

## **01. Manures – types, composition and value – sources**

There are many ways of classifying the fertilizers and manures, the classification being based on one or two properties of the materials.

### **Nature of source**

- 1.Natural manures
- 2.Artificial manures
- 3.Mineral manures

### **Nutrient content**

- 1.Single manures
- 2.Compound manures

### **Nutrient element present**

- 1.Complete manures
- 2.Incomplete manures

### **Nature of the materials**

- 1.Organic manures
- 2.Inorganic manures
- 3.Indirect manures

### **Nature of action**

- 1.General manures
- 2.Special manures
- 3.Stimulative substances
- 4.Soil amendments or soil conditioners

Critical consideration of the above-mentioned classification reveals that none of the classification is satisfactory. Each of the classification is based on only one property and may not be suitable to cover wide range of materials.

They are generally classified in to Bulky organic manure and concentrated organic manures

### **ORGANIC MANURES**

The word manure derived from the French "Manoeuvrer", means to manipulate, to work, to produce crop. In general manure means excreta of animals. The term bulky organic manure generally includes those materials of natural origin, organic in composition having greater volume per unit content of nutrients and being used to

increase the nutrient status of the soils as well as organic matter content of soils. They are obtained mainly as natural products. The materials included in this group are farmyard manure, compost, sewage sludge and green manure. Of these FYM, compost and green manure are the most important and widely used bulky organic manures.

### **Farm Yard Manure (FYM)**

The FYM refers to the refuse from farm animals, mainly sheep, cattle and poultry. This is one of the oldest manure known and is highly valued for its many of the beneficial properties that are said to be produced when this manure is added to the soil. It not only adds the constituents to the soil but also adds organic matter to the soil.

### **Composition of farm manure**

Several factors influence the composition of farm manure and they are the following

1. Source of manure
2. Feed of the animals
3. Age of the animals
4. Condition of the animals
5. Manner of storage and handling
6. Litter use etc.,

On an average the composition of FYM is usually 0.5 % N, .25 %  $P_2O_5$  and 0.5 %  $K_2O$ .

### **Methods of collection**

Many methods of collecting the cattle manure are in vogue and this include,

1. Use of ordinary cattle shed with kacha floor
2. Use of cattle shed with impermeable floor and provision for collecting urine in separate urine pit
3. Dry earth system
4. Loose box system
5. Other special methods

The method of collection and storage is the most important factor which decides the final composition of the manure. The following are recognized methods of storing FYM

1. The heap method

## 2. The pit method

Various losses during collection and storage of FYM can be prevented or atleast minimized by adopting the following procedures

1. Better methods of collection
2. Better methods of storage
3. Use of cow dung gas plant
4. Use of chemical preservatives like gypsum, superphosphate etc

### **Organic Wastes :**

Organic wastes are the wastes of biological / animal / agro-industry origin and can be converted to valuable manure by composting. The various organic wastes can be classified as follows,

<b>Sources of Organic Wastes</b>			
<b><i>Agriculture</i></b>	<b><i>Animal Husbandry</i></b>	<b><i>Agro-industries</i></b>	<b><i>Municipal Activities</i></b>
* Crop residues (paddy straw, sugacane trash etc) * Weeds	* Dairy * Goat / Sheep * Poultry * Piggery	* Sugar Industry (Pressmud) * Coir Industry (Ciorpith) * Fruits / vegetables processing industries * Sago Industry	* Household / municipal solid waste * Market waste (Vegetable/ fruit / flower market)