



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Eleni C. Fafoutis	Project Number J1908
Project Title One Smart Spud: A Potato Hormone Project	
Objectives/Goals In my experiment I set out to prove that no matter how many sprouts a potato, whether whole or cut, may grow from its many eyes, only one sprout will grow into a terminal shoot which will become a potato plant.	
Abstract Methods/Materials Materials: Pots, soil, red organic potatoes, steak knife, t-labels, index cards, packaging tape, garden trowel, and spray bottle. Procedures: A. Major steps: prepare potatoes for planting and growth in the proper environment for 7 weeks of growth. B. Variable tested: Whole or cut potato growth behavior. C. Sample size: 12 total potatoes; 6 whole and 6 cut. D. Measurements taken: Number of eyes before planting, number of lateral buds grown during growth period, length of terminal shoot.	
Results The vast majority (83%) of the sample grew a terminal shoot in line with what my research indicated. The cut potatoes did almost exactly the same things as the whole potatoes and on some pieces performed better. The potatoes had similar terminal shoot length and the average number of eyes to lateral buds was roughly 2:1 on both whole and cut potatoes.	
Conclusions/Discussion My hypothesis was correct. Both sets of potatoes grew terminal shoots and had eyes that sprouted into lateral buds. The results were very consistent across the whole and cut potatoes which reinforced my hypothesis. The only thing I would have liked to have fixed is to have more time to grow the potatoes to have a 100% success factor, as it was not potato growing season during the experiment. Overall, this project proved how valuable auxins are in controlling plant growth, as seen in the evidence of apical dominance in potatoes. If scientists can continue to find ways to put auxins to good use, we may be better able to increase crop production and continue to feed the growing world population.	
Summary Statement This project is about how hormones control and regulate the growth of potatoes.	
Help Received Father helped edit report and find information; Mother helped get materials, and make board; Science teacher (Ms. Oggiano) helped give support and advice.	