

Questions on Recent GHP Exams

The following information has been on previous GHP Certified Operator State Exams. The information highlighted in yellow has been on the most recent tests (last 2 or 3)

Identification/Pictures on Test

Booklice/psocids	Smoky-brown roach	Scorpion
Surinam roach	Lesser grain borer	Acrobat ant
Brown-banded roach	Ground beetle	German roach
Mud dauber wasp	Millipede	Field roach
Cow pea weevil	Centipede	Springtail
Fungus fly/gnat	Red flour beetle	Silverfish
Paper wasp	Indian meal moth	Sawtoothed grain beetle
Florida woods roach	Black widow spider	Cigarette beetle
Carpenter ant	Brown recluse	
Earwig	Lawn shrimp/Amphipod	
Plaster bagworm	Pillbug	

Core and IPM

- Know the Signal Words
 - Extremely Toxic = Danger
 - Moderately Toxic = Warning
 - Low/Slight Toxic = Caution
- MUST BE ON ALL LABELS= "Keep out of reach of children"
- Your SALESMAN NEEDS TO HAVE AN ID CARD!
- EACH Licensed Business Location NEEDS: Copies for all labels of materials used, records of pesticides applied, copies of 13645s completed, The Cert Operator's Certificate.
- MUST BE IN PHONE BOOK if licensed business: Licensees name or trade name registered with the Dept., complete business location and address and telephone numbers.
- Letters on sides of vehicles need to be at least 1.5 inches high
- Magnetic signs are prohibited except with vehicles used without chemicals such as in sales/managers.
- If not renewed, a business license automatically expires 60 days after the renewal date.
- Your business license automatically expires: after a change in business location or business name
- EPA registers all pesticides and approves product labels and makes it illegal to store or dispose of pesticides/containers other than directed.

- EPA Establishment # = facility that produced the product (also includes Manufacturer and Chemical)
 - EPA Registration # = Manufacturer and chemical
 - If not timely renewed, a certificate or special ID card will expire 180 days after the RENEWAL DATE.
 - To obtain an occupational license, show them your: FDACS pest control LICENSE
 - LD50: lethal dose of a pesticide necessary to kill 50% of the test population
 - If the LD50 of a pesticide is 50, how many test animals will die if fed this product? 25
 - If the LD50 of a pesticide is 2345, how many will die? 1/2.
 - If applicators clothing has been contaminated with pesticide spray, it should be: WASHED IN HOT water using phosphate soap + 2 WARM water rinses.
 - Acute effects = WITHIN 24 hours
 - If poisoning by EITHER dermal or oral exposure will result in ACUTE illness, the POISON & Skull/Crossbones must be on the label.
 - Solvent = a liquid such as water, kerosene, alcohol, that will dissolve a pesticide to form a solution.
 - Leaching = movement of pesticide in water or liquid form DOWNWARD through the soil or medium
 - Skin/dermal usually gets the most exposure when mixing/applying pesticides.
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- Point source contamination: is from one major spill that contaminated a body of water with a known point of spill
 - Non-point source contamination: is from movement of pesticides via a large rain that washes many treatments into a body of water.
 - Adsorption = attachment of pesticide to soil particles so they stay there
 - Absorption = sucking up like a sponge
 - MSDS = Material Safety Data Sheet
 - MSDS for every product used must be available at SC
 - Know difference between label and labeling
 - Licensees need to maintain training records for at least a 2-year period for all ID cardholders within their employ and make these records available to State Inspectors during routine inspection
 - Certified Operator in Charge = needed for all categories a company is doing business in: CO needs to have primary occupation in Pest Control, Employed full-time by the licensed company, and have primary duty of supervising the licensee's operation.
 - Vehicles AND trailers used in treatment of customer's homes need to be marked with the licensee's NAME THAT IS REGISTERED WITH THE DEPT.
 - Licensee name must be on truck

