CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
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Project Number
J0926

Project Title
Does Adding Polymers to Soil Prolong the Effects of Pesticide?

Abstract

Objectives/Goals
The purpose of my science project is to determine if adding super absorbent polymers to topsoil will help prolong the effects of pesticide.

Methods/Materials
For my experiment I filled 20 plastic storage containers with 2 cups of topsoil and sprayed each one with one full spray of pesticide. I mixed in 3/4 tsp. of polymers to 10 of the containers. This was my test group. The 10 containers without polymers were my control group. I punched 10 holes into the lids of each container for air circulation. Then I added cricket food and a cricket to all 20 containers. I labeled the containers and then checked them 3 times a day for 26 days. If a cricket died I charted it in my data book and then replaced the dead cricket for a live one.

Results
My test group was not successful in prolonging the effects of pesticide. The 10 test containers killed a total of 84 crickets in 26 days. My control group was more successful than my test group, killing 109 crickets in 26 days.

Conclusions/Discussion
After completing my project to determine if adding polymers to soil will prolong the effects of pesticide, I found out that my hypothesis was incorrect. My hypothesis stated that the test with the polymers will continue to kill the test crickets longer than the group without the polymers. Not only did the control group kill 25 more crickets then the test group, the average time to death for the crickets in the control group was 54.4 hrs, while the test groups time to death averaged 70.5 hrs. These results make me think the polymers absorbed some of the pesticide.

Summary Statement
This project is about understanding how polymers that are being added to soil for water conservation are affecting the effectiveness of pesticides.

Help Received
Mr. Carl Gong helped with my experimental flow chart. My mom helped to type some of my written work and photograph the experiment.