



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Jem H. Unger Hicks	Project Number 31587
Project Title The Question of Cattle	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My project will determine whether cattle grazing affects the ratio of native to nonnative plant species on the Santa Rosa Plateau.</p> <p>Methods/Materials</p> <p>Materials:</p> <ol style="list-style-type: none">1.Herd of cattle2.50 meter long measuring tape3.6 transects 1m x 50m each4.GPS system5.Clipboard, pen, and paper6.Native plants7.Nonnative plants <p>Method:</p> <ol style="list-style-type: none">1.Locate transect areas to study the three plant communities.2.Follow GPS to transect point. (metal post previously placed in ground by researchers)3.Locate adjacent post, and spread 50m tape between the two posts.4.Find first quad selected for study. Place yardstick on the tape at the number of the quad, and on the number subsequent to the first.5.Identify the native and nonnative plants in the quad, and count each plant species in the quad. Record data. Repeat three times in each plant community, in each control group area. <p>Results My results show that the cattle had different effects on different plant community transects. There was a #mixed review# in the individual transects, but overall the cattle had a positive effect on the ratio of native to nonnative plant species.</p> <p>Conclusions/Discussion My hypothesis was generally supported by my data, in that the cattle positively affected the ratio of native to nonnative plant species on the Santa Rosa Plateau. If you look in detail at the original transect graphs, you can see that there is a mixed outcome, in terms of the ratio of native to nonnative plant species. But by looking at the two general graphs, you can see that there is a bigger percentage of native plant species than nonnative in the grazed transects than in the not grazed.</p>	
Summary Statement My project determines whether cattle grazing affects the ratio of native to nonnative plant species on the Santa Rosa Plateau.	
Help Received Kay Madore (Volunteer Docent and plant expert at SRP) for helping me carry out all my experiments. Carole Bell (Reserve Manager at SRP) for getting my project started. Suzanne Unger (my mom) for helping me with all my graphing and calculations, and for helping me with my display board format.	