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| [Abstract](http://docs.google.com/abstract.html)  [Introduction](http://docs.google.com/intro.html)  [Hypothesis/Prediction](http://docs.google.com/hypo.html)  [Materials](http://docs.google.com/material.html)  [Protocol](http://docs.google.com/protocol.html)  [Literature Review](http://docs.google.com/lit.html)  [Data](http://docs.google.com/data.html)  [Statistical Analysis](http://docs.google.com/stats.html)  [Graphs](http://docs.google.com/graphs.html)  [Images](http://docs.google.com/images.html)  [Conclusion](http://docs.google.com/conc.html)  [Works Cited](http://docs.google.com/works.html)  [Recommendations](http://docs.google.com/recc.html)  [Acknowledgements](http://docs.google.com/ack.html)  [Biology Update-1](http://docs.google.com/updates.html)  [Home](http://docs.google.com/home.html) | **Biology Update #2**  Since Christina and I last reported we have both been doing a lot of research on our topics. However, since little has been studied in this field we are tending to read more on specifics on how we are attempting to carry out our project.  Currently we have decided to work with Ryegrass, a grass known for its durability as well as its rapid ability to grow. With deadlines trying to be met Christina and I needed a plant that would show results and yet grow in a short amount of time. We took a trip to the local nursery off Vineyard and was lucky enough to run into a past biology teacher now specializing in horticulture. Through our long talk with him we established that Ryegrass was the most appropriate plant and more specifically grass to grow and experiment with. Our research has proven his statement true. Ryegrass as long as it is provided with proper nutrients to grow will maintain a long growing season even under unfavorable environments. Ryegrass also germinates in five to ten days making it easier to grow different generations and study the results. The conditions necessary for Ryegrass to grow can be natural to a habitat. Although, Ryegrass is water loving the California drought periods would have to be met with a certain amount of irrigation watering to keep the plants healthy.  When we started our project we wanted to make sure we has the same items for every group whether it was control or experimental. We went to Home Depot to purchase a Ryegrass mixture and plastic trays. The trays were convenient because there was eighteen medium sized compartments on one tray and the tray underneath could hold the water to ensure nothing would drain out. After we determined that it was necessary to make a complete system like a biodome we decided to make a trip to ACE hardware there we purchase thin plastic tarps to serve as mini greenhouses and self watering systems. We also purchased two outdoor thermometers to be placed in the two different control trays as they were growing so we could monitor the temperatures that the Ryegrass was growing. The idea of keeping track of what items we bought where seems crazy but also important as we want the same item for every growing experiment and this method better assures the fact that we will purchase the same items.  The first week of break I gathered all the bought items and began designing the control group. The idea was to monitor how rapidly the control group grew in the conditions presented as well as to see how tall the grass stem was and how long and complex the root system was. That way when our experimental group was subjected to harsh water conditions, or contaminants we could evaluate the grasses ability to tolerate or not tolerate. As well as see how many generations it would take to restore the experimental group to the same growing time as well as plant structure as the control group.  When I finally made the control group these are the procedures I followed to ensure that future experiments would be designed the same way.  1. One black eighteen compartment flat  2. Take each one of the eighteen small compartments and fill them halfway with purchased topsoil  3. Spread 1/4 teaspoon of Ryegrass seed evenly over every compartment  4. Fill each compartment up with the remaining half of the topsoil  5. Fill each compartment with a 100ml of regular tap water (Control) or Correct concentration of contaminated water  6. Place a outdoor thermometer on the side of the flat  7. Place the flat in plastic covering and properly securing at the top to ensure no water leakage.  8. Tie top of ribbon to an item above so the seeds in every compartment have room to grow  9. Place completed product on the cement facing direct sunlight  10. Measure the temperature three times daily Morning, Noon, and Night to evaluate the temperature at which the plant is growing.  Thus far there has been no sprouting from the seeds so we are giving it a few more days. If we don't see any sprouts then we are interested in starting over but this time growing them in the greenhouse to ensure better temperature accuracy. We are still having some trouble on how to reach a plantation or refinery to receive water that is contaminated enough with the right contaminate that we can do our experimental. If you have any ideas on how to contact someone or how to go about getting help, we are open to suggestions. |