Science investigatory project essay sample

Environment, Water

Situation:

Growing pechay is an easy way to earn money. It is a good way to augment the financial needs of a family especially these days when everything is expensive. This plant is also easy to grow and needs a short time before it is harvested.

But since pechay has , limited time frame before it is harvested, I is essential that its growth should be maximized on the second and third week after it is transplanted. So the use of fertilizer is recommended. But commercial fertilizer is also expensive. So what should be done?

It is natural to find substitute which is less expensive but equally effective. This project aims to determine if there is a difference in the growth of pechay plant with different kinds of fertilizer used. This study will be limited to pechay plant only.

Title:

Growth Rate Of Pechay Plant Using Different Kind Of Fertilizer

Problem:

Is there a difference in the growth of pechay plant if different kinds of fertilizers are used?

Experimental Design:

*Materials:

5 pechay plants

Soil

Plant pots

Chicken dung

Animal manure

Compost

Commercial fertilizer

Water

*Variables

CONTROLLED VARIABLES:

Soil

Pechay plant (size)

Size of plant pots

Location with sunlight

Water

INDEPENDENT VARIABLES:

Fertilizer

DEPENDENT VARIABLES:

Growth rate of pechay plant

TABLE 1:

Controlled Set-up

Container A:

Soil, water, pechay seedlings, plant pots, location with sunlight, no fertilizer

Experimental Set-up

Container B:

Soil, water, pechay seedling, plant pots, location with sunlight, Animal manure Container C:

Soil, water, pechay seedling, plant pots, location with sunlight, Compost Container D:

Soil, water, pechay seedling, plant pots, location with sunlight, Chicken dung Container E:

Soil, water, pechay seedling, plant pots, location with sunlight, Commercial fertilizer

*Procedure

1. Collect soil from one area enough to fill 5 pots.
2. Label each pot according to the set ups above. (Refer to the table)
3. Fill ½ of each 3 pots (container B, C, and D) w/ soil
4. Mix of the three pots (container B, C, D) w/ fertilizer according to the set-up.
5. Fill the two pots of soil.
6. Choose 5 petchay plants with the same weights.
7. Plant each of the petchay seedlings in each pot.
8. Expose each plant to the same location with the same amount of sunlight.
9. Put the same amount of water to each plant every morning and afternoon.
10. After 4 days, put some fertilizer to container E.
11. For about three weeks, harvest the pechay plant each pot and weigh.

*Results

No. of Weeks

Container A

Container B

Container C

Container D

Container E

3 weeks

42 grams

48 grams

50 grams

44 grams

55 grams

*Analysis and Discussion:

After three weeks, the plants in different pots were harvested and weighed. Container A which is the controlled set up weighed 42 grams. Container B with animal manure weighed 48 grams. Container C with compost weighed 50 grams. Container D with chicken dung weighed 44 grams. Container C which used commercial fertilizer weighed 55 grams.

It can be noticed that container E which used commercial fertilizer weighed the heaviest compared to all other set ups. Container A which used no fertilizer at all weighed the least. Container C which used compost weighed 50 grams and ranked second to commercial fertilizer with a difference of 5 grams only. Ranking third is set up B which used manure and weighed 48

grams, and landing in the fourth is set up D which used chicken dung with only 44 grams in weight.

*Conclusion:

After examining all data, kit can be concluded that the best fertilizer to be used is still the commercial fertilizer. But considering the monetary side, compost could be used instead of commercial fertilizer with only a slight difference in the growth of pechay plant.

Science

Investigatory

Project

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