



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

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| Name(s) Deanna R. Schultz | Project Number 22789 |
| Project Title The Effects of Radiation on Plants | |
| <p style="text-align: center;">Abstract</p> <p>Objectives/Goals Radiation therapy is effective in treating cancer because the actively growing cancer cells are more sensitive to radiation than the normal tissues. Therefore, it is my hypothesis that large doses of radiation will have a greater negative effect on the germinated plants than on dormant beans.</p> <p>Methods/Materials One hundred twenty bean sprouts and one hundred twenty dormant beans were used in the study. The sprouts and the dormant beans were divided into four groups of thirty. Each group received either no radiation, radiation from diagnostic imaging, five Gray, or ten Gray. The height of the plants was measured at seven, fourteen, twenty-one, and twenty-eight days.</p> <p>Results No dose related negative or positive effects were observed during the four weeks of the study. The groups that were sprouted prior to planting grew better than the dormant beans.</p> <p>Conclusions/Discussion I was unable to confirm my hypothesis at the radiation levels that I selected. My hypothesis may be correct with higher doses of radiation. Plants are relatively radiation resistant, since some groups received radiation that is lethal to humans.</p> | |
| Summary Statement I tested the effects of radiation on plants and found no dose related effects at the levels selected. | |
| Help Received San Antonio Community Hospital assisted in the irradiation of the plants. | |