

# PLANT DISEASE AND INSECT ADVISORY



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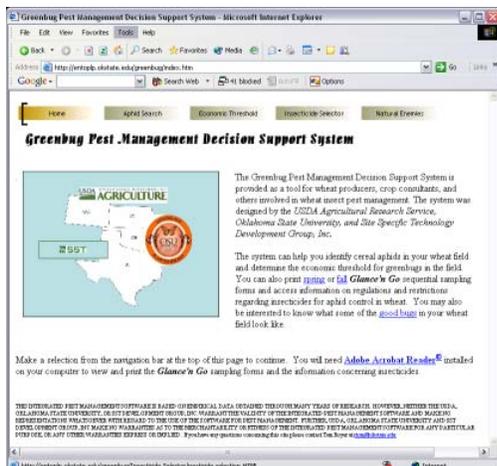
## Greenbugs Are Being Reported in Wheat Tom A. Royer, Extension Entomologist

While there doesn't yet appear to be widespread reports of threatening greenbug numbers in wheat, growers need to "get their shadow" into their fields and look for greenbugs, especially in areas that have not received significant rainfall. I have received scattered reports from Extension Educators of low to moderate numbers of greenbugs which may be building in numbers.



You can still use the old method for scouting and estimating greenbug treatment thresholds (100-300 greenbugs per foot of row in 3-6 inch wheat), but OSU greenbug treatment recommendations have significantly changed as a result of research conducted at OSU and the Agricultural Research Service over the past 4 years. The old scouting method requires the scout to dislodge greenbugs from plants on to the ground and count them. To get an accurate count of greenbugs in a field, at least 15 samples should be recorded in a field which can be very time consuming. Fortunately, OSU specialists have developed a new method for determining treatment thresholds and for scouting fields that is accurate, faster, and quite simple.

The treatment threshold can be estimated by accessing the Greenbug Expert System which is located on the Entomology and Plant Pathology website at <http://entopl.okstate.edu/>. Just click on "Agricultural Models", then Cereal Aphids Pest Management, and you will find yourself in the Greenbug Expert System. By following some simple instructions, you can use the Economic Threshold Calculator to determine your treatment threshold. Based on this model, the treatment thresholds for greenbugs in December should probably fall around 5-7 greenbugs per stem (tiller). Once you determine the threshold, print off a scouting form to use to sample your fields. Make sure you select the correct form (Fall Season) for scouting through December. After January, use the Spring Season form.



The new scouting technique is called Glance 'n Go. With this system, scouting for greenbugs could not be simpler. Glance 'n Go was developed from data collected in over 120 wheat fields in Oklahoma over 3 years. This system does your aphid counting for you. All you have to do is keep track of the number of tillers with greenbugs on them and use the decision columns to decide whether you do or don't need to treat. If you have any questions, contact Extension Entomologists Tom Royer or Miles Karner for help in using the Expert System or the Glance 'n Go forms.

**Glance 'n Go Sampling for Greenbugs in Winter Wheat**

Treatment Threshold = 1 Greenbug/Tiller

Fall Edition

Economic Thresholds for September - December

Prepared by Tom A. Royer and K.L. Giles, Oklahoma State University, and N.C. Elliott, USDA-ARS, Stillwater, OK.

Directions

- ▶ To sample the wheat field, use a "zig-zag" or "W" pattern and walk at least 15 steps (about 30 ft) between steps.
- ▶ Carefully pull and examine 3 tillers (one) per step, taking care tiller from the left, right, and front.
- ▶ At each step, order in the field for each tiller that has one or more greenbugs on it, and keep counting total. If the number of infested tillers is less than or equal to the number for the "Don't Treat" column, then stop sampling, and do not treat. If the number of infested tillers is equal to or greater than the number in the "Treat" column, then stop sampling, and treat the field. If the number of tillers within the numbers for the "Keep Sampling" column, continue sampling until a decision can be made, or the "Keep Sampling" box has been reached.
- ▶ If the "Keep Sampling" box is reached and a decision is not made:
  - ▶ Do not spray if most of the greenbugs are females.
  - ▶ Retest the field in 14 days if so or very few females are present.

Information on greenbug resistance and the "2000" yellow and green wheat varieties that have been developed by the Oklahoma State University and the USDA-ARS is available at <http://www.aphid.org>. This information is for informational purposes only and does not constitute a recommendation. The information is for informational purposes only and does not constitute a recommendation. The information is for informational purposes only and does not constitute a recommendation.

Field #	Date	Fall, Threshold = 1					Total tillers with 1 or more greenbugs	Don't Treat	Keep Sampling	Treat
		Step 1	Step 2	Step 3	Step 4	Step 5				
Tiles 1-15		☹☹	☹☹	☹☹	☹☹	☹☹	/15	0	1-4	5 or more
Tiles 16-30		☹☹	☹☹	☹☹	☹☹	☹☹	/30	3 or less	4-6	7 or more
Tiles 31-45		☹☹	☹☹	☹☹	☹☹	☹☹	/45	6 or less	7-9	10 or more
Tiles 46-60		☹☹	☹☹	☹☹	☹☹	☹☹	/60	9 or less	10-12	13 or more
Tiles 61-75		☹☹	☹☹	☹☹	☹☹	☹☹	/75	11 or less	12-14	15 or more
Tiles 76-90		☹☹	☹☹	☹☹	☹☹	☹☹	/90	14 or less	15-17	18 or more

Stop Sampling      Resample in 7-14 days

Before choosing an insecticide, consider the effectiveness, cost of application and grazing restrictions that apply for each chemical. Products registered for greenbug control include Dimethoate 4E at 0.5 to 0.75 pints per acre, Lorsban 4E at 0.5 to 1.0 pints per acre, methyl parathion 4EC at 0.5 to 1.5 pints per acre and Warrior at 3.84 fluid ounces per acre. All of these registered products were tested in our screening trials over the past few years and were effective at controlling greenbugs.

