

Sexual Propagation Labs

A seed's hard outer coat makes it impervious to gases and moisture that would cause them to germinate. To overcome this you need to scratch, break or nick the seed coat. In nature this naturally occurs when seeds pass through the digestive tract of some animals, through freezing temperatures or microbial activities that break down the seed coat.

This exercise you will evaluate scarification techniques and their effect on germination percentages.

1. Select 6 seeds for each of the treatments below
 - a. Treatment 1 – Control, no scarification or high temperature
 - b. Treatment 2 – Seeds soaked in hot water with no treatment
 - c. Treatment 3 – Mechanical scarification without high temperatures
 - d. Treatment 4 – Mechanical scarification soaked in hot water
2. Steps for treatment 1
 - a. Obtain a cell/6 pack and label it 1
 - b. Fill the cell pack with damp soil
 - c. Using your finger or a pencil, dig a small hole for your seed (no more than two times the size of the seed)
 - d. Place 1 seed in each hole
 - e. Keep soil damp for 7-10 days
3. Steps for treatment 2
 - a. Using a small crockpot, place your 6 seeds directly on the bottom of the crockpot (it is best to put them to one side if you will be using the same crockpot for treatment 4 seeds).
 - b. Pour water into the crockpot until your seeds are covered
 - c. Turn on high for 12 hours
 - d. Remove seeds from crockpot and obtain a cell/6 pack and label it 2
 - e. Fill the cell pack with damp soil
 - f. Using your finger or a pencil, dig a small hole for your seed (no more than two times the size of the seed)
 - g. Place 1 seed in each hole
 - h. Keep soil damp for 7-10 days
4. Steps for treatment 3
 - a. Using a nail file or sandpaper, scratch at the surface of your seeds.
 - b. Use different techniques for each of your seeds – scratch the surface of both sides vs only one side, only scratch the surface until you see color change vs deeply scratching the surface, etc
 - c. Obtain a cell/6 pack and label it 3
 - d. Fill the cell pack with damp soil
 - e. Using your finger or a pencil, dig a small hole for your seed (no more than two times the size of the seed)
 - f. Place 1 seed in each hole
 - g. Keep soil damp for 7-10 days

This is a free resource provided by Georgia Agricultural Education
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5. Steps for Treatment 4

- a. Using a nail file or sandpaper, scratch at the surface of your seeds.
 - b. Use different techniques for each of your seeds – scratch the surface of both sides vs only one side, only scratch the surface until you see color change vs deeply scratching the surface, etc
 - c. Using a small crockpot, place your 6 seeds directly on the bottom of the crockpot (it is best to put them to one side if you will be using the same crockpot for treatment 4 seeds).
 - d. Pour water into the crockpot until your seeds are covered
 - e. Turn on high for 12 hours
 - f. Remove seeds from crockpot and obtain a cell/6 pack and label it 4
 - g. Fill the cell pack with damp soil
 - h. Using your finger or a pencil, dig a small hole for your seed (no more than two times the size of the seed)
 - i. Place 1 seed in each hole
 - j. Keep soil damp for 7-10 days
6. After 7 – 10 days, dig each of your seeds out of the your 4 containers. Being careful not to get them mixed up. Record your findings are you remove them from your containers on the chart below.

	Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	Seed 6
Treatment 1						
Treatment 2						
Treatment 3						
Treatment 4						