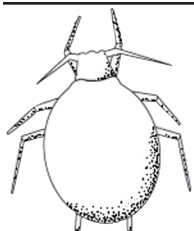


Glance 'n Go Sampling for Greenbugs in Winter Wheat

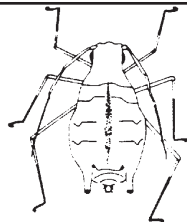
Prepared by
Tom A. Royer
and K.L. Giles,
Oklahoma State
University,
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USDA-ARS,
Stillwater, OK.



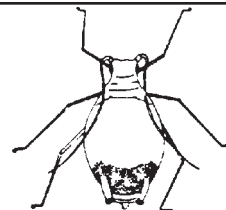
Treatment Threshold = 3 Greenbugs/Tiller
Economic Thresholds for January - May



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.**

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Field 1	Date	Spring, Threshold = 3					Total tillers with 1 or more greenbugs ☒	<input type="radio"/> 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 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /15 ▶	4 or more	5 or less	6-11	12 or more
Tillers 16-30 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /30 ▶	4 or more	14 or less	15-20	21 or more
Tillers 31-45 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /45 ▶	5 or more	23 or less	24-29	30 or more
Tillers 46-60 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /60 ▶	6 or more	32 or less	33-38	39 or more
Tillers 61-75 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /75 ▶	7 or more	41 or less	42-47	48 or more
Tillers 76-90 ▶		○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	○ ○ ○ ☐ ☐ ☐	▶ /90 ▶	8 or more	51 or less	52-56	57 or more
<div style="background-color: black; color: white; padding: 5px; display: inline-block;"> Stop Sampling Resample in 2-6 days </div>											

Field 2 Date _____ Spring, Threshold = 3

Sample ▼	Stop every 30 ft. and look at 3 tillers					Total tillers with 1 or more greenbugs ☒	<input type="radio"/> 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	5 or less	6-11	12 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	14 or less	15-20	21 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	23 or less	24-29	30 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	32 or less	33-38	39 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	41 or less	42-47	48 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	51 or less	52-56	57 or more

Stop Sampling Resample in 2-6 days

Field 3 Date _____ Spring, Threshold = 3

Sample ▼	Stop every 30 ft. and look at 3 tillers					Total tillers with 1 or more greenbugs ☒	<input type="radio"/> 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	5 or less	6-11	12 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	14 or less	15-20	21 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	23 or less	24-29	30 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	32 or less	33-38	39 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	41 or less	42-47	48 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	51 or less	52-56	57 or more

Stop Sampling Resample in 2-6 days

Field 4 Date _____ Spring, Threshold = 3

Sample ▼	Stop every 30 ft. and look at 3 tillers					Total tillers with 1 or more greenbugs ☒	<input type="radio"/> 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	5 or less	6-11	12 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	14 or less	15-20	21 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	23 or less	24-29	30 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	32 or less	33-38	39 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	41 or less	42-47	48 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	51 or less	52-56	57 or more

Stop Sampling Resample in 2-6 days