UNIVERSITI TEKNOLOGI MARA
Cawangan Terengganu
Kampus Bukit Besi

TITLE: PRODUCTION OF COFFEE CHAR AT DIFFERENT CARBONIZATION TIMES

SUPERVISOR: IR MOHD. SAUFI ZAINI

SCHOOL OF CHEMICAL ENGINEERING
COLLEGE OF ENGINEERING

2024

AUTHOR'S DECLARATION

"I hereby declare that this report is the result my of my own work except for quotations and summaries which have been duly acknowledged."

Name of Student	:	MOHAMAD IRFAN AIMAN BIN MOHAMAD SUHAIMI
Student I.D. No.	:	20222818542
Programme	:	Diploma in Chemical Engineering
College/School	:	College of Engineering/School of Chemical Engineering
Signature of Student	:	……*irfan aiman* ….
Date	:	30.1.2025

ABSTRACT

The objective of this research is to verify whether the performance of soil can be improved through the addition of carbonised coffee char. Knowing the optimum temperature and residence time of coffee pyrolysis is necessary to generate the best quality of coffee char for use in soil amendment. Coffee is used as a raw material, pyrolysis is carried out in a furnace, and elemental analysis is carried out in order to identify the content of the coffee at different temperatures and time intervals. Coffee is pyrolysed at 40 minutes with three different temperatures of 400°C, 500°C, and 600°C. For a temperature of 500°C, 60, 40, and 20 minutes are applied at different levels of the pyrolysis process. To know in what time or temperature there is more nitrogen, elemental analysis is carried out.

TABLE OF CONTENTS