CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
Quinn Marsh

Project Number
J0313

Project Title
How Far Can That Potato Go?

Abstract

Objectives/Goals
I wanted to figure out how to launch a potato the furthest by finding the optimum barrel length and trajectory(launch angle) for my potato cannon, the Potato Cannon 5000.

Methods/Materials
To find the best barrel length I measured speed of the potato rather than distance because measuring speed is easier, more accurate, and takes up less space. Because the Potato Cannon 5000 is pneumatic (dealing with pressurized air) the tests were done at a given pressure of 25 psi. Then to figure out the optimum trajectory I just set up the barrel at various angles and measured how far the potato went.

Results
The barrel length results were extremely consistant and showed that the best barrel length is 10 feet at 25 psi. The best trajectory is 40 degrees but anywhere in the 35-40 degree range is good.

Conclusions/Discussion
The Potato Cannon 5000 can launch a potato the furthest using a 10 foot barrel at a 40 degree trajectory. When I put my results into one shot I concluded that the furthest distance at 25 psi is 375 feet.

Summary Statement
What is the best barrel length and the best trajectory for a potato cannon?

Help Received
My dad helped me with some of the experiments. My dad also funded the whole project.