CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)

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Project Number

31707

Project Title

What's In Your Genes? White Hair? Red Eyes? Big Hips? Thunder Thighs?

Abstract

Objectives/Goals

The objective of this project is to find out when breeding rabbits which parent has stronger traits that are passed down to the offsrping, the sire or the dam?

Methods/Materials

I bred 26 litters of Netherland Dwarf rabbits to compare the litters against the sire and dam for variety/color, body type, and head shape. I bred two litters of New Zealand Whites which excluded the color gene and allowed me to only compare the litters against the sire and dam for depth and width of loin.

Results

In the Netherland Dwarf litters the dam passed down the variety/color genes, where the sire showed to pass on more of the body type and head shape to the offspring. In the New Zealand litters my first experiement showed to be equal as the sire and dam were equally matched in size, depth and loin, giving me five of seven kits of eqaul in size. The second litter the sire passed down more traits to four of the seven kits than the dam.

Conclusions/Discussion

My conclusion is that the sire and dam did have equal amount of traits passed down to the offspring. I believe that there are many factors that figure into the experiments such as the size of the litters. Netherland Dwarfs have very small litters. New Zealands have larger litters. I also believe that traits are not always passed down generation to generation because of the recessive gene. I saw this in one litter during my experiments, where particular features skipped a generation. I think this is where the heritability issue comes into play and how certain genes are inherited in one sibling but not another, and from one litter to another.

Summary Statement

Genetics and heritability in rabbits.

Help Received