



**CALIFORNIA STATE SCIENCE FAIR  
2012 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jessica L. Flores</b>	<b>Project Number</b> <b>J1710</b>
<b>Project Title</b> <b>Nutrition and Its Effect on Horse Glucose Levels</b>	
<b>Abstract</b> <b>Objectives/Goals</b> This science fair project was done to learn more about the effect of nutrition on glucose levels of horses. The primary types of hay available are thought to have differing effects on a horses blood glucose. This experiment wanted to confirm the effect on the blood glucose and it also wanted to determine which type of hay would be best to feed if a horse had metabolic syndrome. <b>Methods/Materials</b> Methods: 4 horses were fed 3 different types (alfalfa hay, oat hay, and grass hay) of feed for 3 weeks. The type of hay was changed once per week, and after each week the horses glucose level was tested. To test the blood samples an at home glucose meter was used for the testing. One of the four horses was the control, and that horse stayed on grass hay the entire duration of the experiment. Materials: The materials for this experiment were alfalfa hay, grass hay, and oat hay. There was also the glucose meter, glucose strips, the hypodermic syringes, the cotton swabs, and the alcohol. <b>Results</b> The final result was that overall the alfalfa hay had the most effect on horse glucose levels, then oat hay, and lastly grass hay. This means that the grass hay would be best to feed a horse with metabolic syndrome. <b>Conclusions/Discussion</b> My results did support my hypothesis, showing that alfalfa hay had the greatest effect on the horses glucose level. This experiment increased my knowledge of the effect of nutrition on horse glucose levels. It also helped me understand how to feed a horse with metabolic syndrome.	
<b>Summary Statement</b> This project tests the effect of nutrition on horse glucose levels, and validates which hay would be best to feed a horse with metabolic syndrome.	
<b>Help Received</b> Assistance was received from Dr. Hanes (DVM). Dr. Hanes helped take the blood samples, and test them with the glucose meter.	