference being held at the RDC in Tifton on February 7-8, 2006. If you would be interested in attending contact your local County Extension Agent, NRCS office or Gary Hawkins (ghawkins@uga.edu) for more information.

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