Per- and Polyfluoroalkyl Substances (PFAS) Uptake in Plants

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The problem addressed was does per- and polyfluoroalkyl substances (PFAS) affect the amount of Chlorophyll in lettuce. If 15mLof PFAS is added to plant, the plant will have a lower percent absorbance compared to the 10 mL solution, 5mL solution, and control solution. If no PFAS solution is added to the plant, the plant will have the highest percent absorbance, compared to the 15ml solution, 10ml solution, and 5ml solution. My procedure was as follows. Grow lettuce and introduce PFAS Chemical. Water for one more week. Put on lab coat, gloves, and safety glasses. Conduct experiment in well ventilated area. Label Eppendorf tube and cuvettes. Added frozen plant tissue to Eppendorf tubes and mash tissues with glass stirring rod. Using pipette, add 1.0mL DMSO to each Eppendorf tube. Shake for 2 minutes each. Place the 4 tubes in centrifuge and run. Using pipette, extract any liquid above tissue and transfer to matching cuvettes clean tip, add again 1.0mL DMSO to each Eppendorf tube. Shake for 2 minutes each. Place 4 tubes in centrifuge. Using pipette, extract any liquid and transfer to the matching cuvettes. Add 2mL pure DMSO to additional cuvette to use for calibrating colorimeter. Calibrate colorimeter at 0 absorbance using the black cuvette with 2.0 pure DMSO. Measure absorbance of the blank and the samples at 635 nm. Record percent absorbance shown on the colorimeter for the blank and the samples. The results disproved the hypothesis. The 15mL had the highest percent absorbance and 10mL lower percent absorbance.

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