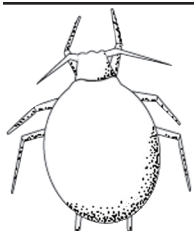


# Glance 'n Go Sampling for Greenbugs in Winter Wheat

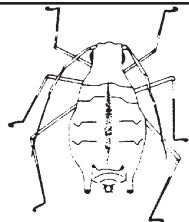
Prepared by  
Tom A. Royer  
and K.L. Giles,  
Oklahoma State  
University,  
and N.C. Elliott,  
USDA-ARS,  
Stillwater, OK.



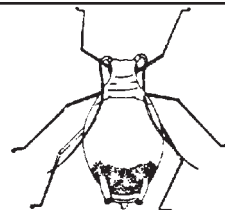
Treatment Threshold = 5 Greenbugs/Tiller  
Economic Thresholds for January - May



**Mummy (Parasite)**  
Tan, bloated body



**Greenbug**  
Green with dark stripe down back



**Bird Cherry-Oat Aphid**  
Olive-green with red patch on back of body

- ▶ To sample the wheat field, use a “zig zag” or “W” pattern and walk at least 15 steps (about 30 foot) between stops.
- ▶ Carefully pull and examine 3 tillers (stems) per stop, taking one tiller from the left, right, and front.
- ▶ At each stop, mark the circle ● if you find a mummy on that infested tiller. Mark the box with an X☒ if the tiller has one or more live greenbugs on it.
- ▶ Keep a running total of tillers with mummies and infested tillers. After each set of 5 stops, look at the number of mummies and infested tillers and follow the decision rules in the columns.

▶ **Mummies Column:**

- ▶ If the number of tillers with mummies exceeds the number in the mummy column, **Stop Sampling, and DO NOT TREAT.**
- ▶ If the number of tillers with mummies is less than the number in the mummy column, use the **Infested Tillers** columns to make a decision.

▶ **Infested Tillers Column:**

- ▶ If the number of infested tillers is less than or equal to the number in the Don't Treat Column, **Stop Sampling, and DO NOT TREAT.**
- ▶ If the number of infested tillers is falls within the number range in the Keep Sampling Column, **KEEP SAMPLING.**
- ▶ If the number of infested tillers is equal to or greater than the number in the Treat Column, **Stop Sampling, and TREAT.**
- ▶ If the “Stop Sampling” box is reached and a decision is not made: **Recheck the field in 2-6 days.**

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, sex, age, religion, disability, or status as a veteran in any of its policies, practices, or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Sam E. Curl, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is issued by Oklahoma State University as authorized by the Dean of the Division of Agricultural Sciences and Natural Resources. 1003 JA.

Field 1	Date	Spring, Threshold = 5					Total tillers with 1 or more greenbugs ☒	● Mummies      ☒ Infested Tillers			
		Stop 1	Stop 2	Stop 3	Stop 4	Stop 5		Don't Treat ▼	Don't Treat ▼	Keep Sampling ▼	Treat ▼
Tillers 1-15 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /15 ▶	4 or more	6 or less	7-15	16 or more
Tillers 16-30 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /30 ▶	4 or more	18 or less	19-26	27 or more
Tillers 31-45 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /45 ▶	5 or more	29 or less	30-37	38 or more
Tillers 46-60 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /60 ▶	6 or more	41 or less	42-49	50 or more
Tillers 61-75 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /75 ▶	7 or more	52 or less	53-60	61 or more
Tillers 76-90 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /90 ▶	8 or more	64 or less	65-72	73 or more
		Stop Sampling      Resample in 2-6 days									

**Field 2** Date Spring, Threshold = 5

Sample ▼	Stop every 30 ft. and look at 3 tillers					Total tillers with 1 or more greenbugs ☒	<input type="checkbox"/> Mummies <input checked="" type="checkbox"/> Infested Tillers			
	Stop 1	Stop 2	Stop 3	Stop 4	Stop 5		Don't Treat ▼	Don't Treat ▼	Keep Sampling ▼	Treat ▼
Tillers 1-15 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /15 ▶	4 or more	6 or less	7-15	16 or more
Tillers 16-30 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /30 ▶	4 or more	18 or less	19-26	27 or more
Tillers 31-45 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /45 ▶	5 or more	29 or less	30-37	38 or more
Tillers 46-60 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /60 ▶	6 or more	41 or less	42-49	50 or more
Tillers 61-75 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /75 ▶	7 or more	52 or less	53-60	61 or more
Tillers 76-90 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /90 ▶	8 or more	64 or less	65-72	73 or more

**Stop Sampling      Resample in 2-6 days**

**Field 3** Date Spring, Threshold = 5

Sample ▼	Stop every 30 ft. and look at 3 tillers					Total tillers with 1 or more greenbugs ☒	<input type="checkbox"/> Mummies <input checked="" type="checkbox"/> Infested Tillers			
	Stop 1	Stop 2	Stop 3	Stop 4	Stop 5		Don't Treat ▼	Don't Treat ▼	Keep Sampling ▼	Treat ▼
Tillers 1-15 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /15 ▶	4 or more	6 or less	7-15	16 or more
Tillers 16-30 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /30 ▶	4 or more	18 or less	19-26	27 or more
Tillers 31-45 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /45 ▶	5 or more	29 or less	30-37	38 or more
Tillers 46-60 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /60 ▶	6 or more	41 or less	42-49	50 or more
Tillers 61-75 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /75 ▶	7 or more	52 or less	53-60	61 or more
Tillers 76-90 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /90 ▶	8 or more	64 or less	65-72	73 or more

**Stop Sampling      Resample in 2-6 days**

**Field 4** Date Spring, Threshold = 5

Sample ▼	Stop every 30 ft. and look at 3 tillers					Total tillers with 1 or more greenbugs ☒	<input type="checkbox"/> Mummies <input checked="" type="checkbox"/> Infested Tillers			
	Stop 1	Stop 2	Stop 3	Stop 4	Stop 5		Don't Treat ▼	Don't Treat ▼	Keep Sampling ▼	Treat ▼
Tillers 1-15 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /15 ▶	4 or more	6 or less	7-15	16 or more
Tillers 16-30 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /30 ▶	4 or more	18 or less	19-26	27 or more
Tillers 31-45 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /45 ▶	5 or more	29 or less	30-37	38 or more
Tillers 46-60 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /60 ▶	6 or more	41 or less	42-49	50 or more
Tillers 61-75 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /75 ▶	7 or more	52 or less	53-60	61 or more
Tillers 76-90 ▶	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	▶ /90 ▶	8 or more	64 or less	65-72	73 or more

**Stop Sampling      Resample in 2-6 days**