



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Matthew Y. Kennedy	Project Number 22850
Project Title Dicyphus hesperus	
Abstract Objectives/Goals The objective of this project was to examine whether <i>Dicyphus hesperus</i> (a fairly new bug being studied and used as a beneficial) produces damage to tomato plants and their fruit while feeding on the plants for water and laying of their eggs in the plants' tissues. Methods/Materials Tomato plants were put into cages made from netting and PVC piping. <i>Dicyphus hesperus</i> were released in varying amounts (25, 50, 200, 500, 1000) into the cages. The first trial was run without an additional food source being provided to the <i>Dicyphus</i> . The second trial was run using <i>Ephestia</i> eggs, spider mites, and whiteflies as a food source. The third trial used only <i>Ephestia</i> eggs for a food source. Observations were made to note any damage to the tomato plants' leaves, stems, fruit and general health. Replicating trials are being run. Results Varying degrees of yellow spotting on leaves, damage to leaf edges, and minimal spotting on the plants' stems was noted. Amount of damage was directly related to the number of <i>Dicyphus hesperus</i> released into the cage. No damage was noted in the cages with 25 & 50 <i>Dicyphus</i> . General health of all plants remained good despite spotting and damage to leaf edges. Fruit on the plants were healthy and unblemished and remained that way as they ripened on the plants. The <i>Dicyphus hesperus</i> populations all died off at around the two week mark. Conclusions/Discussion I conclude that while the <i>Dicyphus hesperus</i> did produce some yellow spotting and leaf edge damage, the damage was not sufficient to affect the tomato plants' overall general health. The tomatoes grown from these plants were healthy and unblemished. This would seem to indicate that any damage to the plants' leaves or stems does not affect crop production or quality. Further study is warranted.	
Summary Statement My project examined whether <i>Dicyphus hesperus</i> damaged tomato plants and its fruit by using the plants as a water source and for its egg laying.	
Help Received Ms. Bobby Orr of Syngenta provided me with <i>Dicyphus hesperus</i> and <i>Ephestia</i> eggs as well as lab/nursery space in which to run my experiments. Sasaki Nursery provided me with my tomato plants.	