CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)

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Project Number

S2101

Project Title

The Effect of Cigarette Litter on the Urban Ecology of Armadillidium vulgare

Abstract

Objectives/Goals

The objective of this study is to determine and quantify the effect that leeched soil pollution has on pill bugs (Armadillidium vulgar)

Methods/Materials

Materials use include: small plastic containers as habitat for the isopods, hygrometer, stopwatch, fish food, heterogenous soil from natural habitat. By measuring the average curling and uncurling times of five pill bugs in each of seven levels of exposure to cigarette litter in soil, each day for five weeks.

Results

Results indicate that curling time increases in A. vulgare that have been exposed to greater quantities of cigarette butt litter. The death rates of the isopods exhibit evidence that exposure to cigarette litter is detrimental to these important decomposers.

Conclusions/Discussion

Cigarette butt litter leeches chemicals into the soil. Soil pollution is less addressed than air and water, however, directly affects the ecosystems of land-based decomposers.

Summary Statement

Soil pollution, in the form of substances leeched from cigarette butts, have an effect on populations of urban decomposers, as measured by behavioural response.

Help Received

My Science Research teacher helped us sample and collect populations of isopods.