



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Michael M. Ishimoto	Project Number S1907
Project Title Mating Habits of the Liriomyza trifolii: Is There an Advantage of Double vs. Single Mating in the L. trifolii's Fitness?	
Abstract Objectives/Goals The objective of this project is to determine if there is an advantage for a female <i>Liriomyza trifolii</i> to mate more than once. The null hypothesis was there will be no advantage of double mating versus single mating. Methods/Materials Eighty virgin female <i>L. trifolii</i> s were mated once with a male. The females were then placed into individual cages with a chrysanthemum to oviposit its offspring. After five days half of the females were removed from the cages and were remated with another male. All the females were placed back into the chrysanthemum cages. The offspring were given time to mature and then they were counted. Results Double and single matings produced an equal number of offspring. Amount of offspring produced: t-test: $t=0.713$, $DF=78$, $P=0.4779$. The mean of both matings were equal. Conclusions/Discussion The null hypothesis was proven by the results of the experiment. However, my results suggest <i>L. trifolii</i> does not perform multiple matings for more offspring. Multiple mating may serve another purpose such as increasing longevity and gene variation or the sperm and sperm fluid could have been used as a nutrient.	
Summary Statement This experiment studied the mating habits of the <i>Liriomyza trifolii</i> to determine if double mating produces more offspring or has other functions.	
Help Received Used lab equipment at the University of California, Davis under the supervision of Dr. Roy Kaspi; Participant in UCD Young Scholars Program.	