

Names _____ Per ____

Seed Germination Lab

Background: Germination is the process by which a seed sprouts and grows into a plant. Oat Grass seeds generally germinate in about 5 days when planted under ideal conditions. They only exhibit primary growth, meaning they grow for one season and then die. Table salt is mostly sodium chloride, but depending on where and how it was harvested, may also contain small amounts of potassium chloride and magnesium chloride. Similarly, road salt is mostly sodium chloride, but is mixed together with calcium chloride, potassium chloride, urea, sodium acetate, and ammonium nitrate. Two of these ingredients, urea and ammonium nitrate, are frequently used in manufacturing inorganic fertilizer.

Objective: Working in groups of two to three, compare germination time of oat grass seeds under different salt conditions.

Procedure

1. Obtain three plastic cups.
2. Label all the cups with your names.
3. On the inside rim, label one cup "Control," another "TS," and the third "RS."
4. To the control cup, add 30 mL of tap water, 5 seeds, and 0.13 grams of polyacrylamide crystals.
5. To the TS cup, add 30 mL of table salt water, 5 seeds, and 0.13 grams of polyacrylamide crystals.
6. To the RS cup, add 30 mL of road salt water, 5 seeds, and 0.13 grams of polyacrylamide crystals.
7. Place your cups in the designated area on the grow light cart and answer the "Setup Questions" below.

Setup Questions (aka Hypotheses)

How does road salt compare to table salt? _____

What do you think will happen to the grass seeds? _____

Will there be a difference between the seeds exposed to road salt vs. the seeds exposed to table salt? Why do you think so? _____

Now, we wait. Leave your papers in the classroom and record data on the other side.

Data

Date	Germination / Plant Size			Notes
	Control	RS	TS	
5/3	None	None	None	Initial setup of seeds
5/4				
5/5				
5/8				
5/9				
5/10				
5/11				
5/12				
5/15				

What do the plants look like after 12 days? _____

Do the results support your hypotheses? How so? _____

What do the results suggest to you about the use of salt on roads and driveways?

What is one thing that could make this experiment better or more reliable?
