CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)

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Project Number

J2107

Project Title

Growing Grass with Produced Oil Field Water

Abstract

Objectives/Goals

The purpose of my experiment was to determine the efficacy of growing grass with Produced Oilfield Water.

Methods/Materials

Six plastic containers, 36 plots of Bermuda grass (3 in. x 3 in.), approximately 10 gallons of Produced Oilfield Water, 2 large bags of soil, and 1 bag of charcoal. Watered grass plots with different treatments (drinking water control, regular Produced Water, Produced Water to drinking water dilutions, and the charcoal mixed with the grass) and measured next day for color, height, and consistency over a 6 week period.

Results

The characteristics (color, height, and color consistency) of grass grown with Produced Oil Field water were similar to the grass grown with drinking water. The 1:2 and 1:4 Produced Water to drinking water dilutions worked better than untreated Produced water and the control, and the Produced Water and charcoal mix also did as well.

Conclusions/Discussion

Grass treated with Produced Oilfield Water was found to have a similar growth rate and color to that of grass treated with freshwater. This means that Produced Water, or dilutions of it, could be used as a suitable alternative for using drinking water to grow grass.

Summary Statement

I showed that Produced Oilfield Water can be used as an alternative watering source for grass.

Help Received

The research, set up, and experimentation were done by myself. My father explained to me how to use a conductivity probe for further research. The source of my Produced Oilfield Water has asked to remain anonymous.