



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Ryan W.T. Tanner</b>	<b>Project Number</b> <b>J0522</b>
<b>Project Title</b> <b>Hay in a Tray: Does Barley Fodder Increase Unsaturated Fat in Eggs?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment was to determine if giving Barley Fodder to a chicken will increase the amount of unsaturated fat in their eggs.</p> <p><b>Methods/Materials</b> To find out how much unsaturated fat is in the chicken's eggs, I put Iodine into a test tube filled with egg yolk and counted the amount of Iodine that was added. In a different test, I put Bromine Water into the test tubes filled with egg yolk. There wasn't enough room for the Bromine Water to fully react with the egg yolk. Next I put an egg yolk diluted with water into a beaker. I added Bromine Water to the mixture until it stopped reacting with the unsaturated fat in the mixture and the color of the Bromine Water reappeared.</p> <p><b>Results</b> The experiment showed that there was slightly more unsaturated fat in the eggs from chicken's whose feed was supplemented with Barley Fodder than the eggs from chicken's whose feed was not supplemented.</p> <p><b>Conclusions/Discussion</b> When I put Bromine Water in the beaker the color of the solution turned white because it was reacting with the carbon-carbon double bond in the unsaturated fat. After adding a little more Bromine Water to the solution the brown color of the Bromine Water came back because there was no more unsaturated fat in the egg yolk mixture.</p> <p>I discovered that supplementing chicken's feed with Barley Fodder does increase the unsaturated fat in their eggs, although not a lot.</p>	
<b>Summary Statement</b> In my experiment I showed that if you feed a chicken Barley Fodder, it will slightly increase the amount of unsaturated fat in their eggs.	
<b>Help Received</b> None, I got the idea of using Bromine Water and Iodine to test for unsaturated fat in chicken eggs from a website that tested how much unsaturated fat is in oils.	