

Student activity report

By

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Abstract

In this project we are trying to grow Marigold plant by using **vermiwash without using soil i.e soil less farming**. We have decided to grow Marigold plant because in India Marigold plant have very special importance.

Significance of Mary gold flower in Indian culture:

On any auspicious occasion and celebration like welcoming any person, at marriage ceremony, festival celebration, pooja of deity or any function. In India this flower is called as "genda" which symbolizes auspiciousness. The saffron/Orange color offered to god as symbol of surrender. Marigold is called as herb of sun which symbolizes passion and creativity. It also have market value. It is mainly used for healing wound and to prevent wound from becoming infected with toxic Bactria.

What is vermiwash ?:

Vermiwash is one of the effective liquid fertilizer, pesticide, and foliar spray which is collected after the passage of water is treated through column of worm (earth worm) action. Vermiwash is mainly a collection of excretory substance and mucus secretion of earthworm along with micronutrients from the soil organic molecules.

Basic principal behind vermi wash:

Soil treated by worms have burrows. Bacteria richly inhabit these burrows. Water passing through these passage washes the nutrients from these burrows to the roots to be absorbed by the plants. Actually vermiwash pass through the layer of soil, sand, pieces of brick, pebbles, dry leaves, cow dung . It contains all the nutrient values of soil .So this is the best method to replace soil is with vermiwash.

Requirements for preparing vermiwash:

A plastic bucket (capacity 5 lt.), tap, a plastic bowl, bricks, sand, some pebbles, soil, dry leaves, cow dung, earthworm, hammer for breaking bricks. Plastic bottle for dripping water in vermiwash.

Precaution Taken :

Cow dung should be taken six to seven days old so that methane gas get inactivated and for earthworm it is easy to survive. Otherwise it is observed that earthworm starts to escape out of bucket because earthworm is not getting suitable environment.

Dried leaf is broken into very small pieces so that it should easily be mixed with other substances.

Method used for preparing vermiwash:

1. Take a plastic bucket of capacity 5 lt.
2. Fit a tap at the lower portion of bucket so that it is easy to collect vermi wash.
3. Break the bricks into little pieces. And put it in a bucket of layer 2 cm. to 4 cm.
4. Put a layer of sand about 2 to 4 cm.
5. Put a layer of soil of same thickness.
6. In the same way put a layer of dried leaves.
7. Put a layer of cow dung. Cow dung should not be fresh and it should be at least 6 days old so that methane gas from it gets inactive. Otherwise earthworm will not get a suitable environment.
8. Put earthworm in it and again cover it with dried leaves.
9. Repeat step 1 to 8 till repeatedly till the bucket gets full.
10. Place a bowl with small hole in it at the top of the bucket so that water get dripped into it.
11. After six weeks a liquid of pale yellow colour can easily be extract from the tap. Vermiwash is now ready to use.
12. 20 drops of vermiwash is sufficient for one lt. of water to grow to three plants.

Observation by different group of student:

1. Observation found by Zoya and group On Marigold i.e genda plant :-

Tradiational Farming by using soil	My result By using Vermiwash i.e soilless farming	Result +ve or -ve
Size of flower is small	Size of flower is large	+ ve result found
Colour is not so bright	Colour found bright	+ve result found
Most of the flowers eaten by insect	There is no any type of damage found in the flower	+ve result found
Fraganance found	Fraganance became less , down	-ve result found.

Observation by Sana and group on dryseena plant.:

Positive result found. Roots grows very fast. Growth of roots is very drastic rapidly as compare to traditional soil farming.

Observation by farheen and group: Root grows very fast and old .It is found that in traditional type when new leaf grow old leaf starts falling down rapidly but in my expt it is found that old leaf dose not fall so rapidly.

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Motivation found in students

1. Students found very eager to understand and try new experiments on this new soil less plantation.
2. At their own home, they tried to grow different types of plants by using vermiwash.
3. Team management and leadership quality was found developing in students.
4. Students were found very able to prepare vermi wash independently and tried to experiment this liquid as floral spray too and even got a good result.
5. Students are raising questions related to this topic and they are even able to resolve the answers by discussing among themselves.
6. They want to know what is next after this fantastic result.
7. Few of students are now trying to grow all types of plants which is required in STD XII Botany syllabus.
8. Now they use their idle time in laboratory experimenting on leaves bearing plants, floral plant and so on.
9. Now all types of plant as per syllabus is available in school garden.
10. In our school students belongs to poor background and now a group of students are making plans to grow their own nursery and sell the plants and flowers in the market to help their family by earning some money. Students are now very much happy.

Group Leader:

Sana Fatma :

Marigold Plant (Orange colour)

Farheen Jahan:

Dryseena Plant

Saniya Shahid:

Ornamental plant cultivated in garden for showing purpose. Mehendi Plant

Zoya Yasmeen:

Marigold (Yellow color)

Shaheen Rafique:

Contentious observation over the color of vermiwash liquid and vermiwash development.

In each group there are six to eight students were engaged.



