CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
S0808

Project Title
Ammonia: The Passed Gas, Part III

Abstract

Objectives/Goals
My project was to determine if manure from a horse (through a change in the animal's diet), can be used as effectively as steer manure when utilized as plant fertilizer. I believe that the altered horse manure will be as effective as steer manure when used as plant fertilizer.

Methods/Materials
After collecting manure samples from both horse and steer, mix each with three different types of soil into six pots as a 4:1 ratio (soil to manure). Mix each pot throughly and plant bean seeds. Over a three day period test the soil mixture for nitrogen, pH, and appropriate fertilizer levels in each sample. After the three day period expires, continue to log and measure the number of bean plants in each pot, as well as the plant height, and over all grow rate.

Results
After testing and growth measurement, the mixture of potting soil and horse manure produced the greatest number of bean plants as well as the tallest and largest bean production of any of the six samples.

Conclusions/Discussion
My conclusion is that it is possible, with alteration, that horse manure can be used as effectively as steer manure as a form of fertilizer.

Summary Statement
This project is to determine whether horse manure through diet alteration can be utilized as effectively as steer manure, thus leading horse farms to the opportunity of marketing and selling manure vs. paying for it to be hauled away.

Help Received
I used my horse for the test hores, and steer from the Beef Unit of Cal Poly San Luis Obispo. My grandparents for continued use of their home, and my mother for driving me and my project to where i needed to be.