

# SALINIZATION LAB

## How Does Salinity Affect the Growth of Plants? An Experiment

**Research Question:** Does salt water affect plant growth?

**Materials:**

- seed packet (9-15 seeds)
- 3 plastic containers
- 3 peat pellets
- 3 - 20 oz plastic bottles with caps
- Permanent pens to label with
- Table salt
- $\frac{1}{4}$  teaspoon,  $\frac{1}{2}$  teaspoon,  $\frac{1}{4}$  cup measures
- Ruler with mm markings

**Procedure:**

**Day 1: Preparing the peat pellets**

- 1) Label each bottle as follows “no salt”, “ $\frac{1}{4}$  tsp salt”, and “ $\frac{1}{2}$  tsp salt”. Fill each bottle almost to the top with *warm* (but not hot) water. Add  $\frac{1}{4}$  teaspoon of salt to the “ $\frac{1}{4}$  tsp salt” bottle, then close the cap tightly and shake to combine the salt with the water. Add  $\frac{1}{2}$  teaspoon of salt to the “ $\frac{1}{2}$  tsp salt” bottle, then cap and shake to combine. Leave the “no salt” bottle of water without salt.
- 2) Prepare 3 containers by labeling each (no salt,  $\frac{1}{4}$  tsp. salt,  $\frac{1}{2}$  tsp. salt). Set one peat pellet in each container.
- 3) Add  $\frac{1}{4}$  cup of the corresponding water (from your bottles) to the bottom of the container. DO NOT POUR DIRECTLY ON TO PEAT PELLET. The peat pellets will *slowly* absorb the water.
- 4) Put the container away in a non-sunny location until tomorrow.
- 5) Close your bottles and keep in a non-sunny location. You will use this water to water your plants for the duration of the experiment.
- 6) Tomorrow the peat pellets will have soaked up the water and be about 1 inch tall.

**Day 2: Planting the seeds**

- 7) Pull away the fine netting to expose the top of the pellet. Separate seeds into three equal parts- you will plant the same number of seeds in each pellet.
- 8) Use a pencil to poke holes for the seeds in the top of the peat pellets- the holes should be deep enough for the seed to fit.
- 9) Push the seeds into the holes.
- 10) Use your fingers to cover the seeds with the surrounding peat.
- 11) Place the containers (with peat pellets in them) in a sunny location. Be sure all containers get equal light and heat.
- 12) Water your containers twice a week when your teacher tells you. Add  $\frac{1}{4}$  cup of the corresponding water (from your bottles) to the bottom of the container. It is important that all plants be given equal amounts of water!
- 13) Record plant growth twice a week and record your findings in the table. Be sure to include the extra measurement your group decided to use.