- License expires 60 days from anniversary date
- NOT REQUIRED TO HAVE ID CARD= office, secretarial, clerical, trenchers, diggers, rakers, hose pullers, putting up/clipping/taking down tents, carrying debris.
- Respirator CARTRIDGES are approved by NIOSH (National Institute for Occupational Safety & Health) or the US BUREAU OF MINES/MSHA (Mine Safety & Health Administration)
- Respirators should be stored SEALED IN CLEAN PLASTIC BAGS/CONTAINERS
- Must apply for ID card for each employee within 30 days of hire.
- ID cardholder needs 5 days of training before performing pest control under Ch.482.
- Days to notify change of CO's ADDRESS OR PHONE= 10 days
- It is not necessary to keep copies of business records at the licensed business location.
- Pesticide that can cause serious acute poisoning has all: DANGER/POISON/SKULL/CROSSBONES
- Florida CEU's can be obtained out of state! As long as: you have proof of attendance, proof it was at least 50 minutes, a copy of the program. Generally these programs have prior approval from FL and they tell you at the out-of-state location. The program DOES NOT have to be DACS approved.
- Need 2 hours of core for certification renewal
- What are the topics that can be covered for core: pesticide safety, formulations, IPM, Laws
- Know the late fee for Initial certificate and Renewal of Certificate
- Emergency certificates occurs immediately on the Date of the LOSS or EMERGENCY.
- After a certificate has been revoked, reapplication can be made for another certificate after 3 years
- Triple rinsing: know definition
- The outdoor sign that yard was treated stay off till dry is best posted:
 - by road
 - by front sidewalk to main entry
 - middle of the yard
 - between driveway and front sidewalk

Answer is the most conspicuous location, which in this case guess A.

- What is the maximum distance that a chemically sensitive person can request pre-notification?
 - Adjacent/contiguous
 - ¼ mile
 - 1/8 mile
 - ½ mile = correct answer

- If clothing is contaminated...wash in hot water and **phosphate** soap
- ID card holder can apply a restricted use pesticide, if under the supervision of a Certified Operator
- *What is the best way to clean a vehicle because of a spill (not sure of the exact wording of this answers)*
 - Do you just use water
 - Straight bleach, water, and detergent
 - **Bleach/water solution, detergent, and water (correct answer)**
- Magnetic signs be used on vehicles not carrying chemicals
- EPA registers and approves pesticides
- You have a spill: do you report if more than 10 gallons and/or SARA act
- Letters on vehicle: 1.5 inches high
- Permanently marked vehicle or trailer if used for pest control
- Don't have to keep business records at business location
- When in doubt, check the label for PPE requirements
- ID cardholders must keep in contact with CO for changes in formulations, mixing procedures, PPE, etc
- A person cannot perform fumigation on his own property without a certificate
- Can temporarily move an ID cardholder from one business location to another as long as they are not the CO in charge
- ID card training record: if on an inspection, the Service Center does not have them, what happens
 - Take away the licensees assets
 - Close down the business
 - **Fines/penalty**

Issuance and Renewal Fees

For Certificate: \$150

For Special ID card (fume): \$100

For Employee ID card: \$10

Late fee for a Certificate: \$50

- Employee ID card is renewed annually on the anniversary date of the business license
- When a certificate is revoked, reapplication can be made after 3 years
- Probation can be no longer than 2 years

Chemicals

- The most pervasive and well-known energy inhibiting insecticide is hydramethylnon. Found in Amdro bait, Seige Gel Bait
- Mixing chemicals: The order to mix them is, use the acronym, WALE
 - **W**ettable powder/water dispersable
 - **A**gitate
 - **L**iquids
 - **E**mulsifiable Concentrates
- The 3 C's of chemical spills are Confine, Control, and Clean-up
- When buying a pesticide, what do you look for to ensure you are getting the right active ingredient:
 - Brand name
 - **Chemical Name**
 - Formulation
 - Pesticide class
- You can apply a chemical to an area that is on the label even if the insect is not on the label
- You can never have enough PPE as long as you have what the label calls for.
- Organophosphates, Carbamates, Nicotine can cause
 - Headaches, dizziness, weakness, shaking, nausea
 - Stomach cramps, diarrhea, sweating
- Arerosols are not categorized as fumigants.
- It is illegal to apply a chemical to a site not listed on the label
- The best way to get rid of a extra chemical/rinse water, it to put on labeled site
- What is back-siphoning: getting into the water source
- Best way to avoid exposure to a chemical when handling is to wash hands after use.
- If have LARGE spill, what is the most important equipment to have:
 - **Shovel**
 - Absorption snake
 - Activated charcoal
- The 2 major responsibilities when applying pesticides:
 - Protecting yourself and the environment
 - Ensuring the pesticide gets applied correctly
- Know why you call CHEMTRAC: in case of emergency
 - Question asks what do you call for (true or false question):
 - 1. **spills (correct answer)**
 - 2. **storage and disposal**
- You can find all information on storage and handling of a pesticide on the label and MSDS
- You can find all information on spill cleanup of a pesticide on the label and MSDS

