

**Predator and parasitoid  
management of cereal leaf  
beetle (*Oulema melanoplus*)  
in spring wheat**

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**Adult Cereal Leaf Beetle**



**CLB Eggs**



**Remains of CLB larva after predation by *H. convergens***



**Cereal Leaf Beetle larvae and damage – note tipped larva – *H. convergens* bites underside of larva to avoid fecal covering.**

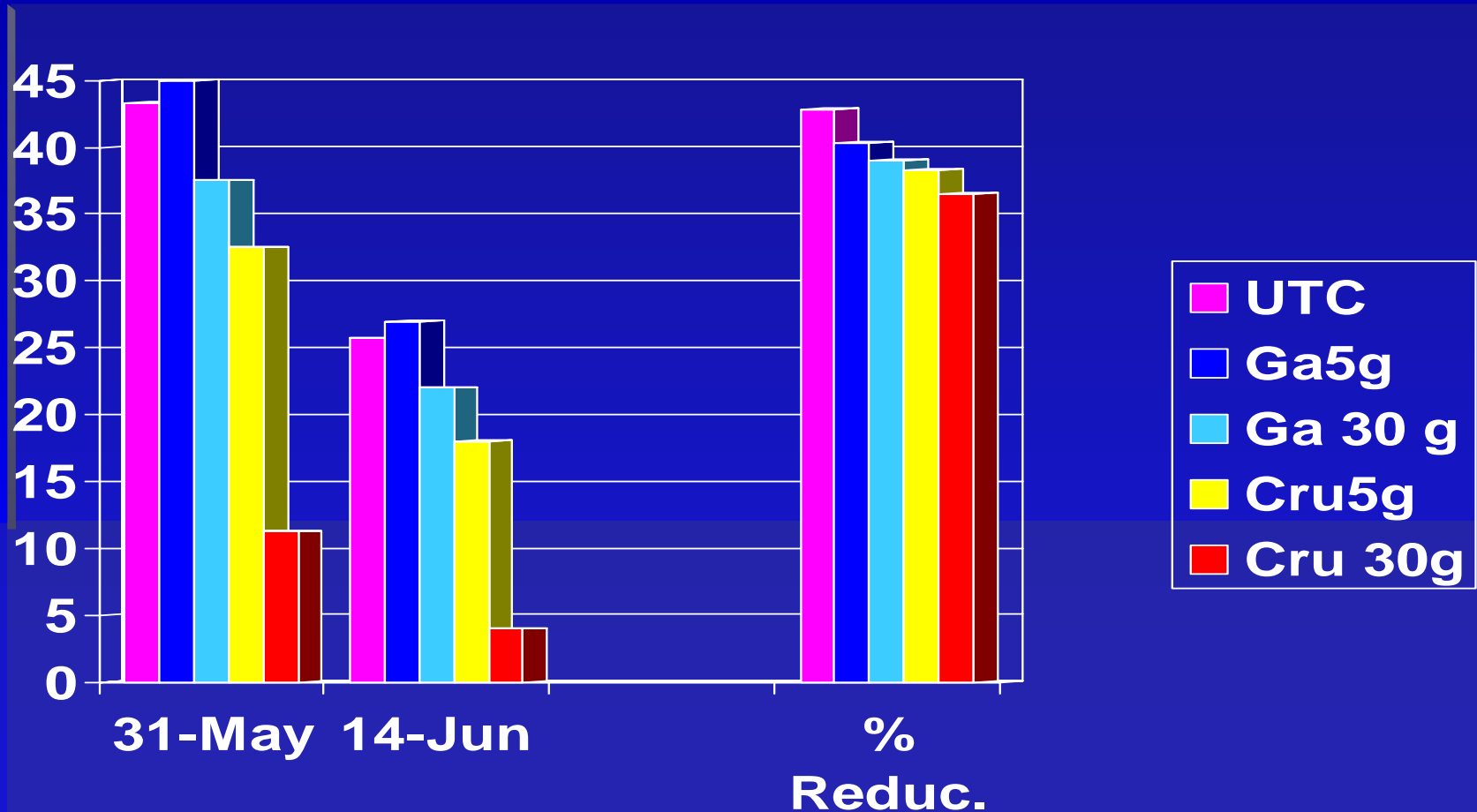


***Hippodamia convergens* adult – only adults fed on CLB larvae – no larvae of ladybird beetle present.**

# Protocol for seed treatment insecticides plus UTC

- RCBD replicates of 5 treatments were applied at seeding of Alpowa swws on 5 April in the established cereal leaf beetle Insectary located at Central Ferry WA.
- Treatments for insecticide evaluation were UTC, Gaucho 480 5 g/chg, Gaucho 30 g, Cruiser 5 FS 5g, and Cruiser 30 g.
- *Hippodamia convergens*, a common predator appeared on wheat 24 May before CLB moved to spring wheat from adjacent winter wheat.

**Populations of Cereal Leaf Beetle per Meter/2 on 2 dates before and after arrival of *Hippodamia convergens* adults in early June – mean Hc per meter was 4 for entire trial period until CLB finished the cycle. Hc then fed on aphids and other small arthropods**





***Tetrastichus julius* (Hymenoptera:Eulophidae) parasitoid of CLB larvae in Pacific North West. Photo courtesy of UI.**

# Protocol for sampling Parasitoids

- Terry Miller, WSU Entomology Insectary Manager, surveyed the entire trial at random to collect the larvae and pupae to dissect for *T. julius* larvae. This is a released biological at the field Insectary at Central Ferry WA.
- An overall mean of 93% Cereal Leaf Beetle larvae and pupae were parasitized on 14 June by *Tetrastichus julius*.
- This shows that while ca. 40% of eggs, 1st, 2nd, and early 3rd instar larvae are eaten by Coccinellid adults, the remaining CLB population is parasitized resulting in an overall population decline before adult emergence.

# Questions and Future

- **Adult Coccinellids appear to feed on Cereal Leaf Beetle larvae on seed treatment plants equally to the UTC.**
- **What would be the effect of field rate foliar insecticide sprays on the Coccinellids?**
- **Would parasitoids be reduced in numbers?**
- **Lambda Cyhalothrin is the field product of choice by wheat growers against CLB and it seems to wipe out all insects present in sprayed fields.**