OREGON DEPARTMENT OF AGRICULTURE

ORNAMENTAL AND TURF INSECTICIDE / FUNGICIDE

EXAMINATION OUTLINE

To successfully complete this examination, the applicant will need to be familiar with the topics identified in this outline. The outline is not intended to be used as the sole study material and may not be all inclusive of topics covered in the exam. See "Pesticide Licensing Guide for Oregon" (available online or by calling 503-986-4635) for details on recommended study material.

It is advisable to bring a small, hand held calculator to the exam session to assist in performing calculations. This exam has 100 questions. A score of 70% is needed to pass the exam.
Government issued photo identification (such as a driver's license) will be required when you check in for testing.

OREGON DEPARTMENT OF AGRICULTURE
PESTICIDE EXAMINATION OUTLINE
ORNAMENTAL AND TURF INSECTICIDE/FUNGICIDE

1) Integrated Pest Management
   a) Definition of IPM
   b) Advantages of IPM
   c) Types of control methods
   d) Scouting and monitoring
   e) Economic threshold
   f) Economic injury level
2) Insects
   a) Metamorphosis
   b) Insect orders
   c) Insect anatomy and physiology
   d) Identification
      i) Billbugs
      ii) Clover mite
      iii) Cranefly
      iv) Cutworms/armyworms
      v) Leafhoppers
      vi) Spider mite
      vii) Sod webworm (lawn moth)
      viii) Masked chafer (white grub)
3) Diseases
   a) Abiotic vs biotic
   b) Factors of disease development (disease triangle)
   c) Disease control
   d) Diagnosing diseases
   e) Chemical control
   f) Identify symptoms and management for specific diseases listed in study manual
   g) Identification
      i) Anthracnose
      ii) Curvularia Blight
      iii) Dollar Spot
      iv) Fairy Ring
      v) Fusarium Blight
      vi) Leaf Spot
      vii) Melting Out
      viii) Microdochium Patch (Fusarium Patch, Pink Snow Mold)
      ix) Necrotic Ring Spot
      x) Powdery Mildew
      xi) Pythium Blight (Grease Spot
      xii) Pythium Root Rot
      xiii) Red Thread

xiv) Rhizoctonia Blight
xv) Rust
xvi) Seed Rot and Damping Off
xvii) Spring Dead Spot
xviii) Stripe Smut
xix) Summer Patch
xx) Take-All Patch

4) Pesticide characteristics
   a) Insecticides
      i) Terms
         (1) Stomach poisons
         (2) Contact
         (3) Systemic
         (4) Narrow spectrum
         (5) Broad spectrum
         (6) Non-residual
         (7) Residual
      ii) Types
         (1) Inorganic
         (2) Botanical
         (3) Synthetic organic
            (a) Spray oils
            (b) Chlorinated hydrocarbons
            (c) Organophosphates
            (d) Carbamates
            (e) Pyrethroids
         (4) Microbial insecticides
         (5) IGRs, attractants and pheromones
   b) Fungicides
      i) Terms
         (1) Protectants
         (2) Eradicants
      ii) Types
         (1) Inorganic fungicides
         (2) Synthetic fungicides
         (3) Bactericides
         (4) Nematicides
   c) Formulation types
   d) Adjuvants (what are they used for, types)
5) Equipment
   a) Equipment for dry pesticides
   b) Equipment for liquid pesticides
   c) Sprayer components
   d) Sprayer maintenance
6) Calibration and calculations

a) Know how to calculate the following based on word problems that provide relevant variables.
    i) Application rate
    ii) Sprayer delivery rate
    iii) Area of a field
    iv) How much concentrate to dilute into spray tank
    v) Miscellaneous problems and combinations of the above.
b) Best ways to change sprayer output, application rates, etc.

7) Label comprehension
a) The label is the law
b) Parts of the label including:
    i) Restricted-use vs general-use
    ii) Precautionary statements
    iii) First aid
    iv) Signal words
    v) Active and other ingredients
    vi) Directions for use
    vii) Storage and disposal
    viii) Be able to answer word problems and calculations based on a sample label