

CALIFORNIA STATE SCIENCE FAIR 2008 PROJECT SUMMARY

Name(s)

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Project Number

J1237

Project Title

Some Like It Hot! An Energy Independent Slow Cooker

Abstract

Objectives/Goals

Development of an insulated cooking system that will keep hot (over 160 degrees F) over an extended period of time without additional energy input.

Methods/Materials

In two pots of similar capacity, one cast iron and one stainless steel, 2 liters of water were brought to a boil. Each pot was then wrapped in different insulation material (cotton fabric, space blanket, foam padding, volcanic aggregate and fiberglass house insulation). Temperature of the water was monitored over a three hour period using an internal probe. Each test was performed in duplicate.

Results

The fiberglass house insulation was the only material tested that was able to keep the water over 160 degrees over the 3 hour test period. All other products conserved only moderate heat compared to the control.

Conclusions/Discussion

This project showed that an energy independent cooker that can maintain temperatures safe for cooking is possible. Further development would improve the design and make this a practical alternative for cooking in undeveloped areas where energy is crude, unavailable, expensive or pollution causing.

Summary Statement

Development of a slow cooker that once heated is independent of additional energy input.

Help Received

Mother helped with moving pots of boiling water to test area.