- When can a restricted use pesticide be used and by whom: can be used by an ID holder, but only under the supervision of a CO
- Use of foam added to a pesticide mixture improves the coverage
- Study all listed IGR Methoprene, Hydroprene, Fenoxycarb, etc. and what each does to kill the pest.
- Hydroprene, Methoprene, fenoxycarb, pyriproxyfen are juvenoids (also known as Juvenile Hormone Analogs)
- Lufenuron is a Chitin Synthesis Inhibitor
- Hydramethylnon = A slow-acting insecticide that DISRUPTS ENERGY METABOLISM
- Which soil is most permeable? Sand, muck, loam, or clay?
- Resistance develops genetically within a population.
- Know formulation types
 - Wettable powders, EC's, Microencapsulates, etc
- OP's, Carbamates, and Nicotine can cause headaches, dizziness, weakness, shaking, nausea, stomach cramps, and diarrhea

1. Nervous System

- Pyrethroids
- Organophosphates
- Carbamates
- Avermectin: derived from a fungus
- Imidiclopid
- Fipronil

2. The production of energy- the insect runs out of gas

- Hydramethylnon: active ingredient in Seige and Amdro
- Sulfluramid
- Sulfluryl fluoride: fumigant

3. Endocrine System

- Also known as Insect Growth Regulators (IGR)
- Low mammalian toxicity, persistent in the environment, slowly cause death
- Mimic the action of juvenile hormone
 - Keep insect in mature state, they are unable to molt successfully
- In adult stage, they cannot reproduce normally
- Hydroprene, methoprene, pyriproxyfen, fenoxycarb

4. Inhibition of Cuticle Production

- Known as chitin synthesis inhibitors
- Inhibit the production of chitin

- Do not allow the insect to synthesize new cuticle, preventing them from molting to the next stage of the life cycle
- Lufenuron, diflubenzuron, hexaflumuron
 - Lufenuron: used in Flea control

5. Water Balance

- Boric acid and diatomaceous earth
 - When they come in contact with the waxy covering on the insect's cuticle, it is absorbed it results in rapid water loss from the cuticle.

2) Know starlings tail size

3) Understand dangers of bacteria & disease in pigeon droppings..the bacteria in droppings or bird mites more dangerous?

4) The new replacement CO begins NOT when they're hired, it begins from the date of the loss of the replaced CO.

5) Honeybee stingers should NOT be pinched or squeezed off with tweezers..THEY SHOULD BE **SCRAPED** OFF with a credit card, hard paper edge, etc. so as not to squeeze venom in any more

6) Head lice and ticks ~6 Q's.

7) Indianmeal moth photo & 1 Q. about

8) The Q. about the photo of a carpenter ant deals with how it can become resistant to insecticides...it's a genetic carryover from survivors.

Rodents

- Mouse traps should be placed about every 6 feet in double sets in areas of activity along perimeter of walls.
- Vitamin K is the antidote of 2nd generation AND conventional anticoagulant rodenticides.
- Warfarin is a multifeedant rodenticide = MANY feedings needed.
- Openings into hollow walls, particularly between floor sills should be closed up with no larger than ½ inch (19-gauge) mesh galvanized wire cloth.
- Mouse foraging territory is between 10-30 feet from the nest.
- Rats will travel 25-100 feet from the nest
- Roof rats' tails are longer than head AND body combined.
- Roof rat is also known as black rat.
- Main difference between a mouse and young rat?
- Know the diseases caused by rodents...including plagues, Murine Typhus, Rickettsial pox, Leptospirosis (weil's disease), food poisoning (salmonellosis), trichinosis, rabies,
- Plague: most widely known and feared disease
- Leptospirosis (Weil's Disease): most widespread and most prevalent zoonotic disease (transferable from lower animals to man)
- Water needs for rodents
- Rodents can detect contaminants and chemicals in their food in parts of less than 1 part per million
- Rodent urine will fluoresce under ultraviolet light
- Know identifying characteristics of rodent feces
- Know Anticoagulant and Non-anticoagulant rodent baits
 - Know which were 1st generation and which were 2nd generation
- Active ingredient of the rodenticide, Colecalciferol is vitamin D₃
- Vitamin K₁ is the antidote for anticoagulant rodenticides

