

ALCA's PMD Pre-Certification Study Outline

**GENERAL PEST INTRO/IPM**

What is a pest? \_\_\_\_\_  
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Categories of Pests \_\_\_\_\_  
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Natural Controls \_\_\_\_\_  
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Human Applied Controls \_\_\_\_\_  
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Biological Controls \_\_\_\_\_  
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Mechanical Controls \_\_\_\_\_  
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Cultural Controls \_\_\_\_\_  
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Physical Controls \_\_\_\_\_  
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Genetic Resistance \_\_\_\_\_  
\_\_\_\_\_

Chemical Control \_\_\_\_\_  
\_\_\_\_\_

Regulatory Pest Control \_\_\_\_\_  
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**LABELS & SDS**

Directions for Use \_\_\_\_\_  
Label is the Law \_\_\_\_\_

Chemical Name \_\_\_\_\_  
\_\_\_\_\_

Common Name \_\_\_\_\_

Use Classification Statement \_\_\_\_\_

Type of Pesticide \_\_\_\_\_

Pesticide Mode of Action \_\_\_\_\_

Pesticide Characteristics \_\_\_\_\_

Pesticide Formulation \_\_\_\_\_

Solution, Suspension, Emulsion \_\_\_\_\_

Emulsifiable Concentrate \_\_\_\_\_

Solutions, RTU, ULV, Invert Emulsion \_\_\_\_\_

Gels (G) \_\_\_\_\_

Dusts (D), Granules (G), Pellets \_\_\_\_\_

Dry Formulations + Water \_\_\_\_\_

Wettable Powders (WP, W), Water-Dispersible Granules (WDG), Dry Flowables (DF)

Soluble Powders (SP, WSP) \_\_\_\_\_

Flowables (F), Liquids (L) \_\_\_\_\_

Inert Ingredients \_\_\_\_\_

Adjuvants \_\_\_\_\_

**PRODUCT REGISTRATION/TESTING**

FIFRA \_\_\_\_\_

Environmental Protection Agency (EPA) \_\_\_\_\_

Toxicity or Toxicology Tests \_\_\_\_\_

Efficacy Tests \_\_\_\_\_

Pesticide Testing \_\_\_\_\_

**SIGNAL WORDS: DANGER, WARNING, CAUTION**

LD50 \_\_\_\_\_

Hazard=Toxicity x Exposure \_\_\_\_\_

Poisoning Effect \_\_\_\_\_

Contact vs Systemic vs Allergic Effects \_\_\_\_\_

Routes of Entry \_\_\_\_\_

Acute Effects \_\_\_\_\_

Chronic Effects vs Delayed Effects \_\_\_\_\_

Recognize Symptoms of Exposure \_\_\_\_\_

Other Precautionary Statements \_\_\_\_\_

SDS Sheets \_\_\_\_\_

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Minimum PPE Mixing, Applying and Cleaning \_\_\_\_\_

Footwear, Hats & Hoods \_\_\_\_\_

Protect Eyes, Respirators, Air-Purifying \_\_\_\_\_

Transportation of Pesticides \_\_\_\_\_

**MIXING & LOADING PESTICIDES**

Preparing for the Application \_\_\_\_\_

Pesticide Storage \_\_\_\_\_

Terms to Know: Triple Rinse Containers, Rinseate, Air-Gap

**PESTICIDE SPILLS**

The 3 C's – Control, Contain, Clean-Up \_\_\_\_\_

Spill Kit Contents \_\_\_\_\_

Soil, Concrete Contamination \_\_\_\_\_

Cleaning Contaminated Areas \_\_\_\_\_

Personal Clean-Up \_\_\_\_\_

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**PESTICIDES IN THE ENVIRONMENT**

