

Erin Burkey

*The Gold Rush: The Effect of Soil Types on the Growth of Wheat*

The researcher's purpose of her project was to determine which soil type will help in the growth, root length, photosynthesis rates, and respiration rates of wheat. The types tested were potting soil, organic soil, backyard soil, and growth through hydroponics. For the researchers procedure of regular plants she placed one wheat seed into a wet Rockwell cube. Then she put the cubes in a plastic bag and allowed them to germinate in. Then she watered the cubes with water until germination was complete. For regular soil, she poked holes in the bottom if 30 cups. Next she filled the cups with soil and dug a hole for the seed. After that, she dropped one seed into each hole. Next she watered the plants with 20 mL of water as needed. Upon completion of growth, the researcher conducted her tests. Looking at the data, it appears that the backyard soil was the best in terms of height, roots, photosynthesis, and respiration rates. The average height of the backyard soil was 18.1 cm. Average root length was 6.1 cm. Backyard soil also had the highest respiration rate with 4.224 ppm/s and the second highest photosynthesis rate. The next best soil determined by the data was potting soil. It had the second highest height of 17.7 cm, the second best respiration rate with 0.3578 ppm/s. The third best soil was organic with an average height of 12.8 cm and root length of 3.25 cm. The group doing the worst overall was the hydroponic group with an average height of 8.25 cm and root length of 1.41 cm.