



Colorado Science and Engineering Fair

2024 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: Can Medicinal Plants Prevent Infection?

Finalist's Name: Serenity Westerfer

School and City: Liberty School, Joes Colorado

Sponsor's Name: Ms. Linda Fogale

Category: Micro & Molecular Biology (MCRO)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

The purpose of this project was to determine if aloe and or ginger could eliminate or prevent skin bacteria (Staphylococcus epidermidis) from growing or living. The hypothesis was that since aloe vera is known to help with healing wounds, then there will be less bacteria in the cultures that have aloe vera, and Ginger is known to eliminate bacteria. Therefore, the presence of ginger will not only prevent the growth of the bacteria, but also eliminate existing cultures.

This was tested by first inoculating the petri dish with the bacteria, Staphylococcus epidermidis. After that the three sterile disks were carefully placed into the petri dishes. Then, the petri dishes were incubated for twenty four hours and then forty eight hours. Afterwards there were pictures taken of the different petri dishes. The other test taken followed these steps. First, the bacteria was transferred into a tube, then it sat for twelve hours. Afterwards the sterile disks were placed into the tubes that already had bacteria in them, then stirred. After that the mixture was collected by a micropipette. Then the petri dishes were placed into the incubator. They sat for twelve more hours. Then there were pictures taken of the petri dishes.

The data collected shows that aloe and ginger are not able to prevent skin bacteria such as the one that was used, Staphylococcus epidermidis.

In conclusion, the results of this project would be very useful for someone wondering what not to use on a skin infection. By knowing that aloe and ginger are good for many things but not preventing or eliminating skin bacteria from a cut or burn. Using other medicinal plants on skin infections may help the bacteria clear up, sterilize, and clean the wound.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature: *Serenity Westerfer*

Date: *3/1/24*

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.