



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

<b>Name(s)</b> <b>Gathenji B. Njoroge</b>	<b>Project Number</b> <b>S1115</b>
<b>Project Title</b> <b>Exploring the Removal of Salt from Local Soils</b>	
<b>Abstract</b> <b>Objectives/Goals</b> To determine whether it is possible to remove salt from soil. The problem is, #Is it possible to remove salt from soils?# It is an attempt to find out whether methods exist for decreasing the high sodium content of local soils. It is hypothesized that the experiment involving the growing of beans will remove the most soil. <b>Methods/Materials</b> Six soil types were collected. Eighteen plastic containers were arranged on a table in three rows of six pots. Each pot in the first row of pots was used to grow two cilantro plants. Each pot in the second row of pots was used to grow two bean plants. Each pot in the third row was used to grow corn plants. The soils were watered every other day with distilled water and observed daily. At the end of the experiment, the plants were disposed of and the soils used were placed in small Ziploc bags that were labeled with the name of the soil sample. The second part of the experiment involved leaching of the soils. For this, the original soil samples were distributed among the pots in the same manner. Each pot was placed in a coffee filter and put on top of a plastic container. The pots in the first row were unaltered. Thirty-eight grams of salt were added to the pots in the second row. Nineteen grams of salt were added to the pots in the third row. The pots were leached with distilled water at regular intervals. After the leaching experiment, the soils were allowed to dry and were put into small Ziploc bags. The Ziploc bags were labeled according to which samples they contained. All soil samples, including original samples, were sent to Agriserv Inc. for analysis. <b>Conclusions/Discussion</b> My hypothesis was partially correct. I was correct in saying that it is possible to remove salt from soils. However, the soils that grew corn plants removed as much sodium from the soils as the first leaching experiment did. The soils that grew beans on average lost about 8.5 equivalentents per million (EPM). The soils that grew corn lost an average of 8.7 EPM. The soils containing cilantro seeds lost an average of 4.6 EPM. By comparison, in experiment 1 of the leaching experiment, an 8.7 EPM decrease was observed in the soils.	
<b>Summary Statement</b> To explore ways of removing salt from soil	
<b>Help Received</b> Mother bought all the supplies for me. Mike Carr of Agriserve Inc. helped to test the soil samples	