



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Helen N. Jones</b>	<b>Project Number</b> <b>S1306</b>
<b>Project Title</b> <b>Antibiotic Sensitivity</b>	
<b>Objectives/Goals</b> I want to find out which type of antibiotic will best treat the calves on the Mendiboure Ranch with scours. I am not at all sure about which antibiotic will successfully treat bacterial scours in the calves on the Mendiboure Ranch. I think that there will be differences in susceptibility to different antibiotics.	
<b>Abstract</b> <b>Methods/Materials</b> I used the following equipment: 3 small plastic bags, 3 small inoculation loops, 2 large inoculation loops, 3 fecal samples from scouring calves, 3 sterile swabs, 3 MacConkey/sheep blood agar plates, incubator, test tube with tryptic soy broth, BBL Enterotube II, Mueller-Hinton agar plate, and 8 different antibiotic discs.  a) collect fecal samples from scouring calves b) inoculate MacConkey/Sheep Blood Agar Plates c) incubate at 37 degrees Celsius for about 36 hours d) identify the bacteria e) inoculate Tryptic Soy Broth f) incubate at 37 degrees Celsius for about 24 hours g) inoculate Mueller-Hinton Agar and apply antibiotic discs h) incubate approximately 24 hours at 37 degrees Celsius i) check bacterial growth in areas surrounding antibiotic discs	
<b>Results</b> The bacteria was identified as E.coli. The bacteria was responsive to the antibiotics- Cefotaxime, Ampicillin, Levoquin, Augmentin, and Cefotaxime. And the bacteria was non-responsive to the antibiotics- Penicillin, Erythromycin, and Clindamycin.	
<b>Conclusions/Discussion</b> There were definite differences in the sensitivity of the bacteria to different antibiotics. Levoquin appears to be the best antibiotic to treat bacterial scours in calves on the Mendiboure Ranch. Many of our calves die each year due to the disease because the antibiotic we treat them with is not effective. Also the Mendiboure Ranch sells many of its cattle and they eventually go to slaughter. If cattle have been treated with many different types of antibiotic and people eat their meat those people have a high risk of not responding to the same types of antibiotics the cattle have been treated with if those people get sick. Now that I have found out which antibiotic will be most effective in calves sick with scours on the Mendiboure	
<b>Summary Statement</b> I did my project because if cattle have been treated with many different types of antibiotic and people eat their meat those people have a high risk of not responding to the same types of antibiotics the cattle have been treated with.	
<b>Help Received</b> Modoc Medical Center helped me by donating supplies and time to help me with this project; Cheryl Affonso helped me set up the board; My Mother helped me type some of my report.	