

General Pest Control Certified License Exam Study Guide

Essay Questions

Explain in detail how to perform an initial clean out of a home infested with German or Brown-banded cockroaches.

- begin your explanation with performing an inspection
 - most probable areas of infestation: kitchen, pantry, dining room but can be in any area of the home where food is present
 - look for areas with signs of activity
 - live roaches
 - dead roaches
 - cast skins
 - fecal matter
 - egg cases
 - Once you have determined likely areas of infestation get products from service vehicle
 - Make sure you leave your vehicle locked
 - Ensure you have the correct PPE for the products you will be using
 - Gloves should be unlined, liquid-proof neoprene
 - flush with aerosol product to determine as many locations as possible
 - using HEPA filter vacuum, remove as many cockroaches as possible when flushing
 - Dust in wall voids
 - Bait in cracks and crevices where people and pets cannot come in contact with product
 - Crack and crevice liquid applications with small compressed air sprayer behind baseboards where people and pets cannot come in contact with product. Use low pressure spray
 - All product application is made so that food, food utensils and surfaces that are exposed are not contaminated with product
 - If sanitation is an issue, communicate to the customer the importance of removing food and debris
 - Advise customer to stay out of treated areas until dry (usually 3-4 hours)

Define each of the types of metamorphosis that insects undergo and give an example of an insect in each group.

- Development without metamorphosis
 - No molting; young resemble adults.
 - All insects that develop without metamorphosis are wingless
 - Example: silverfish, firebrats, springtails
- Gradual metamorphosis
 - 3 stages of growth
 - Egg, nymph, adult

- Example: cockroach, bed bug, termite
- Complete metamorphosis
 - 4 stages of growth
 - Egg, larvae, pupae, adult
 - Example: butterfly, fly, ants
- Incomplete metamorphosis
 - 3 stages of growth
 - Egg, naiad and adult
 - Example: dragonfly, mayfly

Give a detailed explanation of pre-baiting with regards to rodent control

- Rats are neophobic and are very cautious of new items in their environment
- If many traps are placed and engaged in their environment, they may not come near them.
- May need to determine food preference. If they are already feeding on a particular item, use it!
- Placing food bait on a trap that has not been engaged/set after a few days the rat becomes used to the item. After a few days of checking and replacing the food bait, you can engage/set the trap.
- This will increase the likelihood that you trap the rodent.

Explain in detail the difference between a young rat and a house mouse

- House mouse will have a small head and small feet in proportion to its body
- Young rat will have large feet and a large head in proportion to its body

Matching

Be able to match the insects to their description

Roaches

- German – approximately ½ inch long with 2 longitudinal stripes on the pronotum
- Brown-banded – approximately ½ inch long with 2 lighter transverse bands across the base of the wings and abdomen
- Woods – 2/3 inches long, dark brown in color with the sides of the thorax and front half of the wing margins with yellow markings
- American – approximately 1 ½ inches long, reddish brown in color with a yellow border on the pronotum
- Smokey-brown – approximately 1 inch long and uniform mahogany brown in color

Pantry pests

- Rice weevil – reddish brown beetle with a snout and has 4 light red or yellow spots on the wing covers
- Angoumois grain moth – small yellowish/white moth with pointed hind wings
- Cigarette beetle – light brown beetle about 3 mm long with a humpbacked appearance

- Indian meal moth- front wings are tan on the top 1/3 and copper colored on the remaining 2/3 of the wing
- Confused flour beetle – reddish brown beetle about 3 mm long with antennae that end in a 4 segmented club
- Trogoderma beetle – larvae are yellow to medium brown in color with a dense clump of dark color hair (setae)
- Granary weevil – chestnut brown beetle with a snout with no markings on its back

Multiple Choice

- The ant worker caste is made up of females whose reproductive organs have not yet developed
- Red imported fire ants: aggressively defend colony
- Ootheca: leathery case where the eggs of cockroaches develop
- American cockroaches and Oriental cockroaches prefer damp dark places, moist shady areas of groundcover which are often found around fountains and swimming pools in the southern US
- Brown recluse spider has a dark violin shape marking on its cephalothorax
- ULV means ultra-low volume
- Indian meal moth: small reddish gray moth that may show large amount of webbing with active larvae. Larvae are not spotted
- Fleas: complete metamorphosis
- Anti-coagulant poisons slow the clotting of blood
- Second generation anti-coagulants can cause death in a single feeding (first generation are multiple feed)
 - First generation anticoagulant rodenticide: Warfarin
 - Second-generation anticoagulant rodenticides: Brodifacoum, Bromadiolone
- Advantages of an anti-coagulant bait (for rodents) over an acute (fast acting) bait
 - Rat shyness rarely develops when a good quality bait is used
 - An effective antidote is available
 - The risk of kill to non-target organisms is low
- Weather blocks:
- Norway rat droppings are $\frac{3}{4}$ inch long with blunt ends
- High rat and mouse populations can be attributed to high reproductive potential

Fill in the Blank

- Stored product pest contaminate more food than they eat
- Stored product pests can be categorized in 4 groups according to their feeding habits
 - Internal feeders – feed entirely within kernel of grain
 - External feeders – eat outer part or chew through outer shell and eat inner portion of grain
 - Scavengers – feed on grain only after seed coat has been broken

- Secondary feeders – feed on materials which are out of condition, damp or have mold growth
- Saw-tooth grain beetle has 6 saw-like projections on each side of its thorax and does not fly
- Brown-banded cockroaches found high on walls, on ceilings, behind picture frames and light fixtures or near appliances
- House mouse
 - Average life span: 1 year
 - Will have average of 8 litters in her lifetime
 - droppings are ¼ inch long, elongated and pointed with no ridges
- Norway rat
 - Blunt nose, short tail, small eyes and a thick, heavy body
 - droppings are ¾ inch long and blunt
- Roof rats
 - have long tail, slender body, large eyes and a pointed nose
 - droppings are ½ inch long, elongated and pointed

True/False

- Mice recognize each other by smell
- Sight is a mouse's LEAST developed sense
- A mouse's sense of smell is keener than a humans
- Rat litters average 6-8 pups
- Roof rats and Norway rats have a 22 day gestation period
- Rats are good jumpers and climbers
- Talon is the brand name of an anti-coagulant rodenticide
- Adult bed bugs can be found just about anywhere
- Silverfish are distinguished by having 3 long appendages on the tail
- House crickets: during warm weather, house crickets can live outdoors and are especially fond of garbage dumps. They are driven indoors by cool temperatures
- Yellow meal worms are not worms. They are the larval stage of the darkling beetle
- ALL moths undergo complete metamorphosis: egg, larvae, pupae and adult
- Drugstore beetles have antenna that end in three enlarged segments.
- Spider beetles are insects, NOT spiders
- Granary weevils produce an average of 4 generations per year
- Flat grain beetles are scavengers

Be able to identify the following insects/pests. There will be specimens for you to view.

- Fruit fly
- Flea
- Honey bee
- Bumble bee
- Paper wasp

- Carpet beetle (small, calico colored)
- Black widow spider
- Millipede
- Centipede
- Brown dog tick
- Scorpion
- Earwig
- Mud dauber
- House fly
- Brown recluse spider
- American roach
- German roach
- Brownbanded roach
- Spider beetle
- Granary weevil
- Rice weevil
- Sawtoothed grain beetle
- Drugstore beetle
- Smokey brown roach