CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)
Cynthia Chen

Project Number
36482

Project Title
A Novel Method to Reduce Water Consumption in Germinating Seeds

Abstract

Objectives/Goals
The objective of this project was to engineer a product that helps relieve the drought by reducing water consumption of agricultural plants. It focuses on the stage of germination, since water is wasted the most then.

Methods/Materials
I made my product from a small biodegradable filter and a smaller biodegradable pod, and a layer of water crystals in between. Then, I tested the capsule by separating the seeds into different groups with normal farming conditions, but with varying amounts of water.

Results
After experimentation, I measured the average number of days to germinate and the germination success rates for all groups. After analysis, it was clear that the groups with the capsule had the advantages of growing faster and having a higher survival rate than that of groups without the capsule.

Conclusions/Discussion
My engineered capsule is effective in reducing the amount of water used in early plant growth. Compared with previous solutions, mine is novel because it specifically targets the germination stage. When compared on a mass scale, this product would have a major impact on farmers and the drought, as it can save a lot of water.

Summary Statement
In order to eliminate the drought, I created a capsule which successfully reduces water wastage and consumption in farming.

Help Received
I did most of the project myself, and my mentor, Dr. Thomas Artiss, gave me feedback on my work.