Science Project For Biology Essay, Research Paper

“Science Project Final Paper”

Title:

“Breaking Down Growth” (reserve the right to change)

Topic:

Biology (hypotonics)

Purpose:

To see whether added chemicals (nutrients) help to speed up seed

germination.

Hypothesis:

I feel that there are/should be certain things that could be added to

an “unknown” plant to stimulate its growth.

I will be trying to add different amounts and kinds of fertilizers to

several different temperatures. If this experiment is successful, than we

should be able to tell which fertilizers/ nutrients/ stimulants to add to plants

to speed up growth.

Materials:

The materials that I will be using (at least most of them) are listed

below. As you will see I have decided to use different types of plants/ seeds.

- 5 beans (kidney, pinto, etc.)

- at least 1-1 pint jar

- distilled water

- refrigerator

- several liquid plant fertilizers (5-10-15)

- 1- gallon plastic milk/ water jug

- any kind of felt marking pen masking tape

- paper towels

- 2+ straight sided drinking glasses

- 2+ sheets of black construction paper

- stapler

(The materials listed are for the experiment itself. I reserve the right to add

other materials as needed as I go along, which will be noted.)

Control/ Variable:

-The controlled experiment shall be 1 or several plants grown without

fertilizer/ stimulation.

– The variable in this experiment shall be the many plants grown with

fertilizer/ stimulation.

Sources Used So Far:

– A+ Book of Biology for Science Fairs

– Microsoft Encarta “CD” Encyclopedia

– Microsoft Bookshelf “CD” Encyclopedia

– World Book 1994 Edition

– World Wide Web (Internet)——–(magazine articles, notations, etc.)

Design:

The design of my setup will be basically many plants. What I will be

doing is waiting for half of the plants I grow to be about 1 inch high. Then to

half of those I will add a stimulant and let that whole half batch sit. Then I

will take the other beans, plant them then add the stimulant right away. Then

I will let that half batch sit. I will do this a few times with different stimulants

to see which one works the best and at which rate. The bean plants will not

be planted in soil for the fact that soil might provide excess stimulants which

will make the percentage of error greater than it needs to be.

Steps in experiment

So far:

- take 4 beans and plant them each in a piece of the construction paper

- take 2-3 more beans and plant them each in a piece of the construction

paper

- immediately take the set with 2 or 3 bean plants and add stimulant(s)

- wait until the set with 4 beans grows to be about 1 inch

- then divide the 4 plants in half so they become two groups of two plants

- then add stimulant(s) to one set of two and put them both in a growing

environment

-Repeat this process a couple of times with different stimulants-

Data Tables Logged So Far:

A B C

A= Stimulant #1

B= Stimulant #2

C= Stimulant #3

-There will be more data tables to come with up to date information. They

could just not be printed up.-

Things done so far:

– 1 set of plants have been planted using stimulant #1

– they have already been divided and grown to their one inch

– I have added the stimulant to the plants that have grown to 1 inch

and they are set aside with the plants that have grown 1 inch and have no

stimulant added to them.

– the plants that had started out with stimulant already added to them

are growing very well and are at a remarkable height already

Things to be Done Within a few Days:

– plant two more batches of beans with stimulants #2 and #3

– record more data and draw up a few more data tables

– record more measurements and draw diagrams

– gather all information and get ready to create a display board

– etc…