

LDAF Service Technician Exam Study Guide

Classification of Pesticides

- General Use Pesticides:
 - These pesticides will not ordinarily cause unreasonable or adverse effects when used in accordance with the label
 - Available to the general public.
- Restricted Use Pesticides
 - These pesticides that may cause adverse effects on the environment or applicator without the use of additional safeguards.
 - Must be a certified operator to purchase and must be used by the certified operator or under their direct supervision.
 - Restricted use pesticides (RUP) can only be purchased by a certified operator possessing a license in the category that specific pesticide falls in.

Federal & State Rules and Regulations

Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) is a law passed by Congress in 1972 that regulates the registration, manufacturing, transportation and use of pesticides in the United States.

- EPA is responsible for regulating pesticides on a national level.
- La Department of Agriculture and Forestry is the state agency in Louisiana that is responsible for certification of pest control operators and the enforcement of the structural pest control laws, rules and regulations.
- A major violation of FIFRA carries a maximum fine of \$25,000 per violation and one year in jail

The six phases of Structural Pest Control work in Louisiana are

1. General Pest Control
2. Commercial Vertebrate Control
3. Termite Control
4. Structural Fumigation
5. Commodity Fumigation
6. Ship Fumigation

Fumigations can only be performed by certified operators

Technician **MUST ALWAYS** carry have his/her registration card their possession when engaging in structural pest control work

Pesticide Spills

- If spill occurs,
 1. Check for injured personnel and notify medical authorities if necessary

2. Contain the spill. it must be stopped and contained before you attempt to clean it up
3. Notify the property authorities
 - a. All uncontained pesticide spills
 - more than 1 gallon liquid or 4 pounds dry weight
 - must be reported to La Dept of Ag and Forestry within 24 hours by telephone
 - and by written notice within 3 days

Empty pesticide containers should be triple rinsed, punctured and taken to sanitary landfill

Pesticide drift occurs when a product is moved by air currents to a non-target area during the application

Formulations

Fumigant

- formulation that is potentially hazardous and expensive
- Hydrogen phosphide is a fumigant. It is an odorless gas and is sold under the brand names Phostoxin or Fumitoxin

Baits- Formulation of pesticide containing an active ingredient mixed with food or other attractive substances

Pyrethrum: good for flushing cockroaches out of cracks and crevices

Emulsifiable Concentrates

- must be mixed with water
- are oil based
- may cause stains on finished surfaces, flooring, paneling, etc

Wettable powders-

- May leave visible residues
- Must be frequently agitated/shaken because “powder” settles out of suspension
- May clog spray nozzles

Dusts: if mixed with water will lose their effectiveness

Insect Growth Regulators are designed to interrupt the metamorphosis of an insect

Residual pesticides tend to remain active on treated surfaces for long periods of time

Non-residual pesticides kill on direct contact at the time of application and break down very easily

Safe and effective pest management programs require attention to the following

1. Pest identification
 - a. Understanding of the pest's life cycle is an important factor in effectively controlling/eliminating the pest.
2. Sanitation
3. Pest exclusion
4. Use of non-chemical control measures

3 routes of pesticide exposure

- Oral
 - Most often caused by
 - not washing hands after application of product
 - Splashing pesticide in mouth
 - Accidentally applying to food
- Dermal
 - Most common route of exposure
 - Most often caused by
 - Wearing inadequate PPE
 - Splashing or spraying into eyes
 - Not washing hands after handling pesticides
 - Wearing pesticide contaminated clothing (ex: gloves, boots)
- Inhalation
 - Most often caused by
 - Accidentally breathing vapors from fumigants
 - Prolonged exposure in poorly ventilated spaces
 - Breathing in fumes or mist during pesticide application
 - Not having a good seal on respirator

In case of pesticide exposure to a person, it is extremely important to remove the person from the source of the exposure, remove contaminated clothing, and wash off any pesticide on skin.

Pesticide Labels

A pesticide label is a federal document and regardless of the type of pesticide, who is using the pesticide all aspects of the label must be followed. This includes homeowners who purchase pesticides from stores

Technician must always have copy of labels that are in their possession and are being used. Always ensure that the label on the products container is easily read, in good condition and adhered to the product's container.

Signal words

- Always found on a product label
- Signal words let you know how toxic the product is to the users, those around you, and animals.
 - Danger (most toxic): taste to a teaspoon of product will kill average adult
 - Warning (moderately toxic): teaspoon to an ounce will kill average adult
 - Caution (least toxic): ounce or more will kill an average adult

Personal Protective Equipment (PPE)

- Consists of rubber gloves, chemical resistant gloves, safety goggles, neoprene apron, face shield, and respirator.
- Leather gloves are NOT considered PPE
- Do not wear gloves lined with fabric

Before applying any pesticide, you must read the label to determine

- The type of product
- What is in the product
- What to do in case of an exposure
- Target pest
- Treatment sites
- How to mix the product
- Application method
- Frequency of application
- PPE requirements
- Storage requirements
- Disposal requirement

An applicator MUST apply pesticides in the target site directed by the product's label. If a target pest is in an area that is restricted by the label, it cannot be used.

