CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)

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Project Number

J1803

Project Title

Natural Green Revolution Part 2: Drought Resistance

Abstract

Objectives/Goals

Experiment to see the effects of Mycorrhizal fungus on the drought resistance of plants.

Methods/Materials

Our Procedure/Method:

1)The nasturtium plants were grown from seeds till they were all about the same height in regular soil without any added nutrients. 2)We filled regular soil into all 4 pots (the same amount). 3)We then divided the pots into groups, each with five nasturtium plants. 4)We put ½ teaspoon of fungus near the roots of the plants for only two of the pots, the other two had no fungus . 5)The 5 groups we as follows: Group 1: 250 ml water with fungus; Group 2: 250 ml water without fungus; Group 3: 500 ml water with fungus; Group 4: 500 mL without Fungus; Control group: 1000mL of water only . 7)We watered the plants the amount of water needed for each group every week for a period of eight weeks. 8)We measured the heights of the nasturtium plants using a ruler (in cm) every week before watering them and took the measurements of all five plants.

The Materials we used:

1)Several packets of nasturtium seeds. 2)Regular soil (no extra additives). 3)4 Oz, container of mycorrhizal fungus (in powdered form). 4)Water.

Results

The plants receiving 500mL of water with fungus grew 34% more compared to the group without fungus. The group that received 500mL of water with fungus was able to grow about the same amount as the group that received 1000mL (control group) of water and the root mass was denser and about 4x the amount of the plants without fungus.

Conclusions/Discussion

This fungus does help plants grow with less water and so it could be help farming in drought prone regions. California is undergoing through drought, and this fungus could help farmers grow crops with less water use.

Summary Statement

We proved that mychorrhizal fungus helps plants grow with less water and thus can help solve the problem of growing crops during periods of drought.

Help Received

We received help throughout our project from our science teacher and our parents.