CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

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Project Number
S1603

Project Title
Healing the World One Shrimp at a Time

Abstract

Objectives/Goals
With the current wildfire and injuries caused to animals, there has been an increase interest for a suitable Band-Aid that can be used to facilitate would healing due to burns. The feasibility of using sterilized tilapia skin has been used to facilitate burnt paws on bears. Such medical treatment has facilitated the healing time. Sterilized tilapia skin is used because is bio-medically compatible if eaten by accident. Sterilized tilapia skin must be stitched onto the injured burnt paws of bear to facilitate healing [1]. The search for suitable replacement has led to polymerized chitosan as a suitable replacement since it is made from shrimp shell and claims to inhibit bacterial growth.

Methods/Materials
I. Polymerizing chitin.
II. Culturing and isolating bacteria for testing.
III. Testing polymerized chitosan on bacteria.

Results
Results are captured in the form of pictures taken with camera. Each pictuure has detail descriptions to what was collected and what is shown.

Conclusions/Discussion
We surmise that polymerized chitosan is effective in preventing bacteria from growing based on our results. Preliminary results would suggest polymerized chitosan is a viable replacement for tilapia skin to help facilitate healing. It would be interesting to see if adding chitosan to liquid medium instead of solid medium can also prevent microbial growth. Further development and testing is also needed to investigate the properties of polymerized chitosan on skin cuts\burns.

Summary Statement
Project intent is to develop a band-aid from shrimp shell that inhibits growth of bacteria.

Help Received
Louis Luu, our science advisor guided us to design a band-aid and test it using the scientific process.