

NEWS RELEASE for IMMEDIATE RELEASE

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Wheat Head Armyworm Update June 22, 2009

In 2007 and 2008, an insect identified as the wheat head armyworm (*Farronta diffusa*) caused damage in barley and to both winter and spring wheat in a 10-mile radius between Reardan and Davenport, Lincoln County, WA. A similar infestation occurred in the Helix area of Umatilla County, OR. In 2008, about 10,000 acres of grain in Lincoln County were sprayed to control the insect. A hard frost on July 10, 2008 reduced insect populations about 10-fold in unsprayed WSU variety test plots, but the yield loss in the plots was still about 35%.

Using grant funds awarded by the Washington Grains Commission, researchers have placed insect traps around eastern Washington and in Umatilla County, OR, to determine the development and extent of wheat head armyworm (WHA) infestations across the region. The traps are baited with a pheromone that will attract the male WHA moths as they emerge from their overwintering pupae to mate and lay eggs. This will enable us to determine where and when the larvae are likely to hatch and start feeding. There are traps located in Lincoln, Grant, Douglas, Adams, Yakima, Franklin, Walla Walla, Columbia, Garfield, Whitman, and Spokane Counties in Washington plus Umatilla County in Oregon.

To-date there have been few *Farronta diffusa* moths in the traps. However, a native species in the same genus (*Farronta terrapictalis*) has shown up in relatively high numbers at several locations, especially in the area where damage occurred the last 2 years. We do not know if *F. terrapictalis* is responsible for any of the damage attributed to *F. diffusa*, or whether its larvae even feed on cereal grains. Neither do we yet know how insect trap counts correlate to damage in the field.

We do recommend, however, that growers in areas of high moth counts begin scouting for larvae this week (June 22, 2009). These areas include Lincoln and Spokane Counties (WA) and Umatilla County (OR). Grant, Adams, and Douglas Counties had moderate moth numbers, and the other counties had few to none. With 2 traps per county (except for Lincoln County where there are 11 traps), we have only a general idea of the insect's distribution.

The newly hatched larvae cause white striations at the base of the flag leaf as they feed on the chlorophyll layer. This damage looks similar to cereal leaf beetle damage, but CLB feeding usually shows at the tip of the erect leaf or at the center if the leaf droops over. The WHA larvae are tiny, striped, loopers that soon move down into the boot to feed on the developing grain. Telltale damage is a small hole bored in the base of each floret. Pictures of WHA larvae and feeding damage may be viewed at <http://www.spokane-county.wsu.edu/smallfarms/index.htm>

We do not have scientifically tested WHA economic thresholds and we are not recommending that growers spray at the first sign of the insect. Last year Ag Link agronomists in Lincoln County used 10 sweeps with a net, each 180 degrees. If the 10 sweeps yielded 15 larvae, it was cause for concern. It is important to repeat these sets of sweeps at a minimum of 4 locations across each field and to go deep into the field for a realistic picture as insect infestations are typically heavier on field borders. Do the inspections in the evening or early morning as the larvae feed at night and retreat during the heat of the day. Recheck the field after a day or so, and if the numbers are increasing then spraying may be warranted.

There are no insecticides labeled specifically for the WHAW, but chemicals labeled for wheat may be used. Last year the pyrethroids worked well (no guarantees as this is an un-researched area), especially if they have residual activity. It is best to spray early in the morning when the worms are exposed and feeding – they crawl further in the head with warm temperatures. We plan to determine economic thresholds for the pest and the best insecticides to use against them.

The applicator must always read and follow pesticide label recommendations. One chemical option is Warrior™ (Syngenta). Note that it has a Warning safety label, a re-entry interval (REI)

of 24 hours and a preharvest interval (PHI) of 30 days. The PHI may be an issue with some winter wheat crops. Mustang Max™ (FMC) is a newer product with a Caution label, a 12 hour REI, and a 14 day PHI. Armyworms in general, but not the WHA specifically, are listed on both labels

In 2007, many of the WHA pupae that we found at the base of wheat plants after harvest were parasitized by a naturally occurring biocontrol agent. The affected pupae all died. We will continue to investigate the merits and possible use of biological control.

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