

# FACULTY OF AGRICULTURAL SCIENCES AND ALLIED INDUSTRIES



### Lecture 1: Introduction and importance of organic manures

The word "Manure" is originated from the French word "MANOEUVRER" which refers to "work with soil" .The word Manure is also originate from Latin word "Manu" (hand) and operate( to work).

### Differences between manures and Fertilizers:

S.No.	MANURES	FERTILIZERS
1	Organic in nature	Inorganic in nature
2	Slow acting	Quick acting
3	Having low analytical value	Having high analytical value
4	Having no definite chemical composition	Having definite chemical composition
5	Obtained from plant , animal and human resources	Mined or manufactured
6	Improves physical properties of soils	Don't improve the physical properties of soils
7	Supply almost all major, minor and micronutrients.	Supply one or very few plant nutrients.
8	Derived from French word 'MANOEUVRER' to work with soil	Derived from Latin word Fertil ( means Fertile )
9	Bulky in nature	Non-bulky in nature

**Manuring:** Manuring is the process of increasing the productive capacity of land by adding plant foods to the soil in different forms.



## Classification of Manures with examples

MANURES
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A) Bulky organic manures (Slow acting with large quantity of organic matter)	B) Concentrated organic manures (Quick
	acting with small quantity of organic matter)
1. Farm Yard Manure (FYM)	1. Plant origin
i) Cattle manure	a)Edible oil cakes (suitable for cattle and poultry feeding )
ii) Sheep manure	i) Mustard cake
iii) Poultry manure	ii) Ground nut cake
iv) Pig manure	iii) Sesame cake
v) Biogas slurry	iv)Linseed cake
2.Composts	b) Non –edible oil cakes(suitable for crop fertilization)
I) Rural or village compost	I) Castor cake
ii) Urban compost	ii) Neem cake
iii) Vermicompost	iii) Sunflower cake
3.Green manures	iv) Mahua cake
i) Green manuring in-situ	v) Karanj cake
ii) Green leaf manure	2).Animal origin
4. Agro-based Industry wastes	i) Bone meal
i)Press mud cake	ii) Blood meal
ii)Cotton dust	iii) Horn meal
5.Human habitation waste	iv) Meat meal/ Tankage
i) Night soil	vi) Fish product-Fish meal
6) Municipal wastes	vii) Bird product- Guano(excreta and
	dead bodies of sea birds)
i)Municipal rubbish	
ii)Street sweepings	

iii)Market wastes



#### IMPORTANCE OF MANURES IN SOIL FERTILITY MANAGEMENT

#### A) Bulky organic manures:

#### Effect of organic matter on soil properties:

- Improvement of soil physical properties Improvement of soil structure Improvement of water holding capacity Improvement of soil aeration Reduction of soil loss through erosion Improvement of chemical properties Supply of essential plant nutrients in balanced ratio Slow release of nutrients
- High residual value
- Improvement of biological activity
- Stimulation of soil fauna and flora

#### **B** Concentrated organic manures:

Like bulky organic manures, these organic manures contain plant nutrients and considerable amount of organic matter. They have direct effect on plant growth. Nitrogen content is higher in concentrated organic manures and varied from 2.5 per cent in mahua cake to 7.9 per cent in decorticated safflower cake. In addition to nitrogen all the oil cakes contain  $P_2O_5$  (0.8 to 2.9 %) and  $K_2O$  (1.2 to 2.2%) since they contain nitrogen in relatively large quantities ,they are usually classified as organic nitrogenous manures . By virtue of this high nitrogen content they enrich the nitrogen status of soil.