

**XGreater San Diego Science and Engineering Fair  
2015 PROJECT SUMMARY**

**Name: Richa Singh**

**Grade: 7**

**School: Marshall Middle School**

**Teacher: E. Gillum**

**Project Title:**

Plants: What is the Fastest Way to Grow?

**Abstract**

**Objectives/Goals**

The objective of this project was to find a faster way to grow tomato plants.

**Hypothesis**

The hypothesis for this project is that the plants grown hydroponically with the magnets will grow one centimeter more than the plants in soil with magnets. It is hypothesized that the plants grown hydroponically will grow two centimeters more than the plants grown in soil. It is also hypothesized that all of the regular seeds and seeds from outer space, that are growing in the same category, will reach the same height.

**Methods/Materials**

The Wick Hydroponic System was used as the hydroponic system that the tomato seeds grew in. It was comprised of a reservoir of water, cotton rope, and the cup, which the tomato seeds grew in. The extra magnetic influence was created with two magnets connected together at the bottom of the cup in which the seeds grow. A hole was put in the bottom of every cup that the seeds grew in so that excess water could leak out.

**Results**

The seeds grown in the hydroponic systems with magnets seemed to grow the fastest and healthiest. Three of the tomato seeds from outer space started to get yellow at the edges of their leaves at around the third day. Two of them were in soil with magnets and the other one was in soil. The seeds, regular and from outer space, in just soil grew the slowest out of all the plants, but there were fewer cups that didn't have anything growing in them.

**Conclusions/Discussion**

Part of the hypothesis was close to correct when it stated that the seeds in the hydroponic systems would grow one centimeter more than the ones in the soil with magnets. The difference in the averages of the two categories was 0.8 centimeters. The hypothesis was wrong when it stated that the seeds in the hydroponic systems would grow two centimeters more than the seeds grown in soil. The difference in the averages was 1.2 centimeters. The last part of the hypothesis was pretty much right. The averages are very close, the differences being around 0.7-1.2 centimeters.

**Summary Statement**

Plants can take too long to grow in soil and can consume too much water, so this project helps solve that problem.

**Help Received**

Teacher provided seeds from outer space and edit papers; Parents provided other materials; Mentor provided information on growing plants in soil.