

PRACTICAL ON PRODUCTION OF ENRICHED COMPOST

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Compost :- Composting is microbiological decomposition process in which microorganisms of both aerobic and anaerobic decompose organic residues/wastes under medium to high temperatures and lower down the C/N ratio of the material. In about 3-6, month an amorphous, brown to dark brown humified material is called compost.

Types of compost

- Farm Rural compost
- Phospho compost
- Mechanical compost
- Vermi compost
- Enriched compost
- Town compost

Method of composting

- ADCO Process - Huthchinson & Richerd (1921)
- Indore process - Howard & ward (1931)(Acrotic)
- Bangalore Process – Acharya et. al. (1939)
- Vermi composting
- Water hycinth composting
- NADE P compost process
- Windrow method.

Factors effecting for composting.

Parameters	Value
Size of the pit	12' x 6' x 6'
Size the heap	Any length x 5' x 7'
Size of the material	2 to 5 cm
C/N ratio	30 to 40 : 1
Moisture content	60-70%
Air flow	0.8 to 1.8 M3/air/day/kg
Temperature	50-60°C
Additive	Ligno cellulolytic organisms

Source : Gaur (1992)

Nutrient losses in manure affect by handling & storage

Method	N loss (%)
Solid system	20-40
Manure heap	15-35
Deep bit	
Liquid system	70-80
Lagoon (Marshes & shallow take)	15-30
Anaerobic deep pit	

% of recovery of nutrients (Av.)

Method	OM	N
Heap	53	54
Pit/Trench	78	74

Preparation of enriched compost

Plant material	Crop residue/water hyacinth lantana tops Ipomoea leaves 1:1:1:1 ratio
Quantity	100kg Pit
Pits	Cemented pits of 1 m3
Phosphate	1-2% P ₂ O ₅ in form of MRP/PRP/Rajphos
Nitrogen	.25% or 2.5 kg t1
C/N ratio	60:1
Cultures	500 gm + fresh mat/ton at the time of filler 10% cawdung slury
	N-Fixture & P.S m the time of 2 nd turning
Turning	15, 30, 45 & 60

Preparation of N & P enriched phosphocompost

Plantmaterial	Waterhyacinth + lantana crop residue + Ipomen (1:1:1)
Quantity	100kg Pit-1
Pits	Cemeted Pit or Kachh pit with polythirelim 1x1x1 m3
Phosphate	2.5 % or 5% P ₂ O ₅ as Rockphosphate
Other inputs	Pyrites & 5 or 10%
Nitrogen	.25% or 2.5 kg /t
C/N ratio	40-60 : 1
Other organic inputs	Plant material cattle dungse, soil compost in the ratio of 8:1:0.5:0.5
Moisture	60-70%
Turning	15,30,45 & 60 days

Practical consideration for making compost

- The minimum size of the compost pit/heap is recommended to be 1 m³
- If heap/ pit is too broad too high aeration will be poor.
- The correct balance of slow & fast decomposable materials, however, must be maintained.
- For reducing evaporation loss & maintain the moisture it should be covered with mud mixed with gober.
- Pit/Heap should be sited in shaded area.
- Plant material should be copped for earlier decomposition.
- To save the labour lost incurred in chapping, period of decomposition should be enhanced for one month more.
- Moisture maintenance is most important factor for rapid composting.
- C/n ratio – higher ratio, slower the rate of decomposition

Managed VS unmanaged compost heaps/pits

S. N.	Managed	Unmanged
1.	It will be produced quality	It takes along time to develop
2.	Nutrient loss is minimized increase the quality	Nutrient loss will be more reduce the quality
3.	Proper heat produced during composting process. Kill weed seeds & pathogenic organisms	Weed seeds & Plant pathogeme organisms will not be kill
4.	Heap / pit require a lot of labour & planning	Heap & pit require very little labour or planning

Thank you