



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

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| Name(s) Dacia A. Nelson | Project Number 22381 |
| Project Title The Ash Absorber | |
| Objectives/Goals My objective was to see if adding wood ashes to soil would help the soil to retain moisture and herbicides better, and if so, which type of ashes worked better. Abstract Methods/Materials I burned 5 different types of wood then mixed the ashes with soil in plastic cups. I used 1 Tablespoon of ashes and 2 Tablespoons of soil per cup. I made 4 of each type of wood for a total of 20. For the moisture retention test I measured equal amounts of water into 1 soil/ashes mixture for each type of wood ash used and then weighed it daily to observe the changes. For the herbicide retention test I sprayed a herbicide onto the surface of the soil mixture in each cup and then planted some wildflower seeds. I watered the samples each day and looked for plant growth. Results Both the moisture test and the herbicide retention test results showed that there were differences in the final samples with the only variable being the type of wood ashes used. The plum wood ashes showed the best moisture retention. The orange wood ashes seemed to help retain the herbicide in the soil longer. Conclusions/Discussion It seems that the ashes from wood stoves and old orchards could be recycled for use as a soil additive with beneficial results. Not only would this reduce the amount of land fill but also reduce the amount of chemicals and water needed by farmers and gardeners to grow crops. | |
| Summary Statement The use of wood ashes as a soil additive to improve pesticide and water retention in the soil. | |
| Help Received My father helped to proof read and edit my papers; my mother helped put my board together; my science teacher helped review my papers and my District Science Director helped me get the idea for the project. | |