

**COMPARATIVE QUALITY OF COW MANURE BASED COMPOST WITH
OR WITHOUT FERMENTATION ADDITIVE AND ITS EFFECT ON THE
GERMINATION OF PECHAY**

DENVER D. CONCEPCION

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TABLE OF CONTENTS

| | PAGE |
|---|------|
| LIST OF TABLES | vi |
| LIST OF FIGURES | vii |
| LIST OF APPENDICES | viii |
| LIST OF APPENDIX TABLES | ix |
| ABSTRACT | x |
| INTRODUCTION | 1 |
| Background of the Study | 1 |
| Objectives of the Study | 3 |
| Significance of the Study | 3 |
| Scope and Limitation of the Study | 3 |
| Time and Place of the Study | 4 |
| REVIEW OF RELATED LITERATURE | 5 |
| Environmental Issues in Cattle Production | 5 |
| Cow Manure Nutrient Content | 5 |
| Role of Bulking Agents | 6 |
| Sources and Portable Uses of Fly Ash | 6 |
| Qualities of Good Compost | 8 |
| Advances in Composting Technology | 9 |
| Role of Humidity in Influencing Compost | 9 |
| Features of Rapid Composting Microbes | 10 |
| Principles of Composting | 12 |
| Benefits of Cow Manure | 12 |
| Importance of Agricultural Waste Management | 13 |
| METHODOLOGY | 15 |
| Cow Manure Collection | 15 |
| Composition of the Odor Erasing Microbial Composting Premix | 15 |
| Compost Plots Preparation | 16 |
| Treatment Assignments | 17 |

| | |
|--|----|
| Treatment Plot Management | 17 |
| Data Gathered | 17 |
| Germination of Pechay | 18 |
| Statistical Analysis | 18 |
| RESULTS AND DISCUSSION | 18 |
| Compost Temperature | 18 |
| Compost pH | 21 |
| Harvest Recovery | 22 |
| Odor, Color, and Texture | 23 |
| Germination Rate | 28 |
| SUMMARY, CONCLUSION, AND RECOMMENDATIONS | 30 |
| Summary | 30 |
| Conclusion | 31 |
| Recommendations | 32 |
| LITERATURE CITED | 33 |
| APPENDICES | 39 |
| APPENDIX I Statistical Analysis | 40 |
| APPENDIX II Experimental Layout | 43 |
| APPENDIX III Collection of Raw Materials | 44 |
| APPENDIX IV Compost Plots Preparation | 46 |
| APPENDIX V Compost Plots Management | 47 |
| APPENDIX VI Pechay Germination Rate | 49 |

LIST OF TABLES

| TABLE | | PAGE |
|-------|---|------|
| 1 | Treatment and composition of compost in this study | 17 |
| 2a | Comparative temperature of cow-based manure compost with or without OECM | 19 |
| 2b | Comparative temperature of cow-based manure compost with or without OECM | 19 |
| 3a | Comparative pH of cow-based manure compost with or without OECM | 21 |
| 3b | Comparative pH of cow-based manure compost with or without OECM | 21 |
| 4 | Comparative weight loss of compost with or without compost additive (kg) | 23 |
| 5a | Daily physical parameters of cow-based manure compost without OECM | 24 |
| 5b | Daily physical parameters of cow-based manure compost with 350 grams OECM | 25 |
| 5c | Daily physical parameters of cow-based manure compost with 400 grams OECM | 26 |
| 5d | Daily physical parameters of cow-based manure compost with 450 grams OECM | 27 |
| 6 | Germination rate mean of different compost treatments | 29 |

LIST OF FIGURES

| FIGURES | | PAGE |
|---------|---------------------------------|------|
| 1 | Cow Manure Collection Trace Map | 15 |

LIST OF APPENDICES

| APPENDIX | | PAGE |
|----------|-----------------------------|------|
| I | Statistical Analysis | 40 |
| II | Experimental Layout | 43 |
| III | Collection of Raw Materials | 44 |
| IV | Compost Plots Preparation | 46 |
| V | Compost Plots Management | 47 |
| VI | Pechay Germination Rate | 49 |
| VII | ERC Clearance | 50 |

LIST OF APPENDIX TABLES

| APPENDIX TABLE | | PAGE |
|----------------|--|------|
| 1a | Comparative temperature of cow-based manure compost with or without OECM | 40 |
| 1b | Comparative temperature of cow-based manure compost with or without OECM | 40 |
| 2a | Comparative pH of cow-based manure compost with or without OECM | 41 |
| 2b | Comparative pH of cow-based manure compost with or without OECM | 41 |
| 3 | Comparative Weight Loss of Compost with or without Compost Additive (Kg) | 42 |
| 4 | Germination rates of different compost treatments | 41 |

ABSTRACT

CONCEPCION, DENVER D., Department of Environmental Science, College of Science, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, July 2023, **COMPARATIVE QUALITY OF COW MANURE BASED COMPOST WITH OR WITHOUT COMPOST ADDITIVE AND ITS EFFECT ON THE GERMINATION OF PECHAY**

Adviser: ANTONIO J. BARROGA, Ph.D.

Utilizing cow manure for composting at the same time addressing environmental issues can be a feasible alternative for cow raisers. The study aimed to determine the effects of adding a rapid odor erasing and composting microbes (OECM) at different inclusion rates of; 350 grams per 110 kg raw material (50 kg cow manure + 60 kg fly ash) T2; 400 grams per 110 kg raw material (50 kg cow manure + 60 kg fly ash) T3, and 450 grams per 110 kg or raw material (50 kg cow manure + 60 kg fly ash) T4 on physical properties, temperature, pH, germination rate, and percentage compost recovery. The control T1 was 110 kg raw material with no OECM. A Randomized Complete Block Design (RCBD) was used consisting of 4 treatments with each treatment replicated thrice. Tukey HSD was used to further analyze significant differences.

Result showed that the odor of treated compost was no longer evident on day 13 for T2, T3, and T4. The texture from coarse to fine was observed in day 13 of T2, T3, and T4, while the color from black to brown was demonstrated on day 13 of T2, T3, and T4. The temperature ($p. < 0.01$), pH ($p. < 0.01$), compost recovery ($p. < 0.01$), and germination rate ($p. < 0.01$) were significantly different over the control. Therefore, the OECM at 350 grams, 400 grams, and 450 grams per 110 kg raw material is an indispensable

additive for cow-based manure as it significantly improved the varying compost quality parameters.

Keywords: compost; cow manure; organic fertilizer; pechay

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