CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
Sydney F. Clark

Project Number
S1106

Project Title
Evaluation of Nitrogen and Phosphate Runoff from Residential Areas

Abstract

Objectives/Goals
Fertilizer contamination in runoff surface water is an important source of eutrophication and can have a number of negative environmental and economic impacts. Agricultural runoff is a major source of this contamination, but runoff from residential areas also may contribute. This study tests for nitrate and phosphate contamination in residential runoff water under real world conditions.

Methods/Materials
Several residential areas situated in canyons were identified. During or shortly after a rain storm, runoff water was collected from areas above, inteh middle of, adn below residential plots. Nitrate and phosphate levels were tested in the samples using a public health department laboratory.

Results
Nitrate and phosphates levels in the middle of and below the residential areas were significantly higher then levels from above the residential areas.

Conclusions/Discussion
These results demonstrate that residential areas are a source of nitrate and phosphate contamination in runoff water and hence contribute to eutrophication. This has implications for recommended residentila gardening paractices as well as possible regulatory implications.

Summary Statement
Testing for fertilizer contamination in residential water

Help Received
Monterey County Health Department assisted in sample testing, father drove me to collection sites