CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)
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Project Number
J1914

Project Title
GMOs: Testing the Performance of GMO vs. Wild Type Soybean Seeds When Exposed to Various Levels of Weeds and RoundUp

Abstract

Objectives/Goals
The objective of my study is to determine if genetically modified (GMO) soybean seeds grow better than wild type seeds when exposed to various levels of weeds and RoundUp.

Methods/Materials
Soybean seeds (50 genetically modified and 50 wild type), grass/weed seeds, potting soil, 20 pots, 1 bottle of RoundUp, water. Created two sets of 10 environments with various levels of weeds and RoundUp, one for GMO seeds, the other for wild type. Observed and recorded the germination and stage of the seeds.

Results
In my experiment I tested GMO and wild type seeds and how well they grew when exposed to various levels of weeds and RoundUp. In the first round of experiments, 17.65% of the GMO seeds began to germinate, whereas 66.67% of the wild type seeds began to germinate. In the second round of experiments, 26.09% of the GMO seeds began to germinate, whereas 56.52% of the wild type seeds began to germinate.

Conclusions/Discussion
The wild type soybean seeds performed much better than the GMO seeds in my experiments. I believe this could be related to lower than optimal temperatures for the seeds to germinate. The experiment was conducted during the winter when overnight temperatures dropped below 60 degrees. In a future experiment, I would build a greenhouse that would constantly maintain the optimal temperature for germinating soybean seeds, 77 degrees.

Summary Statement
I discovered that wild type seeds can be more reliable than GMO seeds in certain environments and conditions.

Help Received
I designed, built and conducted the experiment by myself. My father observed the results with me and helped me understand the data.