

## The Hessian Fly

If you remember last week's article was on the Hessian fly and this again this week's article will be a continuation on the Hessian fly.

A quick recap on Hessian fly. Over the summer, Hessian fly pupae live in the old crowns of wheat residue. After the first good soaking rain in late summer or early fall, these pupae (or "flaxseed") will hatch out as adult Hessian flies and start looking for live wheat plants to lay eggs on. They are most likely to find either volunteer wheat or early-planted wheat at that time. After the Hessian fly-free date, many of the adult Hessian fly in a given area will have laid their eggs, so there is generally less risk of Hessian fly infestation for wheat planted after that date.

Observance of the fly-free date does not always prevent spring infestation, although in most cases it should help. The risk of fall infestation is almost always greater where wheat is planted before the fly-free date, and especially during years favorable for fly development. Observance of the fly-free date also reduces the incidence of wheat streak mosaic and barley yellow dwarf viruses. The fly-free date strategy is based on studies conducted from 1918-1935, and fly-free dates are based on data collected more than 80 years ago.

So here is "the rest of the story" and why this article had to spill over into the following week.

The relatively mild fall weather in recent years, along with a slight increase in average fall temperatures over the last 30 years, has reduced the effectiveness of using this date as a planting guide. In studies conducted in Sedgwick County, Kansas, during 2006 and 2007 using a Hessian fly pheromone trap, adult flies were active until early December. It seemed that more adult flies were trapped after a rain. The impact of this extended Hessian fly activity on wheat or on fly population density is not known, but it is interesting to note that potential for Hessian fly infestation exists longer into the fall than historical data indicate. In addition, the fly-free date may not always present the best planting date for optimum yield, but on average, it correlates well. The fly-free date can be used on an individual-field basis but will probably be more effective when it is practiced area wide.

Often the best practice is to consider planting a resistant variety, but there may be reasons for not doing so. For example, resistant varieties may not have the same yield potential as more susceptible varieties, or they may be more susceptible to common diseases. Yet growers should consider this option carefully during times when fly populations appear to be increasing, especially when the intention is to plant early for fall pasture and where other options are limited. Thus, a number of factors must be considered in making varietal selections.

Several varieties are fly-resistant. Consult with your local county or district Extension Office for more information on performance of varieties in your area. Or see K-State Research and Extension publication MF-991 Wheat Variety and Disease Insect Ratings, for the latest information on disease and Hessian fly ratings.

In some years in the past decade, Hessian fly activity has been increasing in several states. This is thought to be related to the increased adoption of no-till and reduced-till farming, which allows for increased summer survival of the Hessian fly. This combined with growing continuous wheat, planting before the fly-free date, and limited access to resistant varieties creates ideal conditions for Hessian fly populations.

If out-breaks should every occur this should signal growers to avoid allowing these conditions to occur together. Growers and plant breeders should know that well-adapted, high-yielding, resistant varieties are needed in order to take full advantage of the soil- and moisture-saving opportunity of no-till agriculture.

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