



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Lauren Franke; Katherine Trockey</b>	<b>Project Number</b> <b>J1909</b>
<b>Project Title</b> <b>Green Eggs, No Ham: A Chicken Genetics Experiment</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> This project was a genetic experiment to determine if by crossing two totally different breeds of chicken, a Barred Plymouth Rock cock and a White Aracauna rumpless (no tail) female, the offspring would have the dominant traits of laying blue-green eggs, growing barred feathers, and developing a tail.</p> <p><b>Methods/Materials</b> We bred the Barred Plymouth Rock cock and a White Aracauna rumpless (no tail) female, and as the hen laid fertile eggs we placed the eggs in a 100° incubator for twenty-one days. Once the chicks hatched, they were placed in the brooder for 3 - 4 weeks, then they were placed a wire cage, appropriate to their size, for approximately 4 - 6 weeks, with a constant heat source. Then for the next 4 - 6 weeks, the pullets and cockerels were moved to the indoor barn cages also with a constant heat source. At four months old having their adult feathers all grown in, the offspring are released out into the barn with the other hens. During their growth and once the mature, they were provided with appropriate food, water, and a heat source.</p> <p><b>Results</b> The result of the breeding included six females (pullets) and five males (cockerels). Three offspring died during development and four were sold. Of the surviving offspring, the three pullets laid a khaki egg (blue-green egg with brown tinting). All of the offspring grew cuckoo feathers, which is a variation of a barred feather. Lastly, six offspring developed a tail, and five developed a rumpless tail (no tail).</p> <p><b>Conclusions/Discussion</b> Our conclusion after analyzing the data proved our hypothesis correct. The blue-green egg color is a dominant trait because all of the offspring pullets lay a khaki egg. All of the offspring grew a dominant trait of cuckoo feathers, and six offspring developed a dominant trait of a tail, with five offspring that developed a recessive trait of a rumpless tail.</p>	
<b>Summary Statement</b> Our project is a chicken genetics experiment, determining if we can breed and hatch a brood of chicks from two different breeds that have the dominant characteristics of laying blue-green eggs, growing barred feathers, and developing a tail	
<b>Help Received</b> In our project we received help from our 7th and 8th grade science teachers, Mrs. Knight and Mr. Dilworth with the genetics format. Also, Mr. Larry Stallings, an APA poultry judge and a retired geneticist, helped us with the traits of the punnett squares.	