Pest e-alerts

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Chlorpyrifos-resistant Greenbugs found in the Texas Panhandle

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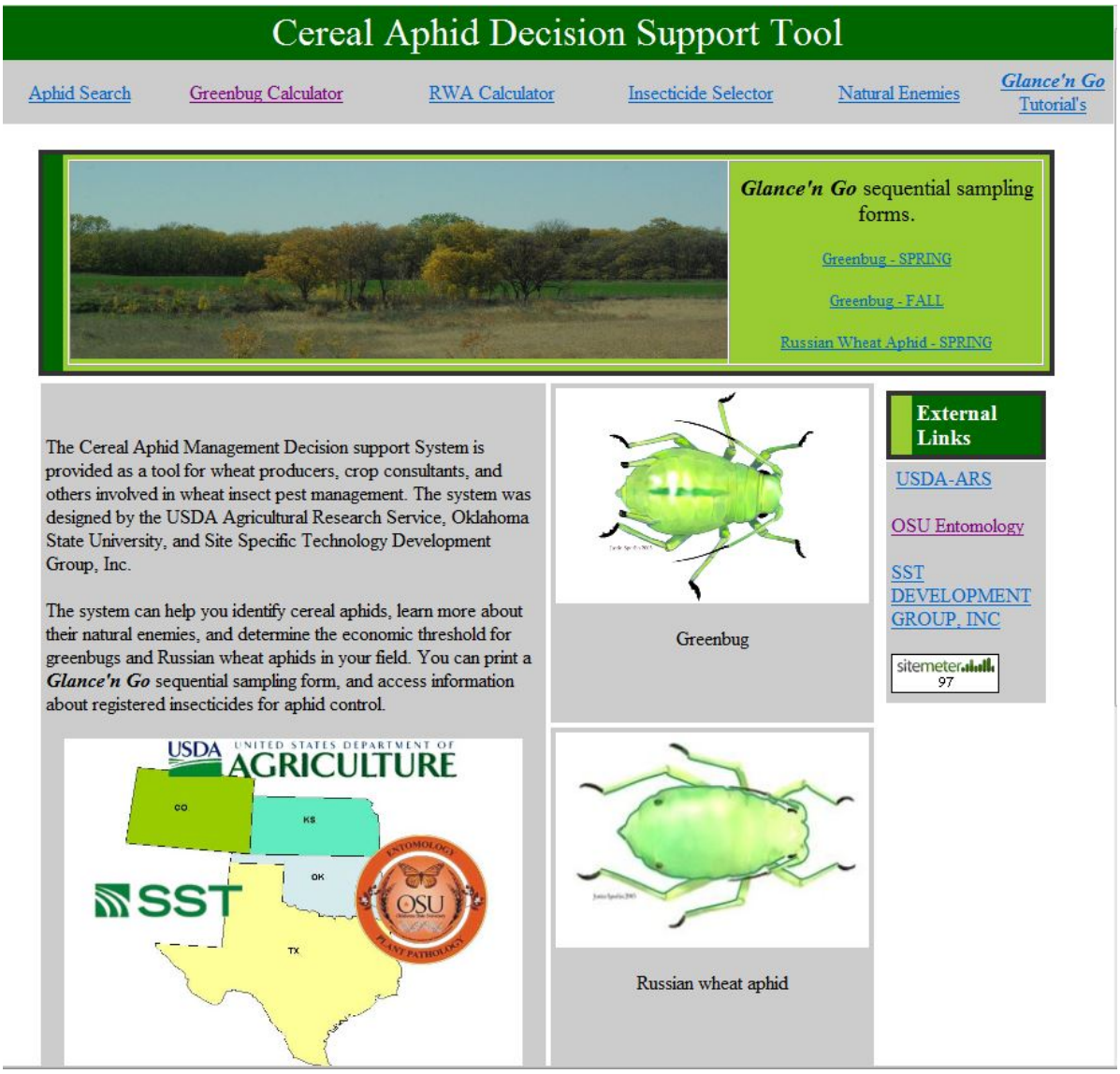
I received some troubling news from the Texas Panhandle. Dr. Ed Bynum, Extension Entomologist from Amarillo, reported finding some greenbug populations that were shown to be resistant to chlorpyrifos, the active ingredient in Lorsban 4E, and other generic products (Govern 4E, Hatchet, Nufos, Vulcan, Warhawk, Whirlwind). You can read the full article by clicking here. The bottom line: he tested some suspect greenbug populations using a diagnostic test that he developed for testing greenbugs in sorghum in the 1990's, and found that they were resistant to chlorpyrifos at labeled rates.

This should not raise panic among growers in Oklahoma for two reasons. The first is that I have not heard of or received reports of any control failures for greenbugs in Oklahoma; in fact, greenbugs have generally been pretty scarce this winter.

The second reason is that it is late enough in the growing season to expect that the primary natural control of greenbugs, a tiny wasp called *Lysiphlebus testaceipes*, is keeping greenbug numbers from becoming an outbreak.

The best course of action is to sample winter wheat fields with the Glance 'n Go system. Start by going to the Cereal Aphids Decision Support Tool on your computer http://entoplp.okstate.edu/gbweb/index3.htm and selecting the Greenbug Calculator.



By answering a few simple questions, you can determine an economic threshold for controlling greenbugs. This threshold is based on the estimated cost of treating the field and the estimated price of wheat. Once a threshold is calculated, you can print a Glance 'n Go scouting form, take it to a field and record your sampling results. The form will help you to decide if the field needs to be treatment for greenbugs. There are several things that make Glance 'n Go a good way to make such a decision. You only have to "Glance" at a tiller to see if it has greenbugs (no counting greenbug numbers). You can make a decision to treat "on the Go" because you stop sampling once a decision is reached (no set number of samples). Finally, you can account for the activity of the greenbug's most important natural enemy, *Lysiphlebus testaceipes*.

Aphid Mummies

When scouting with the Glance 'n Go system, keep a running count of tillers that have aphid mummies and a running count of tillers that are infested with one or more greenbugs. After each set of 5 stops, the Glance 'n Go form directs you to look at your total number of infested tillers and tillers with mummies. If there is enough parasitoid (mummy) activity, you will be directed to stop sampling and DON'T TREAT, even if you have exceeded the treatment threshold for greenbugs! Why? Because research showed that at that level of parasitism, almost all of the healthy-looking greenbugs have been "sentenced to death" and will be ghosts within 3-5 days. If they have received their "sentence" you can save the cost of an unnecessary insecticide application.

Treatment thresholds will probably fall around 2-4 greenbugs per tiller, but make sure you are using the Spring (January-May) form, not the Fall (Sept-December) form. If a field needs to be treated, check with Current Report CR-7194, "Management of Insect and Mite Pests in Small Grains". If you treat for greenbugs and have a failure, please contact our Department and we will investigate further to determine if they are resistant.

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Director, Plant Disease and Insect Diagnostic Laboratory

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