**Citrus County Regional Science and Engineering Fair (RSEF)**

**Research Plan Template**

**Protocol Project – Potentially Hazardous Biological Agent (PBHA)**

Any student wanting to participate in the Citrus RSEF must read and follow the International Science & Engineering Fair(ISEF) Rules, the State Science & Engineering Fair (SSEF) of Florida Rules and the Citrus RSEF Rules. Read pages 15 – 18 in ISEF Rules and pages 3 and 5 in FL SSEF Supplement for specific PBHAs project requirements.

Middle school students are not allowed to a BSL-2 project. No PHBA projects can be completed at home.

All paperwork needs to be approved prior to any experimentation.

The entire process of the project should be documented in the student’s log-book – from the research of the topic to the experimental design/process to the conclusion and application.

Be sure to document all sources used to complete this plan. You will need it for the bibliography at the end.

**RATIONALE** (*Explain the reason you want to do this specific project. Include a brief synopsis of the background that supports why you choose this topic. Explain why this research is important scientifically and explain any societal impact and/or application of your research.)*

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**HYPOTHESIS or ENGINEERING GOAL** *(Prediction of your outcome -or- What you are building or improving. How is this based on the rationale described above?)* You only need to complete one of these.

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**PROCEDURE** *(Detail all procedures and experimental design including methods for data collection and all materials. All measurements should be in metric units. BE SPECIFIC ON EVERYTHING) Be sure to include appropriate microbiological technique.*

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**RISK & SAFETY** *(Explain every aspect of the experiment that could be classified as a risk. Explain the precautions you will take to minimize all risks and describe any possible required clean up methods.)* collection and aseptic techniques for media and cultures MUST be included in the Research Plan.

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**DISPOSAL OF PHBAs** *(Explanation of the collection, aseptic techniques and disposal method for media and cultures MUST be included in the research plan – acceptable methods of disposal are listed in the ISEF rules.)*

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**DATA ANALYSIS (***Describe the procedures you will use to analyze the data/results that answer research questions or hypothesis)*

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**DISCUSS OF RESULTS** *(What does the data need to illustrate to prove or dis-prove the hypothesis.)*

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**BIBLIOGRAPHY** *(List at least five (5) major references (e.g. science journal articles, books, internet sites) from your literature review -a reference to appropriate microbiological technique must be cited. Include the ISEF Rules and SSEF of Florida Supplemental Rules, for a total of 7 references. Citation style should be in APA or MLA)*

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