Fleas

- Young fleas hatch within 2 days in egg and then feed on dandruff, grain particles, skin particles, and adult flea feces.
- New adults can emerge from cocoons just 2 weeks after cocoon forms
- They can develop faster at higher temps but can remain dormant for up to 12 months.
- "Flea-Dirt" is dried reddish brown fecal pellets of dried up digested blood dropping from adult fleas clinging onto the host, falling off of host into environment where flea larvae exist and eat the flea dirt.
- 3 things needed to encourage pupae to emerge from cases
 - Vibrations and/or increase in CO₂ stimulate adult emergence.
 - Heat is also needed
- IGR's for flea control include: Lufenuron, pyriproxifen, & methoprene.
- These are highly important in flea control.
- Also, adulticides = Permethrin, fipronil (Front Line), Imidiclopid

- Imidacloprid, applied as a spot-on had almost 100% efficacy for 1 month against fleas on dogs and cats.
- Female fleas can increase their body weight up to 15 times when feeding.
- Adult fleas have piercing-sucking mouthparts.

Ticks

- American Dog Tick may carry Rocky Mountain spotted fever, tularemia, and other diseases from animal to people.
- In 1988 5,600 cases of Lyme disease (only 5,000 cases from 1975-87)
- Very few cases of Lyme disease in FL
- Lyme now most significant Tick borne disease, surpassing Rocky Mtn Spotted Fever

Lice

- Read information on head lice
- Read information on lice on animals: how to treat for dog lice

Ants

- Ant antennae are used for: SMELL/TOUCH.
- Fission or Budding occurs with : Pharaoh and Argentine ants
- Trophallaxis aids in the distribution of LIQUIDS= feeding from ant to ant through liquid regurgitation.
- Carpenter ants enter buildings to nest or forage. They excavate nests in softer wood creating smooth tunnels and galleries.
- Carpenter and crazy ants have circle of hair around the tip of their abdomen

Cockroaches

- Cockroaches go through gradual metamorphosis
- German roaches:
 - Pheromones found in feces influence aggregation in cracks and crevices
 - Younger nymphs are more effected by aggregation pheromones than older nymphs and adults
- Female German roaches will carry egg case until nymphs hatch from eggs inside the egg case
- Male brown-banded roaches fly indoors and outdoors.
- American roaches: have stylets present
- Brown roaches: no stylets
- Brown roach nymph: the first 8 and last 4 antennal segments are white, the middle segments are brown
- Brown banded roach is more likely to be found in the kitchen in the motor of the refrigerator

- Female American roaches GLUE their egg capsules to suitable surfaces... often the capsules are painted over, but the roaches try and place the capsules in crevices or bury them in soft wood or material.
- The smoky-brown roach is easily recognized by its uniform MAHOGANY BROWN coloration. It is slightly smaller than the American Roach.
- Cockroach aversion occurs most commonly with GLUCOSE.
- Which of the following formulations are least effective against cockroaches
 - Wettable powders
 - **Emulsifiable Concentrates**
 - Dust
 - Microencapsulates

Because EC's do not adhere well to non-porous surfaces and are absorbed into porous surfaces, they are not typically the best choice for cockroach control or crawling pests in general.

Stored Product Pests

- Cigarette beetle infests stored tobacco as well as many other stored dry foods such as rice, ginger, dried fish, and pyrethrins.
- Pheromones are excellent IPM tools when used in TRAPS.
- Sawtoothed grain beetle has 6 projections on EACH side of thorax, flattened body, and adapted for crawling onto crevices.
- Sawtooth grain beetles do not fly
- Male sawtoothed grain beetle has a tooth on femur of hind leg, female does not.
- Control of these beetles includes discarding infested packages, heat or cold will kill them if a small package, or residual crack/crevice trts.
- Red flour beetle: club of four segments/ Confused flour beetle: no club.
- Indianmeal moths: wingspan 5/8 inch, outer 1/3 has reddish-copper scales.
- Drugstore Beetles have grooves in elytra (upper shell).

Fabric Pests

- Black carpet beetle is the most abundant and widespread and the most destructive of the carpet beetles

Bed Bugs

- Read material on biology, inspection, identification, and control measures

Other Pest Questions

- Plaster bagworms are small moths that develop as caterpillars inside a "Plaster" (gathered bits of plaster around bag) sac that looks like a

watermelon seed. They can feed on woolens/rugs, but normally feed on spider webs.

- Africanized bees are more dangerous than European because they protect their nests more aggressively.
- Masses of field crickets during mating season caused power outages by clogging air filters because they were attracted to lights.
- “Jumpiness” is evidently a reaction of nervousness some people exhibit from bites of bedbugs.