

## **Organic Compost and its importance:**

The waste/ excreta of pet animals, compost prepared by decomposing the locally available materials like litters and grasses are the source of organic manure. The organic manure has various advantages over the chemical fertilizers.

Chemical fertilizer only supplies 1 or 2 nutrients to the plants but plants need 16 different types of nutrients which can only be supplied by compost. The use of organic manure not only saves money also saved from long term effect caused by chemical fertilizer. The price of chemical fertilizer is hiking year by year, not available properly and although available there is no appropriate mechanism to test the quality of fertilizers, due to these reasons using the compost manure is far better than using chemical fertilizer.

## Compost

Advantages of compost:

- ✓ Helps in amendment of soil.
- ✓ Provides organic matter to soil.
- ✓ Increases population of earthworm and microbes in soil and their activity.
- ✓ Helps to maintain P<sup>H</sup> of soil.
- ✓ Helps in controlling soil born disease.
- ✓ Helps to available the minerals from soil.

### Method of preparation:

Generally compost is prepared in two ways:

1. Pit method: appropriate in winter season. If the materials used were more dried.
2. Heap method (over surface): appropriate in summer season. If the materials collected are wet and if there is bio gas slurry heap method is appropriate.

### Site selection:

To prevent the nutrients from leach, evaporation following place would be appropriate:

Nitrogen content of compost readily evaporates due to sunlight so, the place should not be directly exposed to sunlight.

Compost can be drained by rain water so the site should be away from the drainage

Nutrients may leach out in silt soil so the compost should be made in tough surfaces like clayed soil.

### Required materials for making compost:

#### 1. Nitrogenous materials:

Residue of legume crops, Dhaincha, water hyacinth, Asuro, tetapati, utis, chilauni, banmara etc.

## 2. Carbonaceous:

Straw, stalk of maize, husk, saw dust etc

## 3. Starter:

Starter helps to decompose the materials that are used for preparing the compost.

Cow dung, cow urine/slurry, ash, decomposed compost, mud from jungle or pond E.M solution if available.

Process of making compost:

- Collect nitrogenous and carbonaceous materials in appropriate place, (in broadly classification carbonaceous materials are dried matter whereas nitrogenous materials are green materials)
- Chop these materials in 6-8 inches long.
- To decay the organic materials, carbon nitrogen ratio matters, so to prepare the high quality compost the carbonaceous and nitrogenous matter should be almost 50-50.
- The brown materials like straw, stalk of maize which doesn't decompose readily are laid down for about 6-12 inches and apply starter homogenously, this materials also helps to trap the liquid produced after decomposition of the pile.
- Now the carbonaceous and nitrogenous materials are laid down layer by layer. It would be effective if starter like ashes, mustard cake and (bone meal if available) is applied homogenously in between the layers to produce high quality compost.

- The moisture should be adjusted in such a way that the organic matter should be wet but should not pill out of heap
- The height of heap should be 1.5m
- After preparing the heap, the heap should be covered by black polyethene or a layer of cow dung and mud mixture.
- After 15 days of preparations it would be better to turn over the compost in the same way as slicing bread and the next turn over would be appropriate after 1 month from the 1<sup>st</sup> turn over.
- Repeat the turn over process for more two time, during the turn over process if the mixture were found more dried then it would be better to add water, cow urine or if the mixture is found more wet then it would be better to add brown materials.

#### Testing the decomposition of compost:

- The used materials should be completely broken down.
- Color should be black or brown.
- It should be light and without smell.
- If the compost is dissolve in water, the well decomposed compost settle down in bottom but the undecomposed material floats above water.
- If  $H_2O_2$  (hydrogen peroxide) is applied above the prepared compost and produces bubbles it is good indicator of well decomposed compost but the undecomposed compost do not produces bubbles.