

DEPARTMENT OF ZOOLOGY

CERTIFICATE COURSE

ON

VERMICOMPOSTING

2021-22



GOVERNMENT DEGREE COLLEGE

PALAKONDA

PARVATHIPURAM MANYAM DISTRICT

B. RAJU

COURSE COORDINATOR

Dr. G. JANARDHANA NAIDU

PRINCIPAL

BROCHURE

Certificate Course on Vermicomposting 2021-22

GENERAL INFORMATION AND COURSE STRUCTURE

Duration of module Training: 30 hrs.

Entry Qualification: UG students

Language: English/Telugu

Teaching mode: Offline and online

INSTRUCTION METHOD

Lecture method

PDF Video lessons

Demonstration

Group discussion



OBJECTIVES

- Ø Students will be able to compost in a limited space and describe the decomposing process.
- Ø The interested students will get the knowledge of composting.
- Ø Students will get employment.
- Ø They can generate employment.
- Ø They will also turn towards organic farming.
- Ø Will help to maintain the environment pollution free and will get the knowledge of biodiversity of local earthworms.

Assessment

Assignments: 40%

Course End Examinations: 60%

Course coordinator:

Sri. B. Raju, Lecturer in Zoology
Conducted by
Department of Zoology

Dr. G. Janardhana Naidu
Principal

INTRODUCTION

Vermicomposting truly is nature's great disappearing act! Aristotle once said, "Worms are the Intestines of the Earth". Using worms to convert decomposing food waste into nutrient-rich fertilizer is simple, inexpensive, energy efficient, and a great way to teach students to become life-long recyclers. Vermicomposting technology is known throughout the world, albeit in limited areas. It may be considered a widely spread, though not necessarily popular technology. As a process for handling organic residuals, it represents an alternative approach in waste management, in as much as the material is neither land filled nor burned but is considered a resource that may be recycled. In this sense, vermicomposting is compatible with sound environmental principles that value conservation of resources and sustainable practices. Vermicomposting is akin to composting in that similar feedstock-organic residuals -are used. Both systems utilize microbial activity to break down organic matter in the moist, aerobic environment.

Vermicomposting is however faster, produces fewer odors and produces a superior product. But vermicomposting requires greater surface area, more moisture, and is susceptible to heat, high salt levels, high ammonia levels, and substances that may be toxic to earthworms. Of the 4400 identified earthworm species, specific species of litter dwelling earthworms are required for this purpose. Vermicomposting in developing countries could prove to be useful in many instances. Where accumulation of food wastes, paper, cardboard, agriculture waste, manures and biosolids is problematic, composting and vermicomposting offer potential to turn waste material into a valuable soil amendment. In the past ten years an organization in India has promoted over 3,000 farmers and institutions to switch from conventional chemicals to the organic fertilizer, vermicompost. Vermiculture enables any scale or size of operation. Vermicompost is being used in over 1, 00,000 hectare cultivated area in almost all agro-climatic zones in India.

OBJECTIVES

- Students will be able to compost in a limited space and describe the decomposing process.
- The interested students will get the knowledge of composting.
- Students will get employment.
- They can generate employment.
- They will also turn towards organic farming.
- Will help to maintain the environment pollution free and
- Will get the knowledge of biodiversity of local earthworms.

OUT COMES

- Working process: Person may establish small scale industry or a domestic business/generate employment for others
- Professional knowledge: Basic facts, process and principles applied
- Professional Skill: Demonstrate practical skill
- Core skill: Communication with oral and written mode

SYLLABUS CONTENT Detailed syllabus

Theory	Practical
Introduction to vermiculture, definition, meaning, history, economic important, their value in maintenance of soil structure. Role of earthworms in bio transformation of the residues generated by human activity and production of organic fertilizers.	Waste materials: classification, disposal techniques, Their segregation and processing
Biology of <i>Eisenia fetida</i> : a) Taxonomy, Anatomy, Physiology and Reproduction b) Vital cycle of <i>Eisenia Fetida</i> : alimentation, fecundity, annual reproducer potential and limit factors (gases, diet, humidity, temperature, PH, light, and climatic factors)	Key to identify different types of earthworms. Collection of native earthworms and their identification. Study of life stages and development of <i>Eisenia fetida</i>
Vermiculture and Harvest	Study of vermicompost equipment and devices
Vermicomposting, harvest and processing Nutritional composition of vermicompost for plants, composition with other fertilizers	Bed preparation for anaerobic and aerobic composting and mixing of beds Harvesting, drying, packaging, transport and storage of vermicompost

