

Strawberry DNA Extractions

Goal: Perform a DNA extraction from the common strawberry

Materials:

- Strawberries
- Salt
- Dish soap
- Isopropanol (rubbing alcohol)
- Coffee filter
- Plastic cups
- Plastic spoons
- Plastic bag (ziploc)
- Coffee filter
- Wooden stir stick



Questions to think about while running the experiment:

Why did we choose strawberries to extract DNA from?

Why do you think we add dish soap in the DNA extraction mixture?

Why do you think we add salt to the DNA extraction mixture?

Procedure:

Step 1: Remove the green stem from your strawberry. Place the strawberry into your plastic ziploc bag and remove all the air from the bag and seal it. Smash the strawberry using your hands for approximately 2 minutes.

Step 2: Make your DNA extraction mixture. Add ½ cup of water into a plastic cup. Add 2 spoons of dish soap and 1 spoon of salt.

Step 3: Add 2 spoons of the DNA extraction mixture to your plastic ziploc bag with smashed strawberries. Close the bag and mix up the mixture for 1 minute.

Step 4: Now we need to filter the mixture. Place a coffee filter over a new plastic cup. Carefully pour your strawberry mixture into the coffee filter. You can squeeze the mixture in the coffee filter to speed this up.

Step 5: Add isopropanol to the filtered mixture. The instructors will do this for you. Isopropanol will help precipitate the DNA. This means separating the DNA out of the solution.

Think about water and oil. Oil is not soluble in water so they separate when combined. DNA is not soluble in isopropanol which is why it separates out!

Step 6: Tilt the plastic cup carefully and use the wooden stir stick to pull out the DNA. It should be white and stringy on top of the strawberry solution.