



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Evin R. Wieser	Project Number J1924
Project Title A New Use for an Old Product: Investigating Milorganite as a Deer Repellent	
Objectives/Goals Problem: To find an effective, safe, long lasting, low cost, and easy to use deer repellent for common flowering plants in the Santa Cruz Mountains.	
Abstract Methods/Materials Experiment 1: Choosing a plant to test Violas, Dianthus, Stock flowers, Primroses, and Roses were tested to see which plants the deer preferred. Experiment 2: Testing Milorganite Four groups were compared-roses with Milorganite, roses without Milorganite (control), stock flowers with Milorganite, and stock flowers without Milorganite (control). Experiment 3: Determining how often Milorganite needs to be applied Milorganite was applied to rose plants weekly, every 2 weeks, and monthly, and compared to controls. Experiment 4: Garden Field Study Milorganite was applied monthly to our gardens for 18 weeks	
Results Experiment 1: The deer ate 100% of the rose flowers and 80% of the stock flowers, but 0% of the others. Experiment 2: The deer ate 100% of the rose controls and 50% of the stock controls. The deer ate 0% of the flowers in the groups with Milorganite. Experiment 3: The deer ate 100% of the control flowers but ate 0% of the test flowers of the weekly, biweekly, and monthly Milorganite groups. Experiment 4: Their has been no sign of deer damage in our gardens for 18 weeks.	
Conclusions/Discussion In Experiment 1, I found that deer liked roses and stock flowers and they were chosen as the test plants. In Experiment 2, Milorganite was effective at repelling deer from the test plants for two weeks even after rain. Presence of deer was confirmed. In Experiment 3, Milorganite was effective at repelling deer from the test plants for at least four weeks after one application even after periods of rain. Presence of deer was confirmed. In Experiment 4, monthly application of Milorganite has been effective in our garden for 18 weeks so far. The student's paired t-test showed that the results were significant. My neighbors, my science teacher, and my school science fair judge are now using Milorganite in their gardens to repel deer.	
Summary Statement My research showed that Milorganite is an effective deer repellent for the Santa Cruz Mountain area and is safe, long lasting, low cost, and easy to use.	
Help Received Mrs. Siegrist taught how to make a spreadsheet. My mother bought the materials I needed, gave me advice on the scientific method and using statistics, and she worked with me to help type and organize my board.	