



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

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| Name(s) Dayne K. Deppe | Project Number J1709 |
| Project Title What Does Your Water Do? Find Out How Water Treated Six Different Ways Affects Houseplant Growth and Health | |
| <p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to learn how plant health/growth would be affected when watered with 6 different water types: microwave boiled (MB), stove boiled (SB), w/plant food (PF), spring water (SW), chlorinated water (CW) or Glaceau Multi-V Water (VW). A science fair project posted on the internet stated plants died when watered with microwave boiled water. I thought MB and CW would be harmful to plants, and water PF and SW would be the best for plants.</p> <p>Methods/Materials 6 types of water in containers A-F; blinded. 120 cuttings 60- Philodendron (Phil) & 60 Bridal Veil (BV) potted in the same type of soil and pots; divided into 2 batches: 60 plants @ of 6 groups of 10 plants labeled A-F. 2 growing environments: warm/lighted vs. cool little light. Groups were watered the same amount from their lettered container. Two grading systems were made: Health and Growth. Plants were graded after 42days. BV plants were measured in inches. After grading, the type of water for each group was revealed. Each type of water was tested with a water test kit.</p> <p>Results No significant difference in health/growth was found when comparing BV plants watered with SP, MB, SB, PF, and CW. BV plants did significantly worse with VW and were stunted in low light and cool environment. BV plants grew between .8 to 1.5 inches in all groups except VW. No significant difference in health/growth for Phil plants for all water types. All plants liked lighter/warmer growing conditions.</p> <p>Conclusions/Discussion Plant cuttings watered with chlorinated, stove boiled, microwave boiled, spring water or plant food all grew about the same over 42 days. Cooled microwave boiled and stove boiled water did not kill plants which did not support my hypotheses or what I read on the internet. The plants watered with VW did significantly worse maybe due to the sugar and high acid. Initially, when comparing the plant groups growth, it looked like the chlorinated and microwave boiled water did better. Statistical analysis (SD and ANOVA) revealed that their health/growth was not significantly different, except for the VW. I concluded that houseplant cuttings can be watered with any type of water, boiled or not and the cuttings should have lots of light with warm growing conditions. To find out more I would run the study longer and look at root growth.</p> | |
| Summary Statement My project compares the affects of 6 types of water on health and growth of two types of plant cuttings. | |
| Help Received Mother helped type, develop experimental design and which statistical analysis to use. Father helped with plant selection. | |