CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
J0612

Project Title
Gypsum's Effect on Soil Drainage

Abstract

Objectives/Goals
My objective in this project was to determine how effective gypsum is when applied to the soil in helping an almond tree absorb water. I wanted to discover how much faster this rate of absorption would occur.

Methods/Materials
I used a 24" tensiometer, which is a tube like instrument that measures movement of moisture through the soil. I put one tensiometer in a non gypsum treated area and one tensiometer where 3 tons of gypsum per acre had been applied. I read the guages for 32 days, documenting the results including the rains and one irrigation in my data.

Results
The results of my experiment were that the tensiometers had an average reading of 66.28 centibars for the gypsum treated area and 46.56 centibars for the non treated area. These results indicated that the water was not penetrating as deep in the non-treated area and therefore this water was subject to more evaporation and this would cause the tree to receive less water. Where the gypsum had been applied the almond tree roots were receiving more of the irrigation and rain waters.

Conclusions/Discussion
My research indicated that gypsum would help the soil drainage problems, because with gypsum the sodium in the soil becomes soluable and separates from soil particles, this allows the root from what you are growing to reach all the nutrients in the soil and absorb the water. My hypothesis was correct because the gypsum treated area drained the water lower and faster by 30%.

Summary Statement
Using gypsum to help drainage problems in an almond orchard and discovering how effective it is.

Help Received
Father