



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Kevin A. Jimenez</b>	<b>Project Number</b> <b>J1613</b>
<b>Project Title</b> <b>Gray Water/ Sod Growth</b>	
<b>Abstract</b> <b>Objectives/Goals</b> One of the main problems today is that people are running short on water. I have the answer for you; it is called gray water recycling. My project is the affects of gray water on plants. I used three different types of gray water. The first type was plain water. The second was water and laundry detergent, and the last was water, laundry detergent and fabric softener. Next I got six pieces of sod. Then I divided each piece in half. Then I watered four halves with water, another with gray water, and the last with gray water and fabric softener. I watered each half four cups of water twice a day for three weeks. The plain water had the most growth at an average of three inches and the lusher green at splendor on the color chart. The gray water came in second with an average two and a half inches and parsley on the color chart. The gray water with fabric softener came in last with an average of two inches and a color of autumn crisp.	
<b>Methods/Materials</b> Items:Rubber dividers, Square sod holders, Six squares of Sod, Gray Water, Three Five-gallon buckets, Measuring cups, Paint color chart, Ruler. Put each square of sod in a holder and divided each square in half with a rubber divider. Collect the gray water, gray water fabric softener, and water in the three five gallon buckets. Water four cups for each half for twice a day. Water for three weeks and record results each week.	
<b>Results</b> The sod that was watered with plain water had the most significant growth. At week one plain water sod measured at one and one half inches. At week two the plain water sod measured an average of 2 inches. On the last week the plain water sod measured an average of 3 inches. For a total growth of one and one half inch in three weeks, In contrast the sod watered with laundry detergent gray water only grew an average of one and one quarter inch over a three week period. The sod watered with laundry detergent plus fabric softener grew an average of one half inch. This last group was by far the poorest performance of the three.	
<b>Conclusions/Discussion</b> I was greatly surprised to see that the last group (the group with the laundry detergent plus fabric softener) performed so poorly. Plain water is still the best for your sod. Gray water with laundry detergent performed quite well. I was correct in my hypothesis. Further testing may show an even greater variance between the three groups.	
<b>Summary Statement</b> The Effects Of Gray Water On Sod Growth	
<b>Help Received</b> My dad bought the supplies I needed and help cut the sod, Mom helped assemble the back board.	