

Saga of the Q-type Whitefly in Florida, spring 2006

To whom it may concern:

We regret to inform you of an error in a recent report of the finding of the Q biotype in a field collected population of *B. tabaci* directly from tomato. After a standard quality control procedure that monitors data entry validity, it was discovered that information lines pertaining to the whiteflies in question were not entered correctly. The whiteflies in question were the Q biotype, but in our data records they were inadvertently associated with Florida field collected whiteflies and not with the correct collection data which links them to Oregon.

It is important to note that our identification procedures were correct in labeling the whiteflies as the Q biotype, however; a computer data entry error linked them to the wrong source. These whiteflies were shown to be the Q biotype with both mitochondrial Cytochrome oxidase I sequence analysis and micro satellite marker identification. Both methods have, so far, always provided the correct identification

We have a standard protocol of sample tracking that has worked well in keeping samples from being mislabeled. Our error was in reporting data without implementing the redundant checks on data entry that normally occur. When these checks were implemented, we discovered the error (within 4 days of the initial report) and are now notifying all parties involved.

When samples arrive at our lab, they are given a unique identifier that is always assigned to each whitefly sample at the time of accepting the submission. Individual insects are then given a DNA extraction number that associates the individual whitefly with a specific DNA extraction time and unique fly number. Our database always associated collection location, person/group submitting the whiteflies, unique submission number and extraction/individual number with all genetic data. We have both hardcopy records and computer database (Excel spreadsheet) entries for each that are entered independently of each other. When these hardcopy notes were cross-checked with computer data, the error was discovered.

We wish to reiterate that **the error resulted from our over-enthusiasm to get the information out to the growers as soon as possible** and that our normal checks and balances performed in a timely matter caught the error. In the future we will assure that all cross-checks are performed prior to public announcement.

We understand the importance of accuracy in this nationally important survey and apologize for the inconvenience that this report may have caused. We will be happy to discuss sample handling methods with anyone that has concerns, and are very confident that we can continue to provide accurate and timely data within the boundaries of our previous arrangements.

Cindy McKenzie and Bob Shatters

Suspected Confirmation of Whitefly Q Biotype – Vegetable growers take note:

FROM: Dave Schuster, Phyllis Gilreath, and Alicia Whidden

Today [Friday 4/7/2006] we received confirmation that the **whitefly Q biotype has been confirmed** in a tomato field in Manatee County. To review some information about the Q biotype.....it is visually indistinguishable from the B biotype.

While B out-competes Q in the absence of insecticides, Q out-competes B in the presence of many insecticides, and Q can transmit TYLCV faster and more efficiently than B. The major problem facing growers is that Q is resistant or tolerant to many of our commonly used insecticides, including the nicotinoids and the insect growth regulators Knack and Courier. Thus, if both biotypes are present and we spray heavily, we are selecting for the Q biotype. This makes following resistance management recommendations even more critical, including rotation of chemicals and the inclusion of **a crop-free period** into the production cycle.

What should growers do? If your current whitefly pesticide program is working, continue using it! If you are having great difficulty controlling whitefly, you may want to consider some other options. Oberon is effective on Q; thus, if you are targeting nymphs, this would be an alternative to Knack and Courier. Oberon is also effective on adults, although it is slow to act. Venom (Valent) is effective on Q adults and is labeled on tomatoes as a foliar spray or drench. This should be a "last resort" treatment. It is recommended that this **not** be used on crops where nicotinoids have already been applied this season, saving it instead for this fall as a transplant treatment.

Recent work in ornamentals has shown control with a combination of Agrimek and a pyrethroid. Another combination that could be trialed is a combination of Agrimek and oil. Soaps, oils, Prevam and similar materials should still be useful, but remember.....good coverage is critical.

We would caution growers **NOT** to immediately begin changing their pesticide program if they feel their current one is working. We would also recommend that if you feel you are having problems controlling whitefly, you may want to submit samples for Q testing.

A minimum of 20 adults should be sampled from different plants. Whitefly may be aspirated or sucked from the leaf by mouth using a piece of tygon or similar tubing with gauze or mesh covering the end in your mouth. If you can collect them on leaves when they are slow moving and get them into a baggie, you can put them in the freezer to slow them down and then transfer them to vials of 95% ethanol. Do not crush the whitefly. I have a few vials available as does Dave Schuster. You can also request them from Dr. McKenzie.

If you are unable to sample, please give us a call and we will try to help. Vials should be kept out of heat and carefully packaged and sent via priority mail or overnight to the following address:

Dr. Cindy L. McKenzie Subtropical Insects Research - USDA ARS
2001 South Rock Road Ft. Pierce, FL 34945
Phone: 772-462-5917 Fax: 772-462-5986 Email: cmckenzie@ushrl.ars.usda.gov

For additional information on biology and control information, a good source is Dr. Lance Osborne's website: <http://www.mrec.ifas.ufl.edu/LSO/bemisia/bemisia.htm>. It includes a number of documents that you can click on for information from Florida and other states. Please contact us if you have questions we have not addressed.

Friday afternoon greetings-- the whitefly Q biotype has been confirmed in one tomato field in Manatee County. The transplants came from a local source, so it is possible that this pest is hanging out in our area. The Q biotype looks the same as the regular B biotype, but it is resistant or tolerant to many commonly used insecticides, including the nicotinoids, the pyrethroids and even the insect growth regulator Distance. If you notice that your whitefly management program isn't working, it could be the Q biotype. If your management program is working just fine, there's no reason to change it. However, everyone should take a minute to visit [Dr. Lance Osborne's website](#). You'll find lots of information on the Q biotype including sampling instructions and a management plan for ornamentals.

Plan to attend the 2006 Pest Management Update which will be held at the Gulf Coast Research and Education Center on Wednesday, May 24, 2006. The PMU can help you stay on top of new and emerging pests and strategies to manage them.

Hasta luego,

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