

Study guidelines for Wood destroying insect control license and permit exams.

Some information you should have knowledge of before taking the Wood destroying insect control exam.

This outline may be used as a study guide for the license and permit examination for Wood destroying insect control. The Mississippi Bureau of Plant Industry is providing a list of subject areas you need to study for these examinations.

A copy of the Regulations Governing Commercial Insect, Rodent, Plant Disease and Weed Control Work can be found at The Mississippi Department of Agriculture and Commerce, Bureau of Plant Industry website, <http://www.mdac.ms.gov/wp-content/uploads/11-Regulation-of-Professional-Services.pdf>.

Please note that you should be familiar with the topics in this outline, but there is no guarantee that all the topics listed, or only the topics listed will be included on any examination.

1. You should be thoroughly familiar with the Regulations Governing Commercial Insect, Rodent, Plant Disease and Weed Control Work. Topics include, but are not limited to:
 - Definitions
 - Licensing requirements
 - Licensing renewal requirements
 - Permit requirements
 - Permit renewal requirements
 - Registered technician standards
 - Registered technician renewal requirements
 - Violations
 - Record keeping requirements
 - Record access
 - Pesticide storage and transport
 - Bond requirements
 - Insurance requirements
 - Equipment
 - Contracts and inspections
 - Reporting monthly reports
 - Approved pesticides; Minimum requirements
 - Subterranean Termite - Treatments
 - Pier-Type (Crawl Space) Construction
 - Existing Slab – Type Construction
 - Baiting Systems in lieu of chemical barrier
 - Alternative treatments
 - Spot Treatments
 - Fipronil EP/LI
 - Bora-Care
 - Imidacloprid EP/IST
 - Wood destroying beetles; Requirements

Be able to ID, know typical habitat, life cycle and management strategies of the following:

2. Eastern Subterranean Termite
 - Life history
 - ID characteristics
 - Worker
 - Soldier
 - Alate
 - Geographic distribution
 - Damage caused by
3. Formosan Subterranean Termite
 - Life history
 - ID characteristics
 - Worker
 - Soldier
 - Alate
 - Geographic distribution
 - Damage caused by
4. Drywood Termite
 - Life history
 - ID characteristics
 - Worker
 - Soldier
 - Alate
 - Geographic distribution in MS
 - Damage caused by
5. Carpenter Ant
 - Life history
 - ID characteristics
 - Damage caused by

6. Carpenter Bee
 Life history
 ID characteristics
 Damage caused by

Must have knowledge of ID characteristics, damage caused by, frass characteristics, exit hole size, preferred woods, prevention, inspection, and control for the following:

7. Furniture death watch beetle
 8. True powder post beetle
 9. False powder post beetle
 10. Old house borer
 11. Flat headed borer, metallic wood borer
 12. Ambrosia beetle

13. Must have knowledge of construction of different foundation types, advantages, and disadvantages in termite prevention for each foundation type and knowledge of how to treat each type.

- Monolithic slab
- Supported or suspended slab
- Floating slab
- Crawlspace or conventional foundation
- Basement

14. Must have knowledge of calculation of gallons required and concentrated chemical required to treat horizontal, vertical, and critical areas for pre-treats and post-treats.

15. Wood Destroying Insect Report.
- Who can issue and perform these?
 - State approved form
 - Based on thorough visual inspection of accessible areas and must disclose:
 - Presence,
 - Absence,
 - Previous infestation, and
 - Damages caused by:
 - Subterranean termite
 - Drywood termite
 - Wood borer beetles
 - Carpenter ant
 - Carpenter bee
 - Note conditions conducive
 - List obstructed or inaccessible areas
 - No warranty related to report
 - Inaccurate, misleading, or fraudulent
 - Where should inspection sticker be placed after inspection:
 - Adjacent to water heater
 - Access opening to crawl space
 - Beneath kitchen sink
 - May refuse to complete after performing inspection, provided no fee is assessed.

16. Be familiar with a termiticide label.

17. Definitions:
- Trophallaxis
 - Frass
 - Omnivorous
 - Conducive condition

18. Presented on exam as Photo ID:
- Termite shelter tube
 - Carpenter bee
 - Conducive condition
 - Formosan subterranean termite soldier
 - Carpenter ant frass
 - Eastern subterranean termite swarmers w/out wings
 - Drywood termite frass
 - Formosan subterranean termite carton
 - Cerambycidae (old house borer) larva
 - ID characteristics on drywood termites
 - Lyctidae (true powderpost beetles)
 - Carpenter bee damage
 - Subterranean termite damage
 - Diagram of monolithic slab foundation
 - Subterranean termite queen
 - Diagram of suspended or supported slab foundation
 - Cerambycidae (old house borer) adult
 - Formosan subterranean termite swarmer
 - Buprestidae (flat-headed borer, metallic wood borer) adult
 - Carpenter ant
 - Eastern subterranean termite soldier
 - Drywood termite alate wing (close-up)
 - Cockroach fecal pellets
 - Diagram of crawlspace or conventional foundation
 - Lyctidae (true powderpost beetle) damage
 - Diagram of floating slab foundation

