

**G.P.PORAWAL ARTS, COMMERCE AND V.V.SALIMATH
SCIENCE COLLEGE**

SINDAGI-586128



ACADEMIC YEAR 2022-23

DEPARTMENT OF BOTANY

NAME: SHWETA M D

CLASS: BSC VI SEM

REG.NO: S2032526

SUBJECT: BOTANY

TOPIC: REPORT ON VERMICOMPOST AND GREEN MANURE

STAFF INCHARGE

SUBMITTED TO

**HEAD
Dept. of Botany
G.P.P. & V.V.S. College
SINDGI - 586 128**

*Valued
09/09/23*

**Co-ordinator IQAC
G. P. Porwal Arts, Comm & V. V. Salimath
Science College, SINDGI-586128. Dt:Vijayapur**

**Principal,
G. P. Porwal Arts, Comm. &
V. V. Salimath Sc. College,
SINDGI-586128. College Code: 134**

G.P.PORWAL ARTS,COMMERCE & V.V.SALIMATH
SCIENCE COLLEGE SINDAGI – 586128

Dist:Vijayapur Affiliated to Rani Channamma University – Belgavi

R.No:-

Univercity No:-

CERTIFICATE

Year:- 2022-23

This is certify that kumara/kumara SHWETA M D

The student of B.Sc VI Sem satisfactorily completed te course REPORT
ON VERMICOMPOST AND GREEN MANURE under my supervision.

Date:

Staff member incharge

P. Biv
09/09/23

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Vermicompost

Definition:- Vermicomposting is a process in which the earthworms convert the organic waste into manure rich in high nutritional content



Explanation

- Vermicomposting is the scientific method of making compost, by using earthworms. They are commonly found living in soil, feeding on biomass and excreting it in a digested form.
- Vermiculture means "worm-farming". Earthworms feed on the organic waste materials and give out excreta in the form of "vermicasts" that are rich in nitrates and minerals such as phosphorus, magnesium, calcium and potassium. These are used as fertilizers and enhance soil quality

There are two methods of Vermicompost

1) Pit method

2) Bed method

1) **Pit method:-** in this method, the organic matter is collected in cemented



Procedure

1. Compost pit of any convenient dimension can be constructed in the backyard or garden or in a field.
2. It may be single pit, two pits or tank of any sizes (manageable size is 2 m x 1 m x 0.75 m) with brick and mortar with proper water outlets.
3. To combat the ant menace, have a water column in the centre of the parapet wall of the vermipits
4. The 'four chamber' pit will facilitate easy and continuous

movement of earthworms from one chamber with fully composted matter to the one with the pre-processed waste in the chambers

5. A vermicomposting pit is made with a wooden box or big cement rings. A mesh is spread at the bottom of the pit
6. Vegetable waste, fruit waste, waste papers which are not shiny or coated with plastic is spread over the mesh.
7. Water is sprinkled to create moisture so that the red worms can live. A vermicomposting pit takes nearly two to four weeks to completely convert waste into manure.
8. These Red worms grind the food material with the help of gizzards. A red worm eats food equal to its weight every day. Waste materials rich in oils, salt, meat and vinegar stop the growth of red worms.
9. Red worms don't survive in too hot or too cold conditions. So the temperature of the pit is to be maintained at an optimum temperature in which the red worms can survive.

2) **Bed method:-** This is an easy method in which beds of organic matter are prepared.



Procedure

- Vermi Beds are designed to convert your kitchen and other green waste into highly fertile organic compost known as vermicompost. This process is known as vermicomposting. Earthworms eat this waste as their food and they decompose the same which later converts into organic composting. This is also known as worm composting. Vermi beds represents the future in modern compost technology. Vermi Beds are a smart choice for organic agricultural farmers to get higher quality crop yields.
- The best thing about Vermi Beds is that they are easy to install. One can install several numbers in very less time. No

need of expensive concrete beds now. Vermi Beds can be easily relocated by just sliding the bed from installation post and moving to a new location.

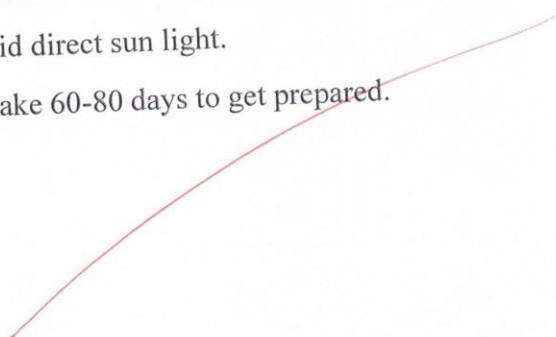
- Mipatex brings you Vermicompost maker Bed in 450 GSM, 350 GSM and 250 GSM.

- Features of Mipatex Vermi Beds:

- 100% UV Stabilized multilayer HDPE material
- Tear and puncture resistant
- Vermi wash pocket availability
- Aeration Net pockets are provided

Preparation of vermi bed

- Install Vermi Bed
 - After installing, put soil as first layer
 - Add chopped dry straw as second layer to hold moisture and aeration for earthworms.
 - Sprinkle water to maintain moisture, The moisture level shall not exceed 40-50%.
 - Add aged cow dung into the bed as food for earthworms.
 - Continue the above process until the Vermi Bed completely fills up
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- Distribute cow dung uniformly to maintain load in Vermi Bed.
 - Now introduce earthworms on the top of bed.
 - Cover the bed to avoid direct sun light.
 - Vermicompost will take 60-80 days to get prepared.
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Green manure

- Green manures are crops grown within a rotation for the purposes of: building soil organic matter & soil structure

Methods of Green Manure

- 1) **In-Situ Green Manure**
- 2) **Ex-Situ Green Manure**

1) In-Situ Green Manure

In this system the short duration suitable crops are grown in field prior to crop cultivation & then cut & buried in the same site when approximately 50 percent of all plants are flowering



2) Ex-Situ Green Manure

Green leaves & tender plant parts of the plants are collected from shrubs & trees growing on bunds degraded lands or near by forest & they are incorporated or mixed into the soil 15-30 days before sowing of the crops depending on the tenderness of the foliage or plant part



Green manure crops

- Green manures are crops grown specifically for building and maintaining soil fertility and structure is known as green manurecrops



Procedure of green manure

- Green plants are grown or parts of crop plants are used to make compost.
- Plants are cultivated and mixed in the soil.
- Green plants rot in the soil
- After decomposition, it becomes green manure.
- Improvement of soil structure, increment in the water holding capacity and decreases soil loss by erosion.
- Growing green manure crops in the off-season reduces weed proliferation and weed growth.

Green manuring helps in the reclamation of alkaline soils



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