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Project Title: Does long-term exposure to electronics destroy or damage plant cells?

Abstract

Objectives/Goals

The objective is to find out if Cangreen Thorogreen Lima Bean plants are affected negatively when exposed to the radiation of microwaves, TVs, and cellphones in one trial lasting 90 days.

Hypothesis

The hypothesis for this experiment as it relates to the number of plant leaves produced, and the overall height/length of test plants based on long term exposure is as follows:

1. cell phones will result in having a lower the number of leaves and shorter height/length of the plants by 45% as compared to the controlled plants with no exposure.
2. microwaves will result in a reduction of plants leaves/height/length by 25%
3. TVs will result in a reduction of plants leaves/height/length by 30%

Methods/Materials

100 seeds, pots, saucers were used in the experiment. Essentials, such as water, soil were also needed. Methods used included using the Narda SRM-3006 radiation measuring equipment, writing data and analysis' down. A microwave, TV, cellphone, and microscope were the electronics needed along with a notebook to write down data.

Results

The results proved to be inconclusive due to the many weather and bug problems. Although effects of radiation were evident in the first 45 days, it wasn't afterwards. The TV plants started dying first because of radiation, then the microwave ones. Most of the control group died by the end of the growth period.

Conclusions/Discussion

The data suggested that the TV plants were more harmful than the others at the beginning, but it was proven inconclusive in the end. Many bugs started eating the plants, and they were hole-ridden. From the middle of November, to December, the Weather dropped drastically, and in the last 10 days of the test period, most of the plants started to die. The height and the number of leaves was also affected. Most of the leaves would fall off the plants, and the heights shortened because of the bugs. The hypothesis was not supported by the results. More than 50% of the microwave plants died, when the hypothesis predicted that 25% of them would be affected. The cellphone plants were estimated to be 45% worse than the control group, but actually were better.

Summary Statement

This experiment was done to see if long-term exposure to electronic exposure would affect people's health.

Help Received

Mrs. Gillum helped with papers and guiding the process. Dad and Mom helped set up, buy essentials. My sister also helped with putting the plants outside and inside. Mr. Cang Nguyen lent the Narda SRM-3006 device from Qualcomm and gave advice, Mr. John Forrester gave some statistics, and Mr. Ruel Ballesteros took pictures of plant cells under microscope at the Qualcomm factory.