

UNIVERSITI TEKNOLOGI MARA

**THE EFFECTS OF AMBIENT
TEMPERATURE ON PHYSIOLOGICAL
PARAMETERS AMONG PALM OIL MILL
WORKERS IN SELANCAR, PAHANG**

NADIA SYAHIRA BINTI BADRUL HISHAM

Project submitted in fulfillment of the requirements
for the degree of
**Bachelor in Environmental Health and Safety
(Hons.)**

Faculty of Health Sciences

July 2017

DECLARATION BY STUDENT

Project entitled “The Effect of Ambient Temperature on Physiological Parameters among Palm Oil Mill Workers in Selancar, Pahang” is a presentation of my original work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative project and discussions. This project was done under the guidance and supervision of Dr. Abdul Mujid bin Abdullah as supervisor and Dr. Farah Ayuni binti Sahafea @ Shafie as coordinator. This project has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirements for the awarding of Bachelor in Environmental Health and Safety (Hons).

Signature :

Student's Name: Nadia Syahira binti Badrul Hisham

Matric number : 2013262956

I/C number : 940624-14-5890

Date :

ACKNOWLEDGEMENT

Alhamdulillah, Thanks to Allah SWT, for giving me strength and guidance to complete this Final Year Project with the title “The Effects of Ambient Temperature on Physiological Parameters among Palm Oil Mill Workers in Selancar, Pahang”. I could not complete my project without the help and support from many individuals and organizations.

Firstly, I want to express my deepest thanks to Dr. Mujid bin Abdullah as my project supervisor who guides me and give supervision throughout this project. I also want to thank lecturers and staffs for giving support, suggestions and information regarding to this project.

My thanks and appreciation goes to Felda Palm Industries Sdn Bhd., the Manager of Palm Oil Mill 2B, Mr. Jefri bin Amat, Assistant Manager, Mr. Muhammad Syafiq bin Shaari and all the staff for giving the opportunity to conduct this study at this mill. Special thanks to my parents Badrul Hisham bin Ahmad, Roslina bt Omar and siblings for giving support and encourage me to complete this study from beginning to the end. Lastly, I would like to thank everyone who involved directly and indirectly in this study. Thank You.

TABLE OF CONTENTS

TITLE OF PAGE	
DECLARATION BY STUDENT	ii
INTELLECTUAL PROPERTIES	iii
APPROVAL BY SUPERVISOR	v
ACKNOWLEDGEMENT	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF PLATES	xii
LIST OF APPENDICES	xiii
LIST OF ABBREVIATION	xiv
ABSTRACT	xv
ABSTRAK	xvi
CHAPTER ONE: INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	3
1.3 Study Justification	5
1.4 Objectives	6
1.4.1 General objectives	6
1.4.2 Specific objectives	6
1.5 Study Hypothesis	6
1.6 Conceptual Framework	7
1.7 Definition	9
1.7.1 Conceptual	9
1.7.2 Operational	9

ABSTRACT

Introduction: The increasing number of palm oil plantation in Malaysia has given a large opportunity for the people to work in palm oil industry. Heat stress can occur due to the hot temperature especially to those who works near the furnaces. Palm oil mill is one of the work environment which the workers exposed to the high temperature.

Objective: The objective of this study is to investigate the effects of ambient temperature on physiological parameters (body temperature, blood pressure, heart rate) among palm oil mill workers in Selancar, Pahang.

Methodology: A total of 52 workers were selected and physiological monitoring was conducted before, during and after 8 hours of work.

Results: The result indicates that most of the workstations have exceeded TLV by ACGIH except for boiler and kernel plant. However, the mean reading for physiological parameters were within the normal range except for blood pressure. There were no significant relationship between physiological parameters between before, during and after 8 hours of work except for body temperature. There were also no significant differences between ambient temperature and physiological parameters before and after work ($p>0.05$).

Conclusion: Although most of the measured ambient temperatures were above ACGIH TLV but there were no significant relationship between ambient temperatures with all tested physiological parameters (body temperature, blood pressure and heart rate). Therefore, the null hypothesis (H_0) failed to be rejected.

Keyword: Heat stress, palm oil mill, ambient temperature, physiological parameters