

Observation of green bean growth with different medium and different amount of sunlight.

Sekolah Cikal  
MYP Year 7  
Science Project



By :  
Irvena Ayunya Dewanto

Jakarta, Indonesia  
2012

## CONTENT PAGE

Preface.....	2
Introduction.....	3
Method.....	3
Hypothesis.....	3
Data.....	4
Results.....	8
Conclusion.....	8
References.....	9

## PREFACE

Special thanks to Ms. Dewi for helping us and teaching us about the growth of green beans, characteristics of the plants and many other things. Thanks to Agi, for giving me the cups for my experiment, thanks to Alaia for giving me the cottons and thanks to Irfan for the soil. This term we have learned many things about plants, the characteristics of plants, so before this green bean experiment, we did an observation. We observed the characteristics of plants, human and animals. Then we have to figure out the same characteristics between those three; animals, plants and human. Then we were divided into two groups, we have to make a slideshow about living things, such as plants and animals. From there, we started to experiment with green beans. I feel happy doing this experiment, because from this experiment I can observe the growth of green beans and the factors that made it grow faster. There are many steps that we have to go through when doing this experiment/observation, we have to collect the materials and every day, we have to measure the plant to see its growth. How many centimeters have the plant grow, and in the end we have to make a conclusion.

## Introduction / purpose

The purpose of this experiment is to know more about the influences or the factors that made the plant grow faster. Besides that, we can learn many other things about plants too. I am interested in this project because I have never done these kinds of projects before. Observing plants, their growth and the factors that influenced the plants to grow faster, at the beginning of this project, I questioned myself what factors made the plant grow faster how did they grow faster and which plant would grow faster. Is it the plants in the direct sunlight or the plants in the indirect sunlight? Which plant would grow faster, the one in the cotton or the one in the alluvial soil? And now I founded the answers to all my questions in the beginning of this project.

## Hypothesis:

My hypothesis before I did the experiment is that the green beans would grow faster with the direct sunlight. Because plants needed sunlight for them to do the photosynthesis process and they needed sunlight as one of the nutrients that help them to grow.

## Method:

- Green beans
- Four empty cups for the pots
- Cotton
- Alluvial Soil
- Water

Data :

Cup A (Direct Sunlight)

Date :	Bean 1	Bean 2	Bean 3	Bean 4	Bean 5
20 March 2012	-	-	-	-	-
21 March 2012	0,7 cm	0,5 cm	0,6 cm	0,6 cm	0,5 cm
22 March 2012	1,4 cm	1,3 cm	0,9 cm	1,8 cm	0,6 cm
23 March 2012	3.2 cm	2.3 cm	2.5 cm	1.8 cm	0.8 cm
24 March 2012	7 cm	2.9 cm	5.5 cm	Missing	0.8 cm
25 March 2012	15.4 cm (width Included)	16 cm (width Included)	4 cm	-	0.9 cm
26 March 2012	18.5 (width Included)	20.5(width Included)	4.5 cm		0.9 cm

Data :

Cup B

Date :	Bean 1	Bean 2	Bean 3	Bean 4	Bean 5
20 March 2012					
21 March 2012	-	-	-	-	-
22 March 2012	0,6 cm	0,5 cm	0,5 cm	0,6 cm	0,5 cm
23 March 2012	2 cm	0.7 cm	1 cm	1.7 cm	0.7 cm
24 March 2012	3.5 cm	1.5 cm	1.2 cm	2 cm	0.9
25 March 2012	10.5 cm	0.9 cm	1.1 cm	2 cm	1.1 cm
26 March 2012	10.5 cm(width Included)	1 cm	1.3 cm	Missing	1 cm

Data :

Cup C

Date :	Bean 1	Bean 2	Bean 3	Bean 4	Bean 5
--------	--------	--------	--------	--------	--------

20 March 2012					
21 March 2012	0,6 cm	0,5 cm	0,6 cm	0,6 cm	0,6 cm
22 March 2012	0,6 cm	0,5 cm	0,6 cm	0,6 cm	0,6 cm
23 March 2012	0.8 cm	1 cm	0.7 cm	0.6 cm	0.8 cm
24 March 2012	0.7 cm	1.5 cm	0.7 cm	0.7 cm	0.8 cm
25 March 2012	0.7 cm	9 cm	0.7 cm	0.7 cm	1 cm
26 March 2012	0.7 cm	13 cm	0.7 cm	0.6 cm	0.9 cm

