



## Annual Meeting

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### **Oviposition behavior of orange wheat blossom midge on low-ranking versus high-ranking grass seed heads**

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The wheat midge, *Sitodiplosis mosellana* (Géhan) (Diptera: Cecidomyiidae), is a serious pest of wheat in North America, Europe, and China. Adult females oviposit on the modified leaves of the seed head. Larvae hatch and migrate short distances, establishing a feeding site on a developing seed. Oviposition behavior was described on low-ranked versus high-ranked grass heads. The high-ranked type was 'Roblin' hard red spring wheat (*Triticum aestivum*), with the seed head at an early stage of development, i.e. pre-anthesis. The three low-ranked plant types were 1) post-anthesis 'Roblin', 2) pre-anthesis 'Key 24' hard red spring wheat, and 3) pre-anthesis 'Robust' barley (*Hordeum vulgare*). The three low-ranked types were chosen because they consistently receive fewer eggs in the field. Observations of 2-day old mated females were conducted from mid-June to mid-August, during the 1 to 1.5 hours before and after sunset. In initial observations, behaviors of groups of females (4 per cage) were quantified using scan sampling methods, with the following scored: 1) the location of each female, i.e. on the seed head or the walls of the cage, and 2) behavior on the seed head, i.e. examining, with the ovipositor extended and touching the modified leaves, or sitting or walking, with the ovipositor telescoped. In a second set of observations, focal animal sampling was used to quantify the behavior of individual females from landing to flight away from the seed head. Observations showed that oviposition decisions are clearly influenced by information gained by examining the modified leaves of the seed head.

**Species 1:** Diptera Cecidomyiidae *Sitodiplosis mosellana* (orange wheat blossom midge)  
**Keywords:** Wheat, Host selection

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