

PREPARATION OF SIMPLE STARCH- BASED BIOPLASTIC WITH ADDITION OF TEA WASTE



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ABSTRACT

Due to the negative impacts of fossil fuel plastics, the development of bioplastic is essential for both industrial and commercial levels. Researchers have developed various starch-based bioplastics tea waste can be used as raw material and the newest and greener product for different applications. This work mainly targeted to investigate for feasible synthesizing starch-based bioplastic with addition of tea waste. In this study for the analyzing purpose the prepared bioplastic was subjected to thickness measurement, soil biodegradability test, moisture content test, water absorption test and visual analysis for colour changes. The synthesized bioplastic was assessed by the soil burial methods in two different depths. The results have shown that the degradation rate was higher so it exhibited faster degradation in soil mixture. And also, Physical properties changing were indicated in the Soil burial test and on the 14th day some cracks were observed on the top of the bioplastic sample and broken in 2nd week of experiment. The colour of the bioplastic sample also changed and became darker than the initial colour. After 7 days of the moisture content test the bioplastic samples showed 29.94% moisture loss. Through this greener, biodegradable and sustainable production, represent a step toward the development of industrial and achieve reduction in the negative environmental impacts.

TABLE OF CONTENT

ABSTRACT.....	i
ACKNOWLEDGMENT.....	ii
TABLE OF CONTENT	iii
CHAPTER 01	1
INTRODUCTION.....	1
CHAPTER 02	8
2.0 LITERATURE REVIEW	8
2.1 Plastics.....	8
2.1.1 Introduction to plastics.....	8
2.1.2 The environmental impacts of plastics.....	9
2.2 Bioplastics.....	10
2.2.1 Definition for Bioplastic.....	10
2.2.2 Bioplastic introduction- General.....	10
2.2.3 Importance of bioplastic	11
2.3 General starch	12
2.4 Plasticizer	15
2.4.1 Plasticizer Introduction	15
2.4.2 Role of plasticizer in bioplastic	15
2.5 Tea waste	17
2.5.1 Tea waste – General aspect.....	17
2.5.2 Role of tea waste in bioplastic preparation	17
2.6 Biodegradability	18
2.6.1 Biodegradability introduction.....	18
2.6.2 Biodegradability of bioplastic	19
CHAPTER 03.....	21
MATERIALS AND METHODS	21
3.1 Experimental design	21
3.2 Materials, ingredients and equipment.....	21
3.2.1 Materials used for the preparation of bioplastic	21
3.2.2 Materials and equipment used for analysis of biodegradability (soil burial test), water absorption test and moisture content test	22

3.2.3 Materials collection	22
3.3 Methodology	23
3.3.1 Preparation of bioplastic	23
3.3.1.1 Drying of tea waste for the bioplastic preparation.....	23
3.3.2 Preparation of bioplastic with addition of tea waste	23
3.4. Preliminary studies on the preparation of bioplastic	25
3.4.1 Soil burial test to analyze the biodegradability.	25
3.4.2 Measurement of thickness of bioplastic	26
3.4.3 Determination of moisture content of the bioplastic.....	26
3.4.4 Determination of water absorption of the bioplastic	27
3.4.5 Visual analysis for the color change in bioplastic.....	28
CHAPTER 04	29
4.0 RESULTS AND DISCUSSION.....	29
4.1 Preparation of bioplastic.....	29
4.1.1 Drying of tea waste for the preparation of bioplastic	29
4.1.2 Preparation of bioplastic with addition of tea waste	29
4.2 Preliminary studies on preparation of bioplastic.....	31
4.2.1 Soil burial test to analyze the biodegradability	31
4.2.2 Thickness of the bioplastic	35
4.2.3 Moisture content of the bioplastic.....	37
4.2.4 Water absorption test	39
4.2.5 Observation for Colour change.....	41
CHAPTER 05	42
CONCLUSION	42
SUGGESTIONS	43
REFERENCES	44
APPENDIX.....	50

List of Tables

Table 3. 1 Materials needed for soil burial test, water absorption test and moisture content test	22
Table 4. 1 Results that obtained from soil biodegradability test in the 10cm depth	31
Table 4. 2 Biodegradability test of the starch-based bioplastic in 7.5cm depth	33
Table 4. 3 Results for the thickness measurement of bioplastic samples.....	35
Table 4. 4 Results that obtained from the moisture content test done in the bioplastic samples.....	37
Table 4. 5 The results that got from water absorption test	40

List of Figures

Figure 3. 1 Collection of tea waste from the residents and drying of tea waste under the sunlight	23
Figure 3. 2: preparation of starch bioplastic with addition of tea waste.	24
Figure 3. 4 Soil burial method to test the biodegradability	26
Figure 3. 5 Testing the water absorption of synthesized bioplastic samples..	27
Figure 3. 6 Analysis for colour change of bioplastic	28
Figure 4. 1 Biodegradability test of the starch-based bioplastic in 10cm depth	32
Figure 4. 2 Biodegradability test using soil burial test in 7.5cm depth	33
Figure 4. 3 Moisture content test of the bioplastic	38
Figure 4. 4 Water absorption test	40