**Intraspecific and Interspecific competition**

I. Purpose: Through this lab we will explore intraspecific competition (competition within a species) and interspecific competition (competition between different species)

II. Safety:

* Do not eat the plants
* Clean up after the lab

III. Materials

* 2 seedling six cell packs
* Potting soil
* Tape
* Marker
* Radish Seeds
* Turnip Seeds
* Water
* Grow lights

IV. Procedure:

1. Procedure A “Intraspecific Competition”
2. Fill six cells of a nine cell seedling pack ¾ of the way full with soil
3. Label sides of each cell with tape, numbered 1 -6
4. Place 1 Radish seed in the first cell
5. Place 10 Radish seeds in the second cell
6. Place 20 Radish seeds in the third cell
7. Place 1 Turnip seed in the fourth cell
8. Place 10 Turnip seeds in the fifth cell
9. Place 20 Turnip seeds in the sixth cell
10. Cover with a thin layer of soil
11. Place on grow shelves
12. Water each cell with 3 mL of water every day
13. Record average height of seedlings each day of class
14. Procedure B “Interspecific Competiton”
15. Fill three cells of another nine cell seedling pack ¾ of the way full with soil
16. Label cells 1 – 3 with tape on side of cell
17. Place 1 radish and 1 turnip seed in the first cell
18. Place 10 radish and 10 turnip seeds in the second cell
19. Place 20 radish seeds and 20 turnip seeds 2 in the third cell
20. Cover with a thin layer of soil
21. Place on grow shelves
22. Water each cell with 3 mL of water every day
23. Record average height of seedlings each day of class

V. Data

1. Procedure A

Record average height of seedlings in mm

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cell | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |

1. Procedure B

Record average height of seedlings in mm

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cell/species | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
| Cell 1, species 1 |  |  |  |  |  |
| Cell 1, species 2 |  |  |  |  |  |
| Cell 2, species 1 |  |  |  |  |  |
| Cell 2, species 2 |  |  |  |  |  |
| Cell 3, species 1 |  |  |  |  |  |
| Cell 3, species 2 |  |  |  |  |  |

Results: Create a graph(s) of your data.

VI. Conclusion

Answer the following

1. What happened to the height of plants as competition increased?
2. Which plant showed LESS intraspecific competition?
3. In Procedure B, which species showed it was better suited to interspecific competition?
4. What variables weren’t acknowledged with this experiment in regards to plant growth?