CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
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Project Number
J1410

Project Title
The Effect of Radiation on the Growth of Lentil Seeds

Abstract

Objectives/Goals
The objective is to determine the effect of radiation on the developmental processes of plants such as lentil seeds.

Methods/Materials
Fourteen groups of ten lentil seeds were packaged individually, and each package was exposed to different doses of x-ray radiation ranging from 10-130 Gy. One of the packages, control group, was not exposed to any radiation. After exposure to radiation, the seeds were planted in an identical environment. The plants were given three to four days to grow to a measurable height and after that time the height of each individual plant was measured and recorded daily.

Results
The seeds which received less than 80 Gy clearly benefited from the radiation. Those groups had a taller average height than the control group, where as the groups that received more than 80 Gy of radiation had shorter average heights, exhibiting the harmful affects of radiation.

Conclusions/Discussion
I conclude that although a low dose of radiation may enhance the growth process, higher doses of radiation can seriously impede plant growth.

Summary Statement
The project was designed to illustrate the effect of radiation on the growth processes of plants.

Help Received
My father helped me use a linear accelerater to irradiate the lentil seeds.