INSTRUCTION METHODS

Some of the following method of delivery may be adopted

1. Lecture
2. PDF/ Video lesson
3. Demonstrations
4. Group discussions

ASSESSMENT

1. Assignments: 40%
2. Course End Examination: 60%

GENERAL INFORMATION AND COURSE STRUCTURE

1. Duration of module Training: 30 hrs.
2. Entry Qualification: UG students
3. Language: English/ Telugu
4. Teaching mode: Offline and online

Distribution of training on hourly basis:

S. No.	Broad theory and Practical components to be covered	Duration	Theory	Practical	Days
1	Waste materials: Classification, disposal techniques, Their segregation and processing	2	1	1	2
2	Bed preparation for anaerobic and aerobic composting and mixing of beds	4	2	2	4
3	Earth worm collection, identification and application on beds	12	7	5	12
4	Inspection of beds and watering	4	3	1	4
5	Vermicompost collection, Earthworms separation, Air drying of vermicompost, sieving and storing	8	5	3	8
	Total	30	18	12	30

Assessment Mode: Descriptive and multiple-choice answers

Examination conduction: Offline

Grading system:

Marks range	Grade
90 to 100	A ⁺
80 to 89	A
70 to 79	B ⁺
60 to 69	B
50 to 59	C
40 to 49	D
Below 40	Fail

The syllabus for value added course on vermicomposting is hereby approved for the session 2021-22

Course coordinator


Head of the Department

HOD of Zoology
Govt. Degree College
(Palakonda, SKLM, DL)


Principal

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PALAKONDA
Parvathipuram Manyam Dist.

Student Enrollment list

Name of the Certificate course: Vermicomposting

Department: Zoology

Academic year: 2021-22

S. No.	Name of the Student	Class	Date of Enrollment	Remarks
1	Ch. DRAKSHAYANI	1 st B.Sc. BZC	1 st February 2022	Admitted
2	G. SWAPNA	1 st B.Sc. BZC	1 st February 2022	Admitted
3	G. TULASI	1 st B.Sc. BZC	1 st February 2022	Admitted
4	K. ANIL	1 st B.Sc. BZC	1 st February 2022	Admitted
5	K. SRINU	1 st B.Sc. BZC	1 st February 2022	Admitted
6	K. KIRAN	1 st B.Sc. BZC	1 st February 2022	Admitted
7	L. ASWINI	1 st B.Sc. BZC	1 st February 2022	Admitted
8	M. RAMYA	1 st B.Sc. BZC	1 st February 2022	Admitted
9	P. JYOTHI	1 st B.Sc. BZC	1 st February 2022	Admitted
10	P. GANGA RAJU	1 st B.Sc. BZC	1 st February 2022	Admitted
11	P. RAMA DEVI	1 st B.Sc. BZC	1 st February 2022	Admitted
12	R. SAI BABU	1 st B.Sc. BZC	1 st February 2022	Admitted
13	S. SHARMILA	1 st B.Sc. BZC	1 st February 2022	Admitted
14	S. MAHESH	1 st B.Sc. BZC	1 st February 2022	Admitted
15	S. PARVATHI	1 st B.Sc. BZC	1 st February 2022	Admitted
16	S. SAMIYAL	1 st B.Sc. BZC	1 st February 2022	Admitted
17	S. SUJATHA	1 st B.Sc. BZC	1 st February 2022	Admitted

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18	S. SAMEERA	1 st B.Sc. BZC	1 st February 2022	Admitted
19	S. SARASWATHI	1 st B.Sc. BZC	1 st February 2022	Admitted
20	T. DAMODARA RAO	1 st B.Sc. BZC	1 st February 2022	Admitted


Course coordinator


Head of the Department
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S.NO	Name of the Student																				
13	S. Sarmila	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	S. Mahesh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	S. Parvathi	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	S. Samiyal	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
17	S. Sujatha	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	S. Sameera	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	S. Saraswathi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	T. Damodhar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P


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CERTIFICATE COURSE-VERMICOMPOSTING

