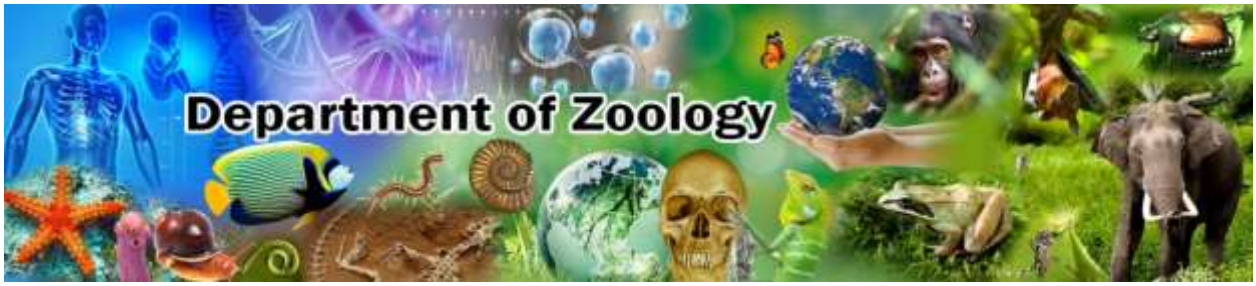
Govt. Degree College, Jammalamadugu

Kadapa, District

Affiliated to Yogi Vemana University



Best Practices Register

Vermicomposting :

Goal:

- To use college organic waste like litter for vermicomposting
- The use of vermicompost to flora of college campus
- To guide the enable the farmer to produce nutrient rich compost from the available farm waste and thereby to improve soil fertility
- Vermicomposting is an excellent method of recycling of Farm and home waste.
- To establish Vermi composting units at Farmyards

The Context:

- 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.
- Vermicompost is earthworm excrement, called castings, which can improve biological, chemical, and physical properties of the soil.
- The main objective of vermicomposting project is to produce organic manure. Agricultural wastes, wastes from dairy and animal farms are usually dumped into at places resulting in a foul mess. By vermicomposting these

wastes, they are not only utilized efficiently but also help in making a value-added product

The Practice:

1. To prepare compost, either a plastic or a concrete tank can be used. The size of the tank depends upon the availability of raw materials.
2. Collect the biomass and place it under the sun for about 8-12 days. Now chop it to the required size using the cutter.
3. Prepare a cow dung slurry and sprinkle it on the heap for quick decomposition.
4. Add a layer (2 – 3 inch) of soil or sand at the bottom of the tank.
5. Now prepare fine bedding by adding partially decomposed cow dung, dried leaves and other biodegradable wastes collected from fields and kitchen. Distribute them evenly on the sand layer.
6. Continue adding both the chopped bio-waste and partially decomposed cow dung layer-wise into the tank up to a depth of 0.5-1.0 ft.
7. After adding all the bio-wastes, release the earthworm species over the mixture and cover the compost mixture with dry straw or gunny bags.
8. Sprinkle water on a regular basis to maintain the moisture content of the compost.
9. Cover the tank with a thatch roof to prevent the entry of ants, lizards, mouse, snakes, etc. and protect the compost from rainwater and direct sunshine.
10. Have a frequent check to avoid the compost from overheating. Maintain proper moisture and temperature.

Evidence of Success

1. After the 24th day, around 3000 to 4000 new worms are introduced and the entire raw material is turned into the vermicompost.
2. Develops roots of the plants.

1. Improves the physical structure of the soil.
2. Vermicomposting increases the fertility and water-resistance of the soil.
3. Helps in germination, plant growth, and crop yield.
4. Nurtures soil with plant growth hormones such as auxins, gibberellic acid, etc.
5. Vermicomposting is an eco-friendly process that recycles organic waste into compost and produces valuable nutrients

Problems Encountered and Resources Required

1. It is a time-consuming process and takes as long as six months to convert the organic matter into usable forms.
2. It releases a very foul odour.
3. Vermicomposting is high maintenance. The feed has to be added periodically and care should be taken that the worms are not flooded with too much to eat.
4. The bin should not be too dry or too wet. The moisture levels need to be monitored periodically.
5. They nurture the growth of pests and pathogens such as fruit flies, centipede and flies.
6. Organic waste is produced less because of small college campus area.