The Environment, Sensitive Areas \_\_\_\_\_

Cleaning & Disposal of Containers \_\_\_\_\_

*Terms to Know:*

Solubility \_\_\_\_\_

Absorption \_\_\_\_\_

Persistence \_\_\_\_\_

Volatility \_\_\_\_\_

Degradation \_\_\_\_\_

Half-Life \_\_\_\_\_

Leaching \_\_\_\_\_

Temperature Inversion \_\_\_\_\_

Minimizing Drift \_\_\_\_\_

Droplet Size & Spray Pressure \_\_\_\_\_

**ARIZONA RULES & LAWS**

School Notifications \_\_\_\_\_

Weed Control Exemption \_\_\_\_\_

Recordkeeping \_\_\_\_\_

**PLANNING THE APPLICATION**

Pesticide Selection \_\_\_\_\_

Integrated Pest Management (IPM) \_\_\_\_\_

*Terms to Know:*

IPM: Selecting Control Methods \_\_\_\_\_

IPM: Identification \_\_\_\_\_

IPM: Monitoring the Pest \_\_\_\_\_

IPM: Treatment or Action Threshold \_\_\_\_\_

IPM: Goal \_\_\_\_\_

IPM: Implementation \_\_\_\_\_

IPM: Record & Evaluate Results \_\_\_\_\_

Pest Resistance \_\_\_\_\_

Pesticide Resistance Management \_\_\_\_\_

Pesticide Incompatibility \_\_\_\_\_

Mixing Order for Tank Mix \_\_\_\_\_

**MAKING THE APPLICATION**

Application Methods \_\_\_\_\_

Calibration of Equipment \_\_\_\_\_

Application Rate \_\_\_\_\_

Calibration of Equipment \_\_\_\_\_

Calibration Equations \_\_\_\_\_

Calculations Determining Application Rate \_\_\_\_\_

Minimizing Drift \_\_\_\_\_

Types of Nozzles \_\_\_\_\_

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Spray Pressure \_\_\_\_\_

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Spray Adjuvants \_\_\_\_\_

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**ORNAMENTAL & TURF**

IPM \_\_\_\_\_

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Disease Triangle \_\_\_\_\_

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Symptoms & Signs \_\_\_\_\_

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Abiotic vs. Biotic \_\_\_\_\_

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Biotic Pathogens \_\_\_\_\_

**PLANT DISEASES**

Texas Root Rot \_\_\_\_\_

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Phytophthora \_\_\_\_\_

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Damping off \_\_\_\_\_

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Woot rots \_\_\_\_\_

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Crown gall \_\_\_\_\_

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Bacterial Necrosis of Saguaro \_\_\_\_\_

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Sooty Canker \_\_\_\_\_

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Powdery Mildew \_\_\_\_\_

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Rust \_\_\_\_\_

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Virus \_\_\_\_\_

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Cytospora Canker \_\_\_\_\_

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Verticillium Wilt \_\_\_\_\_

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### **TURF PATHOGENS**

Fungal pathogens \_\_\_\_\_

Disease control methods \_\_\_\_\_

Brown Patch/ Large Patch \_\_\_\_\_

Dollar Spot \_\_\_\_\_

Grey Snow Mold \_\_\_\_\_

Pink Snow Mold \_\_\_\_\_

Leaf Spot/ Melting Out \_\_\_\_\_

Pythium Blight \_\_\_\_\_

Spring Dead Spot \_\_\_\_\_



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Summer Patch

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Fairy Ring

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**PESTS OF ORNAMENTALS**

Anatomy

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Life Cycle

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Thrips

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Whitefly, Aphids & Psyllid

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Cochineal Scale

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Spider mite

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Flea Beetle

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Beneficial Organism

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Leaf Cutter Bee

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Mistletoe

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Agave Weevil

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Flatheaded Borer \_\_\_\_\_

Cypress Bark Beetle \_\_\_\_\_

Palo Verde Root Borer \_\_\_\_\_

Giant Palm Borer \_\_\_\_\_

**TURF PESTS**

Harvester & Fire Ants \_\_\_\_\_

Chinch Bug \_\_\_\_\_

Cutworm \_\_\_\_\_

Flea Beetle \_\_\_\_\_

Leafhopper \_\_\_\_\_

Rove Beetle \_\_\_\_\_

Fruitfly \_\_\_\_\_

Billbug \_\_\_\_\_

Pearl Scale \_\_\_\_\_

White Grub \_\_\_\_\_

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**IPM STRATEGIES**

Pesticide Types \_\_\_\_\_

Pesticide Classifications \_\_\_\_\_

Definitions \_\_\_\_\_

**WEEDS**

Definition \_\_\_\_\_

Monocot vs Dicot \_\_\_\_\_

Annual, Perennial, Biennial \_\_\_\_\_

Cool/ Warm Season \_\_\_\_\_

**WEED ID**

Bermudagrass \_\_\_\_\_

Crabgrass \_\_\_\_\_

Poa annua \_\_\_\_\_

Johnsongrass \_\_\_\_\_

Nutsedge \_\_\_\_\_

Common Ragweed \_\_\_\_\_

Purslane \_\_\_\_\_

Puncturevine \_\_\_\_\_

Spurge \_\_\_\_\_

Annual Sowthistle \_\_\_\_\_

Common Cocklebur \_\_\_\_\_

Sunflower \_\_\_\_\_

London Rocket \_\_\_\_\_

Morningglory \_\_\_\_\_

Prostrate Knotweed \_\_\_\_\_

Prostrate Pigweed \_\_\_\_\_

Redroot Pigweed \_\_\_\_\_

Yellow Foxtail \_\_\_\_\_

Common Mullein \_\_\_\_\_

Field Bindweed \_\_\_\_\_

Mallow \_\_\_\_\_

Redstem Filaree \_\_\_\_\_

Lambsquarters \_\_\_\_\_

California Burclover \_\_\_\_\_

Black Medic \_\_\_\_\_

Creeping Woodsorrel \_\_\_\_\_

Russian Thistle \_\_\_\_\_

Dandelion \_\_\_\_\_

**WEED CONTROL METHODS**

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IPM Practices \_\_\_\_\_

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Cultural Practices \_\_\_\_\_

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Mechanical Practices \_\_\_\_\_

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Chemical Control \_\_\_\_\_

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Herbicide Goals \_\_\_\_\_

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Contact vs Systemic \_\_\_\_\_

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Pre vs Post-emergent \_\_\_\_\_

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Mode of Action \_\_\_\_\_

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Tips & Measurements \_\_\_\_\_

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