

## Aphid Control in Small Grains in the Spring

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(Barley, Oats, Rye, Triticale and Wheat for Grain)

### Life History and Phenology

The most common aphid species found in Delaware small grain fields are the English grain aphid, bird cherry-oat aphid, corn leaf aphid, and the greenbug. These four species can overwinter on small grains as eggs or as females which give rise to offspring in the spring. Wingless females will produce offspring without mating for a number of generations. As small grains mature in late spring to early summer, winged females move to other wild or cultivated grasses for the summer. In the fall, they return to newly planted small grain fields to overwinter.

#### Damage

In the spring, direct damage to small grains is usually confined to English grain aphids feeding in the heads of small grains. The most significant damage occurs when large numbers of aphids feed on the grain head causing shriveled or blasted heads. Although the greenbug can cause direct damage in the spring as a result of a toxin in their saliva which can kill plant tissue, damage is most likely to occur in the fall during the first 30 days after plant emergence. Extensive feeding in the fall and early spring from greenbug may result in circular yellow to brown spots with dead spots in the center. Aphid outbreaks in the spring are favored by a mild winter followed by a cool, dry spring. Under these conditions, aphids reproduce rapidly whereas their natural enemies reproduce slowly.

## Sampling and Decision Making

During heading, check 50 to 100 heads throughout a field. While counting aphid populations, be sure to check for natural enemies. Lady beetle adults and larvae, syrphid fly maggots, lacewing larvae, damsel bugs, and parasitic wasps often help to keep aphid populations in check. A ratio of one predator to every 50 to 100 aphids is often sufficient to achieve biological control. At grain head emergence, a treatment may be necessary once populations exceed 15-25 per head. If the crop is approaching the hard-dough stage and there is good beneficial insect activity, no control should be needed.

# Small Grain Aphids -Chemical Control Options

NOTE – The label is the law. Be sure to read the label before making any pesticide applications and observe all label restrictions.

See table on next page.

Insecticide	Rate/Acre	Pre-harvest Interval (PHI)	Remarks (see label for restrictions)
Baythroid XL (beta-cyfluthri n)	1.8 – 2.4 fl oz	30	Restricted Use. Barley, Oats, Rye, Triticale and Wheat Only.
Dimethoat e 400 (dimethoate)	0.5 - 0.75 pt	35	Restricted Use. Wheat Only.
Endigo ZC (lambda-cyhal othrin+ thiamethoxam )	4.5 fl oz	30	Restricted Use. Barley Only.
Tombstone 2 EC (cyfluthrin)	1.8-2.4 fl oz	30	Restricted Use. Wheat Only.
Warrior II (lambda-cyhal othrin)	1.92 fl oz	30	Restricted Use. Barley, Oats, Rye, Triticale, and Wheat Only.

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