Data :

Cup D (Direct Sunlight)

Date :	Bean 1	Bean 2	Bean 3	Bean 4	Bean 5
20 March 2012					
21 March 2012	0,9 cm	0,6 cm	0,7 cm	0,8 cm	0,8 cm
22 March 2012	1,3 cm	0,8 cm	1,5 cm	2 cm	1,6 cm
23 March 2012	1.5 cm	0.8 cm	1.6 cm	2.5 m	1.7 cm
24 March 2012	1.5 cm	1 cm	1.4 cm	1.3 cm	0.7 cm
25 March 2012	1 cm	1.1 cm	0.8 cm	0.9 cm	0.8 cm
26 March 2012	0.7 cm	0.7 cm	0.8 cm	0.9 cm	0.8 cm

March 21, 2012





March 22, 2012

Cup A :

Cup B :



Cup C :

Cup D :



March 23, 2012

Cup A :

Cup B :



Cup C :

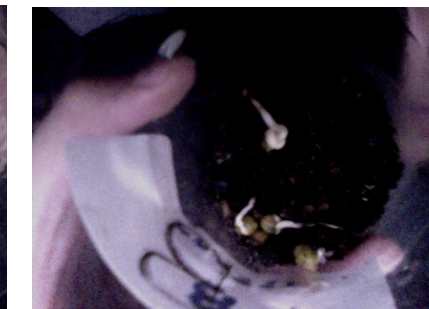
Cup D :



March 24, 2012

Cup A :

Cup B :



Cup C :

Cup D :



March 25, 2012

Cup A :

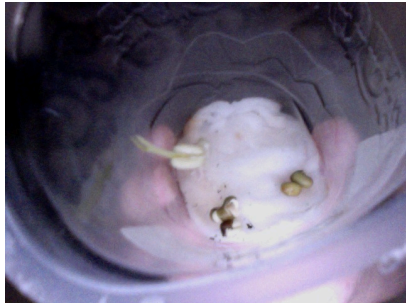
Cup B :





Cup C:

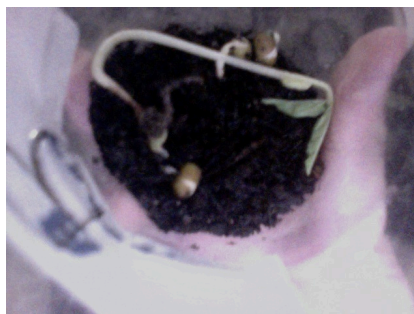
Cup D:



March 26, 2012

Cup A :

Cup B :



Cup C:

Cup D:



Result :

The result showed that the green beans grew faster with the sunlight and the cottons, which shows that my hypothesis was right.

Conclusion :

In the end, I concluded that the green beans grew faster on the cottons because cottons can keep or retain more water. Soil can absorb the water faster so there will be less water while cottons can keep or retain more water. While plants needed water and sunlight to survive, so one of the factors that influence the plants' growth is water and sunlight because in order to live or survive, plant needed water and sunlight. Plants needed sunlight for the photosynthesis process or making food, of course they needed sunlight which can also act as nutrients to help their growth and to help them with the photosynthesis process. While plants needed water, because then they won't dry out, water could also help with the photosynthesis process. So, my conclusion is that plants could grow faster with cottons and also direct sunlight because cottons could keep or retain more water, and plants needed water in order to live or survive, plants also need sunlight. So some of the factors that influenced the growth of plants are water and sunlight.

References :

Lehman, Christine. "Science Projects With Green Beans." *EHow*. Demand Media, 18 Feb. 2011. Web. 26 Mar. 2012. <[http://www.ehow.com/info\\_7964886\\_science-projects-green-beans.html](http://www.ehow.com/info_7964886_science-projects-green-beans.html)>.

K, Scholasticus. "Life Cycle of Bean Plant." *Buzzle.com*. Buzzle.com, 15 Dec. 2011. Web. 26 Mar. 2012. <<http://www.buzzle.com/articles/life-cycle-of-bean-plant.html>>.