ATTENDANCE SHEET

S.NO	Name of the Student	23/3	24/3	2/3	3/3	3/3	4/3	4/3	5/3	7/3	10/3	17/3	17/3
1	CH. Drakshyani	P	P	P	A	P	P	P	P	P	P	A	P
2	G. Swapna	P	P	A	B	P	P	P	P	P	P	P	P
3	G. Tulasi	P	P	P	P	P	A	P	P	P	A	P	P
4	K. Anil	A	P	P	P	P	P	P	P	P	A	P	P
5	K. Srinu	P	P	P	P	A	P	P	A P	P	P	P	P
6	K. Kiran	P	P	P	A	P	P	P	P	A	P	P	P
7	L. Aswini	P	A	P	P	P	P	P	P	A	P	P	A
8	M. Ramya	P	P	A	P	P	P	P	P	A	P	P	A
9	P. Jyothi	P	P	P	P	P	A	P	A	P	P	A P	P
10	P. Gangaraju	P	P	P	P	A	P	P	P	P	P	P	A
11	P. Ramadevi	P	P	P	P	P	P	P	P	P	A	P	P
12	R. Sai babu	P	A	P	P	P	P	P	P	P	A	P	P

S.NO	Name of the Student																	
13	S. Sarmila	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	S. Mahesh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	S. Parvathi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	S. Samiyal	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
17	S. Sujatha	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	S. Sameera	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	S. Saraswathi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	T. Damodhar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P


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Student Examinations Marks List

Name of the Certificate course: Tools and Techniques of Recombinant DNA Technology

Department: Zoology

Academic year: 2021-22

S. No.	Name of the Student	Class	Week 1 Assign- ment 10 M	Week 2 Assign- ment 10 M	Week 3 Assign- ment1 10 M	Week 4 Assign- ment 10 M	Course End Exami- nation 60M	Total Marks 100 M	Pass /Fail and Gm Gm de
1	Ch. DRAKSHA YANI	1 st B.Sc. B/ZC	8	7	8	7	48	78	B ⁺
2	G. SWAPNA	1 st B.Sc. B/ZC	7	8	8	7	46	76	B ⁺
3	G. TULASI	1 st B.Sc. B/ZC	8	8	7	8	49	80	A
4	K. ANIL	1 st B.Sc. B/ZC	9	9	8	9	53	88	A
5	K. SRINU	1 st B.Sc. B/ZC	8	8	9	8	48	81	A
6	K. KIRAN	1 st B.Sc. B/ZC	7	7	8	7	47	76	B ⁺
7	L. ASWINI	1 st B.Sc. B/ZC	8	7	8	8	47	78	B ⁺
8	M. RAMYA	1 st B.Sc. B/ZC	9	8	8	9	50	84	A
9	P. JYOTHI	1 st B.Sc. B/ZC	9	9	9	9	55	91	A ⁺
10	P. GANGA RAJU	1 st B.Sc. B/ZC	8	8	7	8	48	79	B ⁺

11	P. RAMA DEVI	1 st B.Sc. BZC	8	8	9	9	49	83	A
12	R. SAI BABU	1 st B.Sc. BZC	8	7	8	8	48	79	B ⁺
13	S. SHARMILA	1 st B.Sc. BZC	9	8	9	9	52	87	A
14	S. MAHESH	1 st B.Sc. BZC	8	8	7	8	48	79	B ⁺
15	S. PARVATHI	1 st B.Sc. BZC	8	8	7	8	48	79	B ⁺
16	S. SAMIYAL	1 st B.Sc. BZC	8	7	8	8	47	78	B ⁺
17	S. SUJATHA	1 st B.Sc. BZC	8	8	8	9	47	80	A
18	S. SAMEERA	1 st B.Sc. BZC	8	7	7	8	48	78	B ⁺
19	S. SARASWA THI	1 st B.Sc. BZC	8	8	9	9	48	82	A
20	T. DAMODAR A RAO	1 st B.Sc. BZC	7	7	8	8	46	76	B ⁺


Course Coordinator


Principal

Head of the Department

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Palakonda, S.K.L.M. (P)

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(Affiliated to Dr BR AMBEDKAR UNIVERSITY, SRIKAKULAM)

Certificate of Appreciation



This is to certify that Sri/ Smt/ kum _____, _____ has successfully completed Certificate course on **“Vermicomposting”** conducted by Department of Zoology from _____ to _____ with _____ % certificate ID: _____

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Certificate of Appreciation

This is to certify that Sri/ Smt/ kum G. Swapna, BSc-12c,
1st year has successfully completed Certificate
course on "**Vermicomposting**" conducted by

Department of Zoology from 03-02-22 to 19-03-22 with 76 %

certificate ID:


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