CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)
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Project Number
S1920

Project Title
The Effects of Recycled Water on the Native Plant Species: Festuca arundinacea and Lolium perenne

Abstract

Objectives/Goals
As the demand on a limited water supply increases, the use of recycled water in gardening has become popular as it is both an environmental and economic option. Nevertheless, the effects of this liquid on plants is practically unknown. In order to verify that recycled-water can be used as a substitute for fresh-water, at least in gardening, the following experiment was performed.

Methods/Materials
Materials include:
1. Two Jiffy Seed Starter Greenhouses (72-plant)
2. Recycled Water
3. Tap Water
4. Seed Co. Bonsai 2000 Tall Fescue Lawn Seed
5. Pennington Perennial Ryegrass Grass Seed
6. Hyporex Extended Feed All Purpose 16-16-16 Lawn Starter
7. Miracle Gro Perlite
8. Sakrete All-Purpose Sand

Two native plant species: Festuca Arundinacea and Lolium Perenne, were treated with either recycled water or normal tap water. Two Jiffy Seed Starter Greenhouses with 72 compartments each, was used. Each compartment in the Greenhouse was filled with an equal part mixture of sand and pearlite. Lolium Perenne was grown in 72 compartments and Festuca Arundinacea was grown in the remaining 72 compartments. Of these 72 compartments, 36 were treated with recycled water and the other 36 with tap water. A starter fertilizer and approximately 40 seeds of grass were added to each compartment. The height of the plants was recorded every week for 6 weeks.

Results
After a 6-week study, the data shows that regardless of the water treatment, both types of grass grew equally well. Although the height of the grass differed by an insignificant amount, the eventual growth and development of the grass was similar if not exactly the same.

Conclusions/Discussion
The conservation of the earth's limited supplies is essential and each tiny step we take can be instrumental. If just a few of us can incorporate recycled water into our gardens and backyards, the amount of fresh-water saved is phenomenal. The application of this project's results can be valuable and can also enhance the lives of our future generations.

Summary Statement
To discover the potential effects of recycled water on two grass species:Festuca Arundinacea and Lolium Perenne

Help Received
Ms. Julie A. Finzel, as the advisor, answered several of my questions throughout the course of the project. Mr. Zachary Meyer provided the recycled water and my parents supervised the experiment that took place in my home.