



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Francesca A. Damkar</b>	<b>Project Number</b> <b>S1799</b>
<b>Project Title</b> <b>The Effect of Magnets on Ripening of Strawberries</b>	
<b>Abstract</b> <b>Objectives/Goals</b> Query: Research has been conducted on the effect of magnetic influence on increasing vigor and germination of seeds. If this effect is observed on seeds, does it also occur on fruits with external seeds, such as strawberries? Objective of this project: To determine if strawberries would ripen faster when exposed to magnetic influence. <b>Methods/Materials</b> Methods: Methods for testing were based on exposure of unripened strawberries to magnetic influence, created through the use of round, 65 power magnets. Unripened strawberries were divided into four experimental groups[room temperature, room temperature with magnet, refrigerator, refrigerator with magnet]. Initial readings of sugar content on the Brix scale were taken. These four groups were then subjected to various conditions using variables of temperature, light, and magnetic influence. Strawberries were visually inspected daily for ripeness using the 2/3 red scale practiced by the California strawberry industry. The experiment ended when the control group [room temperature] reached full redness (average 4 days). Readings of sugar content on the Brix scale were taken again, compared and scored to determine the extent of ripeness. This experiment was replicated three times. <b>Results</b> Results: The results indicated that the strawberries exposed to room temperature, light and magnetic influence ripened more quickly than strawberries exposed to room temperature and light alone. Furthermore, the experiment showed that the strawberries which ripened most slowly were also exposed to magnetic influence, in refrigerated and darkened conditions. One unexpected result was that those strawberries exposed to magnetic influence were very firm, solid and had no mold or spoilage while the non-magnetic strawberries were very juicy but showed signs of mold or spoilage. <b>Conclusions/Discussion</b> Conclusions: Magnetic influence can affect the ripening process of strawberries, increasing ripening speed when also exposed to other controlled conditions of room temperature and light. Discussion: These results can have potential application in the harvest times for strawberries. Exposure to magnetic influence can help to ripen berries and potentially retard spoilage, producing berries suited for food processing or preservation. Non-exposure to magnetic influence produces juicer berries more suited for fresh consumption or juice extraction.	
<b>Summary Statement</b> Determine if strawberries will ripen at a more rapid rate if exposed to magnetic influence.	
<b>Help Received</b> Parents obtained some of the materials, my biology teacher helped me with the standard deviation /t-tests and Driscoll's, Inc. donated the strawberries used for the experiment.	