



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

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Project Title The Battle of Chlorhexdine vs. Betadine
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<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our objective in this project was to see which chemical scrub worked better to defeat bacteria from the bottom of a horses foot better. The reason we did this is because horses are constantly getting injured in their feet, so it is important to kill most of the bacteria in and around a horses injury so that it doesn't cause infection.</p> <p>Methods/Materials MATERIALS -three horses; -supervising veterinarian; -BD BBL stacker plates; -sterile swabs; -Betadine scrub (8% iodine concentrate); -Chlorhexdine scrub (2% Chlorhexdine concentrate); -hoof picks; -latex gloves; -towels; -timer. METHOD -spray down horses legs with water; -pick hoofs; -wipe all over hoof with clean towel; -scrub left front hoof with Betadine for one minute; -sterile swab around frog and place on petri dish in Z formation while held at 45 degree angle; -scrub right front hoof with Chlorhexdine for one minute; -swab and place on petri dish in same fashion; -swab left hind hoof (control) using no soap and apply to petri dish in same fashion.</p> <p>Results Joe's Betadine average total colonies between test one and two was 3,000. Chlorhexdine was 750. Control foot was 4,000. Pokie's Betadine total colonies between test one and two was 3,407. Chlorhexdine was 835. Control was 4,600. Otis' Betadine total colonies between test one and two was 2,200. Chlorhexdine was 910. Control foot was 3,700</p> <p>Conclusions/Discussion Our hypothesis was that Chlorhexdine would defeat more bacteria than Betadine, and our data supported this. We figured out which one would defeat the most bacteria scrubbing the bottom of the left and right front feet of the horse. We swabbed each foot after scrubbing and but the substances on the swab and then onto the petri dish, and observed the growth for five days. If there was something that we could do differently on this project, it would be to see if we got the same results with the petri dishes held at a different temperature. (Our mentor, Sheri Cronin, is switching from Betadine to Chlorhexdine because of what our results have shown!)</p>
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Summary Statement Defeating bacteria from the bottom of horses feet with different chemical scrubs.

Help Received Used lab equipment, under supervision, at office of veterinarian Sheri Cronin
