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*Does Hydroponics, Aquaponics, or Potting Soil Affect Plant Growth?*

The purpose of this experiment was to find out if planting soil, aquaponics, or hydroponics has a greater effect on the growth of plants. I hypothesized that if a tomato plant, kale, and cilantro is grown using aquaponics, then it will have a more productive growth rate because, the fish within this unique system supply nutrients to the plants creating a recirculating system, rather than using chemical nutrients to allow plants to grow productively.

The experiment involved setting up three different systems, including aquaponics, hydroponics, and planting soil. On top of each of three 10-gallon bins, two of which were full of water either containing koi or hydroponic solutions, were six black planting pots containing one of each of three types of plants. Each were labeled A, B, C, D, E, or F. At first, the tomato starts measured 2 centimeters tall, the cilantro starts one centimeter tall, and the kale began as a seed. After every week I measured and recorded the height of each plant.

The data collected did support my hypothesis. The six plants grown using aquaponics grew to be an average of 7.6 centimeters, the six grown using hydroponics an average of 6.6 centimeters, and the remaining six grown using planting soil grew an average of 7.5 centimeters.

These findings lead me to believe that if you grow plants while using aquaponics, they will grow at an accelerated rate. Therefore the method of growing plants using hydroponics and planting soil has proved to be less effective.