



# PLANT DISEASE AND INSECT ADVISORY

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## Check Fields for Russian Wheat Aphids Tom A. Royer, Extension Entomologist



I have received very scattered reports of Russian wheat aphid (RWA) infestations in western Oklahoma, particularly the Oklahoma Panhandle. It has been a long time since Oklahoma producers have experienced noticeable Russian wheat aphid infestations, so I would like to provide a “primer” for making control decisions just in case the problem becomes more widespread.

First, some cautions: just because a field has RWA does not mean that the field must be treated; instead, it means that it should be closely evaluated to determine if treatment is needed. A second caution: just because the planted variety is resistant to RWA does not mean the field doesn't need to be scouted. “Biotype 2” forms have been found in Oklahoma, which can attack resistant varieties such as “Halt” “Stanton” and “Prairie Red” AND they have a much faster growth rate, allowing them to build in numbers more rapidly as temperatures warm.

**Description of Insect:** Russian wheat aphids are small, lime-green aphids with a “football shaped” body. The legs and antenna are short, and they do not have cornicles (those tail pipe protrusions). They do have structure at the tip of their abdomen that looks like a double tail.

**Symptoms of Damage:** Wheat that is attacked by RWA will have rolled leaves and later, the emerging heads will become trapped. The rolled leaves will often have purple and white longitudinal streaks. If a rolled leaf is unrolled, you will probably see the aphids inside feeding.

**Biology:** Russian wheat aphids reproduce by giving live birth to female young. Their “daughters” are already carrying developing “granddaughters” inside their bodies. They can become adults within a very short period of time, so that populations can increase rapidly. Each adult can produce five or six nymphs per day. They will remain in the wheat, and will feed on developing heads as the wheat matures. They can also give rise to winged adults that can fly away and start new colonies.



**Control:** The decision to treat for RWA should be made by careful scouting of the field. Use the following formula to determine the need to treat:

Treatment Threshold (percent of infested tillers) =

$$(\text{Control cost}/\$ \text{Acre} \text{_____} \times 200) \div (\text{Expected Yield} \text{_____} \text{ bu} \times \text{Market Value } \$/\text{bu} \text{_____})$$

Example: Control cost = \$8.00, Expected yield = 40 bu, Market value = \$ 4.00/bu

$$\text{Treatment threshold} = 8 \times 200 = 1600 \div 40 \text{ bu} \times 4 = 160$$

$$\text{Treatment threshold} = 1600 \div 160 = 10\% \text{ tillers infested.}$$

There are several products registered for control of Russian wheat aphid, including beta cyfluthrin (Baythroid XL), chlorpyrifos (Lorsban 4E and numerous other products), dimethoate, gamma cyhalothrin (Proaxis), lambda cyhalothrin (Warrior and numerous other products), methyl parathion, and zeta cypermethrin (Mustang Max). Read the label, and follow all directions and restrictions.

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