CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
S1432

Project Title
Impact of Systemic Pesticides on Plant Growth

Abstract

Objectives/Goals
In this study, petunias (Petunia x hybrida) were treated with systemic and topical pesticides and their growth characteristics were measured and recorded. Our hypothesis is that the pesticides will have no effect on plant growth.

Methods/Materials
The experiment was carried out over a period of 66 days, beginning on 29 October 2005 and concluding on 4 January 2006. Samples were treated with a systemic fungicide with active ingredient 1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone; a systemic insecticide containing active ingredients Acephate and Fenbutatin oxide; a topical insecticide containing active ingredients Cyfluthrin and Imidacloprid; or water as a control. At the end of the 66-day growth period, the plant samples in each group were weighed and measured and the number of blossoms was noted.

Results
The systemic fungicide retarded the growth of the petunias substantially and inhibited the plants from blossoming. The systemic insecticide and the topical insecticide had no observable impact on the growth characteristics compared with the untreated control samples.

Conclusions/Discussion
We conclude that the ingredients in some systemic pesticides may inhibit the growth and development of plants, which contradicts our original hypothesis.

Summary Statement
Systemic pesticides may inhibit the growth characteristics of the plants they are intended to protect.

Help Received
Father helped analyze data.