ALBOW

REINFESTING WOOD DESTROYING BEETLES

	<u>WOOD MOISTURE CONTENT</u>	<u>CRITICAL WOOD CONSTITUENTS</u>	<u>LIFE CYCLE</u>	<u>AGE AND TYPE OF WOOD</u>	<u>TYPE OF PRODUCT DAMAGE</u>	<u>FRASS</u>	<u>EXIT HOLES</u>
A-ANOBIIDS (FURNITURE OR DEATHWATCH BEETLES)	13-30%	NITROGEN, WATER, STARCH, LOW EXTRACTIVES	1-5 YRS., USUALLY 2 OR 3	OLD SOFTWOODS AND OLD HARDWOODS 10 YRS. OR OLDER	FLOOR JOISTS, SUBLFOORING, LUMBER	LEMON-SHAPED SMALL PELLETS, FEELS GRITTY	1/16-1/8 IN. DIAMETER (CIRCULAR)
L-LYCTIDS (TRUE POWDER-POST BEETLES)	6-30%	STARCH, LARGE PORES	USUALLY 1 YR. MAYBE 3 MTHS. TO ?	NEW HARDWOODS LESS THAN 10 YRS. OLD	MILLWORK, FURNITURE FLOORING, PANELING	FINE POWDER, FEELS LIKE TALCUM POWDER, NO PELLETS	1/32-1/16 IN. DIAMETER (CIRCULAR)
B-BOSTRYCHIDS (FALSE POWDER POST BEETLES)	6-30% (+)	STARCH, SOME-TIMES BARK	USUALLY 1 YR.	NEW HARDWOODS LESS THAN 10 YRS. OLD	FIREWOOD, FLOORING, PANELING, BASKETS, WOODEN HANDLES	POWDER COARSER THAN LYCTIDS	1/8-3/8 IN. DIAMETER (CIRCULAR)
O-OLD HOUSE BORERS (CERAMBYCIDE LONG-HORNED WOOD BORERS)	AT LEAST 13%	NITROGEN, WATER, LOW EXTRACTIVES	3-10 YRS. USUALLY 3-5 YRS.	NEW SOFTWOODS LESS THAN 10 YRS. OLD	STRUCTURAL, TIMBERS, LUMBER	GRANULAR FRASS, TIGHTLY PACKED	1/4 INCH OR LARGER DIAMETER (OVAL) CAN SEE TEETH MARKS
W-WEEVILS RARELY A PROBLEM (CURCULIONIDEAS)	RELATIVELY HIGH	WATER, ?, ?	UNKNOWN, BELIEVED TO BE 1 YR.	OLD SOFTWOODS AND HARDWOODS 10 YRS. OR OLDER	SUPPORT POSTS, SCRAPS	FRASS FINER THAN ANOBIIDS	LESS THAN 1/16 IN. DIAMETER (CIRCULAR)

ABC'S OF NON-REINFESTING WOOD DESTROYING BEETLES

NO CONTROL FOR THE FOLLOWING (YOU CAN'T TREAT FOR THESE):

	<u>LIFE CYCLE</u>	<u>AGE AND TYPE OF WOOD</u>	<u>TYPE OF PRODUCT DAMAGED</u>	<u>FRASS</u>	<u>EXIT HOLES</u>
A-AMBROSIA BEETLES (SCOLYTIDAE AND PLATYPODIDEA)	LESS THAN 1 YR.	SOFTWOODS & HARDWOODS AS THEY ARE DRYING	LAWN FURNITURE, FLOOR JOISTS, LUMBER	NO FRASS	EXIT HOLES DARKLY STAINED 1/16-1/8 IN. CIRCULAR HOLES
B-BUPRESTIDS (FLAT-HEAD BORERS, METALLIC BORERS)	1 TO SEVERAL YRS.	SOFTWOODS & HARDWOODS AS THEY ARE DRYING	FIREWOOD, LOG HOMES, LAWN FURNITURE, LUMBER	FINE TIGHTLY PACKED	THREE TIMES AS BROAD AS HIGH 1/8-1/2 IN.
C-CERAMBYCIDS (OTHER THAN OLD HOUSE BORERS AND FLAT OAK BORERS)	1 TO SEVERAL YRS.	SOFTWOODS & HARDWOODS AS THEY ARE DRYING	FIREWOOD, LOG HOMES, LAWN FURNITURE, LUMBER	LOOSE FIBROUS SHAVINGS	1/8-3/8 INCH (CIRCULAR-OVAL)
S-SCOLYTIDS BARK BEETLES (SCOLYTIDAE)	USUALLY 1 YR. OR LESS	SOFTWOODS & HARDWOODS AS THEY ARE DRYING	FIREWOOD, LOG HOMES, LAWN FURNITURE, LUMBER-WITH BARK	REDDISH-BROWN (COLOR OF THE BARK)	EXIT HOLES IN BARK (CIRCULAR) 1/8 IN.