

# Industrial & Institutional Pest Management

## Test Plan Development

### I. Pest Identification, Biology and Ecology

#### a) Ants

- i. Pharaoh ant
- ii. Odorous house ant
- iii. Southern fire ant
- iv. Carpenter ant
- v. Rover ant
- vi. Harvester ant

#### b) Cockroaches

- i. German
- ii. American
- iii. Brown-banded
- iv. Oriental
- v. Turkestan

#### c) Flies

- i. House fly
- ii. Flesh fly
- iii. Blue-bottle/green bottle fly
- iv. Moth fly
- v. Fruit fly/vinegar fly
- vi. Fungus gnat
- vii. Crane fly
- viii. Black fly
- ix. Phorid fly (humpbacked fly)
- x. Biting Midges
- xi. Non-biting Midges

#### d) Stored product pests/pantry pests/fabric pests

- i. Bean weevil (Bruchids)
- ii. Cigarette beetle
- iii. Saw-toothed grain beetle
- iv. Yellow meal worm
- v. Carpet beetle
- vi. Indian Meal Moths
- vii. Drugstore Beetles
- viii. Flour Beetles

#### e) Pests of Public Health concern

- i. Bed bugs

- ii. Head lice
- iii. Mosquitoes
- iv. Ticks
- v. Kissing bugs
- vi. Fleas

f) Spiders

- i. Dangerous
  - 1) Widow
  - 2) Recluse
- ii. Non-dangerous
  - 1) Pygmy
  - 2) Cellar
  - 3) Tarantula
  - 4) Wolf Spider
  - 5) Orb Spinners

g) Scorpions & Scorpion Like

- i. Bark scorpion
- ii. Giant hairy scorpion
- iii. Stripetail scorpion
- iv. Tailless whip scorpion (harmless)
- v. Solpugid

h) Wasps/Bees

- i. Tarantula hawk
- ii. Yellow-jacket-2 + 1 invasive
- iii. Paper wasps
- iv. Honey Bees
- v. Velvet ant
- vi. Leaf Cutter
- vii. Carpenter

i) Occasional invaders

- i. Stink bugs
- ii. Mealy bugs
- iii. False chinch bugs
- iv. Noctuids
- v. Box elder
- vi. Centipedes
- vii. Millipedes
- viii. Milkweed
- ix. Sphinx Moths
- x. Pill Bugs
- xi. Crickets – field, camel, Indian house, etc
- xii. Springtails

- xiii. Earwigs
- xiv. Firebrats/Silverfish
- xv. Darkling beetles
- xvi. Other outdoor beetles – paloverde beetle, ironclad

j) Vertebrates

- i. Mice
- ii. Pack rat/Wood Rat
- iii. Gophers
- iv. Squirrels
- v. Birds – pigeons
- vi. Roof Rats

**II. Comprehend and Apply Label & Labeling Directions**

- a) Drift and Run Off
- b) Rodenticides
- c) Sensitive Environments (i.e. Schools, Health Care and Child Care Facilities, & Food Handling Establishments)

**III. Planning & Implementing a Management Strategy**

- a) Awareness of Target Species
- b) Secondary Poisoning
- c) Endangered Species
- d) Non-Target Species
- e) Selection of the Appropriate Pesticide
- f) Selection of Appropriate Device/Equipment
- g) Record making

**IV. Strategies and Application Techniques**

- a) IPM Strategies
- b) Equipment
  - i. Types
  - ii. Uses
  - iii. Calibration
  - iv. Maintenance
- c) Calculations
  - i. Area
  - ii. Volume
  - iii. Dosage

Resources – [Arizona Revised Statute Title 3 Chapter 20](#); [Arizona Administrative Code Title 3](#); [National Pesticide Applicator Certification Core Manual](#); Truman’s Scientific Guide to Pest Management Operations – 7<sup>th</sup> Edition; and [Handbook on Pests of Community Environments in the Desert Southwest United States](#)