

# B.M.S College for Women, Bengaluru

## Best practices

### Best Practice -1

#### Leaf Composting

##### 1. Title of the practice:

Production of Organic Manure, utilization for gardening

##### 2. Objectives of the practice:

- i. To produce organic manure through recycling of the dried leaves for gardening in college campus .
- ii. To fertilize and improve the soil texture.
- iii. To promote Go-Green campus.

##### 3. The Context:

Composting is the natural process of recycling organic matter, such as leaves and food scraps & flowers, into a valuable fertilizer that can enrich soil and plants. Anything that grows decomposes eventually; composting simply speeds up the process by providing an ideal environment for bacteria, fungi, and other decomposing organisms (such as worms, sowbugs, and nematodes) to do their work. The resulting decomposed matter, which often ends up looking like fertile garden soil, is called compost. Fondly referred to by farmers as “black gold,” compost is rich in nutrients and can be used for gardening, horticulture, and agriculture.

##### 4. The practice:

As an initiative of Go-Green campus by National Service Scheme, installed the Leaf Composter in the college campus in February 2019. All the students were involved actively in the inauguration and created awareness about the Leaf Composting process as an model of best practice in producing organic manure indigeneously.

Resources required: 5ft x 5 ft Leaf composter, 50 cement blocks, Coco-pit powder. Red soil, Dried leaves & flowers and water.

Process

Method of composting:

The fallen dried leaves form the trees in the college campus are collected and deposited in the Leaf Composter. After a gap of 3 - 4 days coco-pit powder, and dried flowers are added to the composter and watering is done everyday in the required

proportion to maintain moisture in the content. In addition to this red soil is also mixed with ingredients. Once the pit is filled, it will be maintained for a period of six months for the complete decompose process. At the end of the duration we get a wonderful organic manure which is called “Black Gold” that can be seen like powder. Compost is finished when it’s a dark, rich color, crumbles easily and we can’t pick out any of the original ingredients. The cycle of process is repeated once in every six months. Apart from its use in college garden it is also sold by the students through Entrepreneurship Development Cell.

Problems encountered

- i. Segregation of dried leaves mixed with other non-decomposable items is a challenging task.
- ii. Dead leaves compost slowly under any conditions because they’re so high in carbon. If they’re not mixed with other ingredients, they’ll compress into a nearly oxygen-free lump.

5. Evidence of success

The above manure processed within the college is used as manure for the plants that are grown in the campus which shows that the college is environment friendly. It boosts plant health, improves soil structure, and contains microbes that produce antibiotics.

## **Best practice- 2 Vermicomposting**

### **1. Title of the practice:**

Production of Vermi compost, utilization for gardening and phytochemical studies.

### **2. Objectives of the practice:**

- 2.1. Use of vermitechnology to make our college campus chemical free and green
- 2.2. To study the impact of vermicomposting on the phytochemical properties of selected plants

### **3. The context:**

Chemical fertilizers are synthetic substances which impact the environment in a harmful way. The use of chemical fertilizers leads to environmental pollution. Vermicast is the end-product of the breakdown of [organic matter](#) by earthworms. As the vermicompost is natural and is rich in nutrients and organic materials, it is an

excellent nutrient rich organic fertilizer and soil conditioner. Therefore, vermiculture is practiced to keep our campus green and chemical free.

#### **4. The practice:**

The Department of Zoology is practicing vermiculture since 2005 in the college campus as a best practice. The faculty of this department have organized awareness programs to the farmers regarding the use of vermicompost than synthetic fertilizers.

**Resources required:** Cement tanks for composting, biodegradable wastes, garden soil, cow dung, hay, earthworms, pots, selected aromatic/medicinal plants

**Method of composting:** Four cement tanks are used for vermicomposting. The basal layer of the tank has 3" sand, topped by a layer of garden soil 5", About 5 kg of cow dung is scattered, and covered with hay. This set up is kept moist by sprinkling water daily. Organic inputs like flowers, leaves, fruit and vegetable peels and wastes are added separately into the labelled tanks and allowed for decomposition. 150 earthworms/tank are introduced and the tanks are closed with a welded mesh to prevent the entry of predators. Aeration of pits is done with a pitchfork twice a week. The waste is turned upside down fortnightly without disturbing the basal layer (vermibed). The appearance of black granular crumbly powder on top of vermibeds indicate harvest stage of the compost. Watering is stopped for at least 5 days at this stage. The earthworms go down and the compost is collected from the top without disturbing the lower layers (vermibed). It takes nearly 3 months to get the compost from this process.

#### **Problems encountered**

- During extreme temperatures earthworms move down into the soil and sometimes escape from the tank.
- Water logging during rainy season kills the worms.
- It is hard to get earthworm from surrounding gardens as the chemical fertilizer reduced their number. During that time, we have to visit villages to collect earthworms in large amount.
- Rodents and bandicoots damage the decomposed food in pit.

#### **5. Evidence of success**

- The vermicompost is utilized as manure for plants in the garden. Increased growth rate of plants & flowering also increased due to the application of vermicompost.

- Currently, Dr. Sriranjini V, Lecturer, Zoology Department is doing preliminary studies on the effect of vermicomposting on the growth of the plant and content of bioactive constituents of *Convolvulus pluricaulis*, commonly called Shankapushpi, a herb which is well known in Ayurveda for its neuroprotective properties.