Grazing and preharvest restrictions are as follows: Lorsban - 14 days for grazing, 28 days for harvest; dimethoate - 14 days for grazing, 35 days for harvest; Warrior - 30 days for grazing or harvest; methyl parathion - 15 days for grazing or harvest.

It is very important to follow these grazing restrictions. In 1994, a number of cattle poisonings occurred in Western Oklahoma which was mainly associated with dimethoate applications. In most cases, the poisonings occurred because the cattle were released into the field early, while the dimethoate residues were still high. However, in a few cases, the residual dimethoate remained at higher than desirable levels for use as feed, even after the grazing restriction had passed. Observations suggested that dimethoate did not degrade as quickly as expected under that set of field conditions (dry and cold, with plants under extreme water stress). The best way to avoid cattle poisonings is to follow these steps:

- spray only when greenbugs exceed treatment thresholds
- apply at the lowest labeled rate to obtain adequate control
- make sure spray equipment is calibrated and in proper working order
- obey grazing restrictions
- use something other than dimethoate if wheat plants are under extreme water stress and temperatures are predicted to remain cold for a long time period.

A final reminder is to always read and follow the label for application directions and use restrictions.

## Pecan *E-Learning* Reaches the Internet

Phil Mulder, Extension Entomologist



In 1997, the first offering of the pecan management course at Oklahoma State University was presented to interested growers. The course has continued every year since that time, with the exception of 2002, with no appreciable reduction in class numbers. The yearlong course was supported by the participants (registration fee), the Oklahoma Pecan Growers Association, the Southern Region SARE/ACE program and the Oklahoma Integrated Pest Management program at Oklahoma State University. The objectives of the pecan course have been

to 1) address the needs of our clientele at any level of expertise, 2) to provide a hands-on atmosphere in the classroom and field for participants to experience pecan management problems first hand, 3) to educate growers on pecan culture from “A to Z” through any means necessary and 4) to ultimately provide growers with a distance learning educational tool that can supplement or even replace the classroom or field oriented gatherings.

In 2001, the pecan IPM team initiated an effort to expand the audience base participating in the course by constructing a pecan *e-learning* offering on the Internet. This idea surfaced out of conversation with private industry representatives that construct such websites for a fee. In 2002, OSU entered into contract with Agri-Business Group (Indianapolis, IN) to create the first pecan *e-learning* short course. In 2003, the dream has become reality and testing of the *e-learning* prototype is currently underway. This innovative Extension offering has allowed for a distance education mechanism that has reduced demands on schedules and travel by instructors. In addition, the new offering represents a multi-level approach to teaching that permits the user to determine their entry level and educational pace. Each section of the program is accompanied by a self analysis post test.

In 2004, OSU will once again offer the hands-on pecan workshop. In addition we will also offer the first *e-learning* course in conjunction with or separate from the workshop. Support for the construction of the pecan *e-learning* course was also provided by the Oklahoma Pecan Growers Association, The Oklahoma Integrated Pest Management Program at OSU and the Southern Region SARE/ACE program. The editors (B.D. McCraw and P.G. Mulder) wish to gratefully acknowledge each of these contributors for their support and patience in developing this valuable teaching tool. Ultimately, we envisioned the pecan *e-learning* program as a tool that would allow for seamless educational programming, allow for training in a business environment, increase the accessibility to clientele, eliminate distance education limitations, aid with schedule demands for everyone, require fewer extension personnel and complement or replace the formal classroom offering.

In 2004, the OSU Pecan Management *e-learning* site will not be part of the pecan workshop but can be purchased to complement what is learned in the course. It will be password protected and will be available for a fee to all users, irrespective of their participation in the OSU workshop.

System requirements include an Internet connection with Dialup, ISDN, DSL, Cable, or T1. For Mac users the minimum computer should be a G3 300 MHz and for PC users a Pentium II with 300 MHz. Browser requirements recommended include Internet Explorer 5.0 or Netscape Navigator 6.0. The latest versions are downloadable from the site. Microsoft PowerPoint is the only software component and if you do not have it, a PowerPoint viewer will load automatically. Screen size should be set at a minimum of 800 x 600 pixels, colors at least thousands, Javascript should be enabled and browser application memory should be have at least 25 MB. Even with the minimum requirements, certain features may take time to load, in particular, PowerPoint presentations.

The fee for accessing the OSU Pecan Management site is \$75.00 and information on registration can be found by simply getting on the Internet and typing <http://pecan.okstate.edu> . Once you have entered the site, scroll down to the bottom of that page and click on the request for registration information. You can enter the pertinent information in the spaces provided; however, access will not be available until your check has been received. For further information on how to participate in the inaugural year of this distance learning opportunity contact Stephanie Larimer at (405) 744-5404 or at the email address [steph@okstate.edu](mailto:steph@okstate.edu) . This site will be updated yearly and maintained by OSU specialists.

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