



SAMPLE PROJECT DESCRIPTION

Proposal ID: Student name / school name
Proposal Title: **The Incredible Inhibiting *Myxobacteria***
Proposal Keywords: *myxobacteria*, exoenzymes, antibacterial disinfectants

Abstract:

Objective:

The purpose of this project was to investigate the bactericidal properties of *Myxobacteria* and to attempt to isolate the exoenzymes responsible for this characteristic.

Introduction:

..... The basis of this project revolved around organisms, which exhibit highly unusual characteristics when compared to more common bacteria. These organisms are the *Myxobacteria*. The 3rd Volume of Bergey's *Manual of Systematic Bacteriology* characterizes these organisms,

..... This investigation focused upon this last property. Many *Myxobacteria* are capable of producing extracellular enzymes which hydrolyze molecules including proteins, nucleic acids, fatty acid esters, and various polysaccharides. Therefore the enzyme produced could prove to be ideal for a wide variety of industrial and domestic applications such as anti-bacterial disinfectants,.....

Experimental Design:

..... The project was carried out in two stages that investigated the inhibitory properties of *Myxobacteria*. The first stage was accomplished by growing a species on dead or live cells of *Escherichia coli* using Singh plates. The second stage of this project isolated the specific exoenzyme that is responsible for the inhibitory properties of this organism.

Results and Interpretation:

..... When the enzyme was isolated, it was tested to determine its bactericidal effects and their potential use for...

Relevant Application:

..... This enzyme can be applied to many industrial and medical areas in terms of an antibacterial disinfectant, or in biotechnology as an inhibitor in selective or differential media.

APPENDICES

Materials and Methods:

- Explained in more details what he/she knew about the methods and techniques required for the proposed research work; what he/she did not know he/she would learn from the mentor
- Listed what the school had and what the student needed: chemicals; microorganisms; instruments and equipment

Timeline of project:

Submitted a timeline indicating when his/her work started, when he/she completed each stage of proposed work, and when he/she will begin their preparation for the BIOGENEIUS competition.

Mentorship support:

Listed the supervising teacher as a mentor or an external mentor in the field of microbiology.