

## *Contents*

# CONTENTS

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CHAPTER	TITLE	PAGE No
	LIST OF TABLES	
	LIST OF FIGURES	
	LIST OF PLATES	
	ABSTRACT	
I	INTRODUCTION	1
II	REVIEW OF LITERATURE	8
III	MATERIALS AND METHODS	36
IV	RESULTS AND DISCUSSION	73
V	SUMMARY AND CONCLUSION	159
	REFERENCES	

## LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
1.	BIO-DEGRADABLE FRACTIONS IN THE COLLECTED RAW SW	39
2.	BIOCHEMICAL PARAMETERS OF RAW AND COMPOSTED EM-SW	75
3.	EFFECT OF EM-SW COMPOST ON PLANT HEIGHT (cm) OF THE TEST PLANTS	86
4.	EFFECT OF EM-SW COMPOST ON ROOT VOLUME (cu.cm) OF THE TEST PLANTS	90
5.	EFFECT OF EM-SW COMPOST ON NUMBER OF ROOT NODULES OF COW PEA	92
6.	EFFECT OF EM-SW COMPOST ON NUMBER OF LEAVES / PLANT OF THE TEST PLANTS	96
7.	EFFECT OF EM-SW COMPOST ON FRESH AND DRY WEIGHT (g) OF THE TEST PLANTS	101
8.	EFFECT OF EM-SW COMPOST ON NUMBER OF FLOWERS / PLANT OF THE TEST PLANTS	103
9.	EFFECT OF EM-SW COMPOST ON THE TEST PLANTS - AT HARVEST (90 DAS)	107
10.	EFFECT OF EM-SW COMPOST ON THE TEST PLANTS - AT HARVEST (90 DAS)	114
11.	EFFECT OF EM-SW COMPOST ON LEGHAEMOGLOBIN CONTENT (mg g <sup>-1</sup> nodule weight) OF ROOT NODULES OF COW PEA	116
12.	EFFECT OF EM-SW COMPOST ON TOTAL PROTEIN CONTENT (mg g <sup>-1</sup> ) OF THE TEST PLANTS	121

<b>TABLE NO.</b>	<b>TITLE</b>	<b>PAGE NO.</b>
13.	EFFECT OF EM-SW COMPOST ON TOTAL CARBOHYDRATE CONTENT ( $\text{mg g}^{-1}$ ) OF THE TEST PLANTS	124
14.	EFFECT OF EM-SW COMPOST ON CHLOROPHYLL CONTENT ( $\text{mg g}^{-1}$ TISSUE) OF LADY'S FINGER	128
15.	EFFECT OF EM-SW COMPOST ON CHLOROPHYLL CONTENT ( $\text{mg g}^{-1}$ TISSUE) OF COW PEA	130
16.	EFFECT OF EM-SW COMPOST ON ASCORBIC ACID CONTENT ( $\text{mg g}^{-1}$ ) OF THE TEST PLANTS	133
17.	EFFECT OF EM-SW COMPOST ON TOCOPHEROL ( $\mu\text{g g}^{-1}$ ) OF THE TEST PLANTS	136
18.	EFFECT OF EM-SW COMPOST ON CATALASE ACTIVITY OF THE TEST PLANTS	140
19.	EFFECT OF EM-SW COMPOST ON PEROXIDASE ACTIVITY OF THE TEST PLANTS	142
20.	INITIAL AND EXPERIMENTAL SOIL ANALYSIS – DEHYDROGENASE ENZYME ACTIVITY	146
21.	INITIAL AND EXPERIMENTAL SOIL ANALYSIS – UREASE ENZYME ACTIVITY	149
22.	INITIAL AND EXPERIMENTAL SOIL ANALYSIS (LADY'S FINGER)	153
23.	INITIAL AND EXPERIMENTAL SOIL ANALYSIS (COW PEA)	154

## LIST OF FIGURES

<b>FIGURE No.</b>	<b>TITLE</b>	<b>PAGE No.</b>
1.	BIO-DEGRADABLE FRACTIONS IN THE COLLECTED RAW SW	40
2.	TEMPERATURE PROFILE DURING EM-SW COMPOSTING	81
3.	EFFECT OF EM-SW COMPOST ON PLANT HEIGHT (cm) OF THE TEST PLANTS	87
4.	EFFECT OF EM-SW COMPOST ON ROOT VOLUME (cu.cm) OF THE TEST PLANTS	91
5.	EFFECT OF EM-SW COMPOST ON NUMBER OF LEAVES / PLANT OF THE TEST PLANTS	97
6.	EFFECT OF EM-SW COMPOST ON FRESH AND DRY WEIGHT (g) OF THE TEST PLANTS	102
7.	EFFECT OF EM-SW COMPOST ON NUMBER OF FLOWERS / PLANT OF THE TEST PLANTS	104
8.	EFFECT OF EM-SW COMPOST AT HARVEST (90 DAS) OF THE TEST PLANTS	108
9.	EFFECT OF EM-SW COMPOST AT HARVEST (90 DAS) OF THE TEST PLANTS	115
10.	EFFECT OF EM-SW COMPOST ON LEGHAEMOGLOBIN CONTENT ( $\text{mg g}^{-1}$ NODULE WEIGHT) OF ROOT NODULES OF COW PEA	117
11.	EFFECT OF EM-SW COMPOST ON TOTAL PROTEIN CONTENT ( $\text{mg g}^{-1}$ ) OF THE TEST PLANTS	122