On a pesticide label, the re-entry statement tells the user how long one must wait before reentering the area after that product has been applied. This applies to the applicator and the homeowner.

Ingredient statement is the part of the pesticide label that lists what the product is

Rodents

3 rodents that are of importance in structural pest control in Louisiana

- House mouse

- Smallest
- Curious rodent
- Roof rat and Norway rat
 - Neophobic
 - do not like new things in their environment
 - suspicious of new things, including new food in their environment
- Norway rat
 - largest of the 3 rodents that are of importance in structural pest

Rodenticides

Anticoagulants poisoning: antidote is Vitamin K

Use of baits for rodent control:

- Application of the rodenticide according to the label
- Proper placement of baits

Spiders

Poisonous spiders in Louisiana

- Black widow
- Brown recluse

Insects

Parts of an insect

- Head
- Thorax
- Abdomen

Insects have exoskeletons (skeleton is on the outside of the body)

Humans have endoskeletons (skeleton is on the inside of the body)

Insect Metamorphosis

Gradual metamorphosis

- 1)Egg 2) nymph 3)adult
- Cockroaches, bed bugs, termites, crickets, grasshoppers

Complete metamorphosis

- 1)egg 2)larva 3)pupa 4) adult
- Bees, ants, wasp, moths, butterflies, flies, fleas

Incomplete metamorphosis

- 1)Egg 2) naiad 3)adult

- Dragonflies

Insect Pests

Subterranean termites

- swarm during spring
- Native termites swarm during daylight hours
- Formosan termites swarm in the evening and at night and around lights.
- primary colony is found underground
- Termidor is an approved insecticide for termite control
- 3 castes
 - Reproductive
 - Worker – only caste that consumes wood
 - Soldier – cannot consume wood, must be fed by worker. They defend colony

Mosquitoes are most susceptible to commonly used insecticides at all stages of life

Blue and Green Bottle flies: lay their eggs directly on dead animals

Carpenter ant is of importance as a wood destroying insect

Cockroaches

German cockroach

- Adults are ½ inch in length
- Light brown to tan in color
- Two dark bands running lengthwise on the pronotum (the shield covering the head)
- Wings cover the abdomen



American cockroach

- Adults are 1 to 1 ½ inches long
- Chestnut brown in color
- Some yellow coloring on the pronotum
- Wings completely cover the abdomen



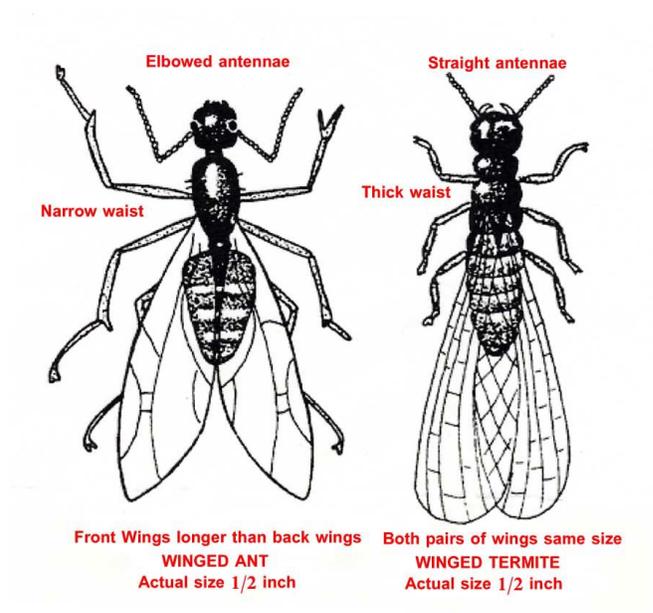
Ant Swarmers and Termite Swarmers (winged)

Ants Swarmers

- Elbowed antennae
- Narrow waist
- Front wings are longer than the hind wings

Termites Swarmers

- Straight, beaded antennae
- Thick waist
- Long wings that are all the same size in length



Treatments

Possible methods of controlling wood destroying beetles include

- Fumigation
- Spot treatment
- Removal of infested wood

When treating near food in a restaurant or edible products,

- it is necessary to cover or remove the food
- use non-residual materials because they breakdown quickly
- the use of residual materials should only be used as a crack and crevice application

In and around electrical appliances and outlets

- Water based products should not be used
- Dusts are a good formulations to use

Spot treatment is an application of product limited to 2 square feet in size

Compressed air sprayers: most commonly used type is ½ to 1 gallon stainless steel tank.

Ultra low volume (ULV) treatments are preferred over thermal/fogging treatments for mosquitoes because ULV machines use less insecticide volume per acre