

Kalten Mattics

Effect on Plant Growth from Gravity, Electricity and Color of Light

My purpose was to see if 1) the roots and shoots of plants follow gravity, 2) if different amounts of electricity in the soil affect a plant's growth and 3) if different colors of light affect a plant's growth.

I planted corn seed in cups plus an ivy plant. For the effect of gravity on a corn plant up about an inch, I turned it on its side in a black bag and left it for a week. For electricity I hooked 9 volt batteries to wires across the plant soil. For color of light I covered ivy leaves with red, blue, yellow, green and black plastic filters.

The roots turned down to follow gravity and the shoots turned up away from gravity. Electricity in the soil for parts of the day helped plant growth. Electricity all day hurts plants. Red and blue light let the leaves grow normally. Yellow and green light caused the leaves to wilt. Black plastic filters caused the leaves to die.

My hypotheses were supported. By Gravitropism, most plants grow roots down towards gravity and shoots up away, even in the dark. A little bit of electricity in the soil for a part of the day stimulates the plant cells to grow better by adding to the electrical activity already there, but too much hurts growth. Sunlight and the red or blue parts all grow plants according to the photosynthesis process, yellow and green light do not as they are reflected by the green Chlorophyll.