

**TERMITES: THE GREAT WOOD DESTROYING INSECTS**



**KHAIRUL RIZDUAN ABD RAZAK**

**DIPLOMA IN WOOD INDUSTRY  
UNIVERSITI TERNOLOGI MARA**

**2001**

## ACKNOWLEDGEMENT

Thank god, the Almighty Allah S.W.T as the permission given, finally my final project paper – ‘Termites: The Great Wood Destroying Insect’ had been successfully finished and submitted before the due date. Thanks to my advisor, Prof. Madya Abdul Jalil b. Ahmad for the support and helps that he gives to me. There’s much what I can learn from him and for helping me when I had problems. Our coordinator – Prof. Madya Jamaludin Kasim, thanks for all the help that had been given in completing my study here. En. Wan Mohd. Nazri, the important lecturer in final year project paper and all Diploma in Wood Industry’s lecturer, thanks for all your helps and support. For my parent and my family, all your advice I will not forget it. To my friends, my juniors and my seniors thanks for all your support, co-operation and commitment given. Lastly to someone that not quite special to me, \_\_\_\_\_, thanks for your care, your support and all your helps, I really appreciate it. Final word from me, thanks and only Allah can repay what you all have given to me.

# TABLE OF CONTENT

|   | Page |
|---|------|
| APPROVAL SHEET .....                                | ii   |
| DEDICATION.....                                     | iii  |
| ACKNOWLEDGEMENT.....                                | iv   |
| LIST OF TABLES.....                                 | vii  |
| LIST OF FIGURES.....                                | viii |
| LIST OF PLATES.....                                 | ix   |
| ABSTRACT.....                                       | x    |
| ABSTRAK.....  | xi   |
| <br>  |      |
| <b>CHAPTER</b>                                      |      |
| <br>  |      |
| I      1.0 Introduction                             | 1    |
| 1.1 Objective                                       | 2    |
| <br>  |      |
| II     LITERATURE REVIEW                            | 3    |
| 2.0 Insects   | 3    |
| 2.1 Termites  | 3    |
| 2.1.1 Feeding Habit                                 | 5    |
| 2.1.2 Identification of Termites                    | 7    |
| 2.1.3 Classification of Termites                    | 8    |
| 2.1.3.1 Earth Dwelling Group @ Subterranean Termite | 9    |
| 2.1.3.1.1 Mastotermitidae                           | 9    |
| 2.1.3.1.2 Rhinotermitidae                           | 10   |
| 2.1.3.1.3 Termitidae                                | 10   |
| 2.1.3.1.4 Mound Building Termites                   | 11   |
| 2.1.3.1.5 Non-mound Termites                        | 13   |
| 2.1.3.1.6 Arboreal Nest Termites                    | 14   |
| 2.1.3.2 Wood Dwelling Types                         | 14   |
| 2.1.3.2.1 Termopsidae                               | 14   |
| 2.1.3.2.2 Kalotermitidae                            | 15   |
| 2.1.3.2.3 Damp wood termites                        | 15   |
| 2.1.3.2.4 Dry Wood Termites                         | 16   |

|           |  |    |
|-----------|--|----|
| 2.2       | Beetles  | 17 |
| 2.2.1     | Pinhole Borers                                     | 18 |
| 2.2.2     | Powder Post Beetles                                | 19 |
| 2.2.3     | Furniture Beetles                                  | 20 |
| 2.2.4     | Longhorn Beetles                                   | 20 |
| 2.3       | Ants   | 21 |
| III       | RESULTS AND DISCUSSION                             | 23 |
| 3.1       | Insect Attack                                      | 23 |
| 3.1.1     | Attack of Termites                                 | 23 |
| 3.1.2     | Attack of Beetles                                  | 25 |
| 3.1.3     | Attack of Ants                                     | 28 |
| 3.2       | Insects Control                                    | 28 |
| 3.2.1     | Prevention and Treatment Method                    | 28 |
| 3.2.1.1   | Termite Control                                    | 28 |
| 3.2.1.2   | Beetles Control                                    | 31 |
| 3.2.1.2.1 | Pinhole Borer                                      | 31 |
| 3.2.1.2.2 | Powder Post Beetles                                | 32 |
| 3.2.1.2.3 | Furniture Beetles                                  | 32 |
| 3.2.1.2.4 | Longhorn Beetles                                   | 34 |
| 3.2.1.3   | Ants Control                                       | 34 |
| 3.2.2     | Preservative Method                                | 35 |
| 3.2.2.1   | Oil-borne Preservatives                            | 35 |
| 3.2.2.2   | Water-borne Preservative                           | 35 |
| 3.2.2.2.1 | Pressure Method                                    | 36 |
| 3.2.2.3   | Solvent Type Preservative                          | 36 |
| 3.2.2.3.1 | Surface Treatment Method                           | 36 |
| 3.2.2.3.2 | Insecticidal Preservatives for Eradication<br>Work | 36 |
| 3.2.2.3.3 | For Log Protection                                 | 37 |
| 3.2.2.3.4 | For Sawn Timber Protection                         | 37 |
| IV        | CONCLUSION   | 38 |
|           | REFERENCES   | 39 |
|           | VITA   | 40 |

# **TERMITES: THE GREAT WOOD DESTROYING INSECTS**

By

**KHAIRUL RIZDUAN ABD RAZAK**

September 2002

Wood is a high value, important and renewable materials that is very important to world economy. It is used as raw materials for almost everything in this world. It can be as fuel materials, construction materials and product foods for human being and animals. The deterioration of timber by wood deterioration agents can make the wood become useless materials. It is known that two types of wood deterioration agent, and one of them is the termite. Event termite attacks is not as disastrous as caused by fungi, it also can create big problem to constructions based on wood. Beside that, it is important in breakdown and recycling of dead wood and other plant to become natural fertilizer for plant in the jungles.