

Vermiculture:

Cultivation or rearing of earthworms especially as feeds for poultry birds as earthworm contains protein.



BENEFITS OF VERMI COMPOST

- Recycling of wastes thus reducing pollution.
- Nutrient content superior than any other type of compost.
- Controls top soil erosion and floods.
- No electricity.
- Generate self-employment.
- Produce healthy organic vegetables, grains and fruits crops.

Compiled & prepared by

Dr T Esther Longkumer

CTO-Soil Science

Dr Sanjeev Kumar Singh

Senior Scientist & Head

KVK Phek

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Director

ICAR-NRC on Mithun, Medziphema.

For more information, please contact

Krishi Vigyan Kendra Phek

Porba, Pfutsero, Phek, Nagaland

Web: kvkphek.nic.in

Email: kvkphek@gmail.com

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VERMICOMPOSTING- AS AN INCOME GENERATION ENTERPRISE



कृषि विज्ञान केंद्र - फ़ेक

(भारतीय कृषि अनुसंधान परिषद्)

राष्ट्रीय मिथुन अनुसंधान केंद्र

पोरबा, पोस्ट फुटसेरो, फ़ेक- 797 107 नागालैंड (भारत)

Krishi Vigyan Kendra - Phek

(Indian Council of Agricultural Research)

National Research Centre on Mithun

Porba, Post Pfutsero, Phek 797 107 Nagaland (India)

Introduction

Vermicompost an enriched compost using earthworms which generally lives in soil, eat biomass and excrete it in digested form which is rich in humus.

Earthworm species

Earthworm species commonly used for vermicomposting are *Eisenia fetida*, *Eudrilus eugenia*, *Lumbricus rubellus*, *Perionyx excavatus* and *Perionyx ceylanesis* (Jai Gopal).

Materials required for vermicomposting

Almost all types of biologically degradable and decomposable nontoxic materials Farm waste e.g. Straw from rice, wheat, mustard maize stalk etc.

- Kitchen waste. e.g. peel of squash, potato and other vegetable wastes etc
- Partially decomposed animal dung. e.g. Cow dung, Mithun dung, rabbit excreta etc
- Earthworm: 1000-1200 adult worms.
- Polythene sheet/Bamboo/vermi-bed/concrete
- Water



Pre-treatment of composting materials

- Collected materials should be free from plastic, stone, metal, glass etc.
- Sorted clean materials (rice straw etc) should be chopped into small pieces of 2-4 inches.

- The material should be spread in a layer up to 1ft and exposed to sun for 1-2 days, in order to avoid unwanted organisms and foul smell



Types of Vermicomposting Unit

Low-cost bamboo, Low-cost vermibed, Heap type and pit type unit.



Procedure of vermicomposting

- 1) Spread a layer of farm waste (30cm thick) for aeration.
- 2) Above that layer spread partially decomposed dung (30-40cm thick) of about 1 month old.
- 3) Introduce about 350 worms per meter cube.
- 4) The last top layer of feeding materials i.e. kitchen waste, crop residues, banana stem, animal dung etc., of about 30-40 cm.
- 5) Cover with gunny bag.
- 6) Sprinkle water over the gunny bags to maintain proper moisture.
- 7) After every 10 days feeding materials should be added and turning should be done once in a week to facilitate proper aeration.
- 8) When compost turns brownish, stop watering 1 week before harvest and worms will form like a ball.
- 9) Take out the ready compost, separate out worms, dry it in shade and sieve out the compost.

- 10) Sieved compost can be kept in plastic bags for use.

The whole biomass will be converted to vermicompost in about 3-4 months.



Nutrient Content (%) of Vermicompost

N 1.5-3, P₂O₅ 1.5-2.5 and K₂O 1.5-2

Application of Vermicompost doses

Crops	Doses/Acre
Cereal Crops	2 tons
Pulses	2 tons
Oil seeds	3-5 tons
Spices Crops	4 tons
Vegetable Crops	4-6 tons(50gms/plant)
Fruit Crops	5-6 kg/plant
Cash Crops	5 tons
Ornamental Plants	4 tons
Plantation Crops	5kg/plant
Pots	100-200g/pot