<b>FIGURE No.</b>	<b>TITLE</b>	<b>PAGE No.</b>
12.	EFFECT OF EM-SW COMPOST ON TOTAL CARBOHYDRATE CONTENT (mg g <sup>-1</sup> ) OF THE TEST PLANTS	125
13.	EFFECT OF EM-SW COMPOST ON CHLOROPHYLL CONTENT (mg g <sup>-1</sup> TISSUE) OF LADY'S FINGER	129
14.	EFFECT OF EM-SW COMPOST ON CHLOROPHYLL CONTENT (mg g <sup>-1</sup> TISSUE) OF COW PEA	131
15.	EFFECT OF EM-SW COMPOST ON ASCORBIC ACID CONTENT (mg g <sup>-1</sup> ) OF THE TEST PLANTS	134
16.	EFFECT OF EM-SW COMPOST ON TOCOPHEROL (µg g <sup>-1</sup> ) CONTENT OF THE TEST PLANTS	137
17.	EFFECT OF EM-SW COMPOST ON CATALASE ACTIVITY OF THE TEST PLANTS	141
18.	EFFECT OF EM-SW COMPOST ON PEROXIDASE ACTIVITY OF THE TEST PLANTS	143
19.	INITIAL AND EXPERIMENTAL SOIL ANALYSIS – DEHYDROGENASE ENZYME ACTIVITY	147
20.	INITIAL AND EXPERIMENTAL SOIL ANALYSIS – UREASE ENZYME ACTIVITY	150
21.	INITIAL AND EXPERIMENTAL SOIL ANALYSIS (LADY'S FINGER)	155
22.	INITIAL AND EXPERIMENTAL SOIL ANALYSIS (COW PEA)	156

## LIST OF PLATES

PLATE No.	TITLE	PAGE No.
I	Test Plant - Lady's finger ( <i>Abelmoschus esculentus</i> (L.) Moench)	5
II	Test Plant - Cow Pea ( <i>Vigna unguiculata</i> (L.) Walp)	6
III	Solid Waste Bin - Raw (Avinashilingam University Campus)	38
	Compost Pit with Raw Waste	38
IV	EM - Solid Waste Compost	41
	Mature Compost - 60 Days	41
V	Overall Pot Culture view of <i>Abelmoschus esculentus</i> (L.) Moench	85
	Overall Pot Culture view of <i>Vigna unguiculata</i> (L.) Walp	85
VI	Root Nodules of Cow Pea	93
	C.S. of Nodules of Cow Pea Showing Leghaemoglobin at 30, 60 and 90 DAS	93
VII	Effect of EM-SW Compost on Lady's Finger - 30 DAS	98
	Effect of EM-SW Compost on Cow Pea - 30 DAS	98
VIII	Effect of EM-SW Compost on Lady's Finger - 60 DAS	105
	Effect of EM-SW Compost on Cow Pea - 60 DAS	105

<b>PLATE No.</b>	<b>TITLE</b>	<b>PAGE No.</b>
IX	Effect of EM-SW Compost on Lady's Finger - 90 DAS	109
	Effect of EM-SW Compost on Cow Pea - 90 DAS	109
X	Pods of Lady's Finger - 90 DAS	111
	Pods of Cow Pea - 90 DAS	111
XI	Seeds of Lady's Finger	120
	Seeds of Cow Pea	120

# **EFFICACY OF EFFECTIVE MICROORGANISMS (EM) ON BIODEGRADATION OF SOLID WASTE (SW) INTO ORGANIC MANURE AND ITS INFLUENCE ON TEST PLANTS**

## **Abstract**

Solid waste (SW) collected from the Avinashilingam University campus, Coimbatore was converted into organic manure using Effective Microorganism (EM). The collected solid waste was put in a compost pit and allowed to decompose for 60 days by spraying activated EM. The biochemical parameters like cellulose, organic carbon, total nitrogen, C: N ratio, total phenol, total soluble sugars, reducing sugars, non-reducing sugars, pH and temperature profile and enzymes like catalase, peroxidase and dehydrogenase were analyzed in raw and EM –composted solid waste at an interval of 15 days for 60 days to assess the compost maturity. The results of the study revealed that there was a decrease in all the above parameters except nitrogen, catalase and peroxidase.

So, the effect of EM-SW compost on test plants like Lady's finger and Cow pea were also tested .The biometric parameters of test plants like plant height, root volume, no. of root nodules, no. of leaves /plant, fresh and dry weight of plants and no. of flowers/plant were analyzed at 30 and 60 DAS (Days After Sowing).Yield parameters of test plants like number Of flowers/plant, number of pods / plant, length of pod, single seed and 100 seed weight were analyzed at harvest (90 DAS).Biochemical parameters of test plants like total carbohydrate content, total protein, chlorophyll content, leghaemoglobin,

ascorbic acid, tocopherol, catalase and peroxidase were analyzed. In Initial and experimental soil, pH, EC, available NPK content and enzymes like dehydrogenase and urease were also analyzed. Thus, it can be deduced from the present investigation that EM-SW Compost enhanced the biometric, biochemical and yield parameters of Lady's finger and Cow pea. So the biodegraded waste can be profitably used as a nutrient enriched organic manure substitute to promote the growth and yield of various crops.