***The Effects of Microgravity and Light Wavelength***

***on plant growth in an Ardulab***

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| Item | Pros | | Cons |
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| Growing medium | Plant gel- Easier to manage, holds water, clear | | Plant gel- Might not hold seeds and water as well as we hope |
|  | Rockwool should hold water well | | Rockwool may not have enough volume for our seeds, does the volume change when waters? |
|  | Cheese cloth- Cheesecloth doesn’t require much water  Four seeds to make sure the plant grows  Cheesecloth is light, takes very little space, inexpensive, and has no chemicals | | Not sure how to secure Cheesecloth |
| Light System A- # of blue/red different  Light system B- Intensity different  Light system C- # of hours the red/ blue on different | Easy to control, good for plants  The plant won’t burn with two lights  The plant will get the same amount of light as on earth | | Takes up to much space, intensity being different  Not a big enough difference |
| Grid system for measuring | We can measure the growth easily with the grid system  May be an accurate measurement | | Might be very hard to measure, alignment might be off |
| Watering system | Will know that water will be available to plants  We won’t have to have two pipettes because both sides share the cheesecloth | Hard to contain and release water, too much space  Can’t tell when the plants need to be watered  How will we let our watering system know when and how much water to release  May not be able to provide enough water  May be difficult to find the right sensor  More plants that we have to water  Watering system has to be triple-contained  Mechanics of the watering system could be complicated | |
| Dividing the Ardulab | Will keep the light fro | The light might leak into the other section  -Not a big enough difference | |
| Number of seeds |  | Crowding of plants might block the light  The plant roots might grow together | |