



DoD Medical Entomologist Knowledge Expectations September 2020

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DoD Entomology Knowledge Expectations

- **Military Entomology History**
 - Describe significant people/events in modern (late 19th century to today) military entomology history
 - Ronald Ross
 - Carlos Finlay
 - Walter Reed
 - William Gorgas
 - Public Health Service
 - Identify and describe the accomplishments of Component specific entomologists
 - Identify and describe significant Component specific entomology events

- **DoD Entomology Roles and Responsibilities**
 - Describe the roles and responsibilities of a military entomologist to include Service specific requirements and positions
 - Describe the roles, responsibilities and positions of DoD civilian entomologists

- **DoD and Component Pest Management Policy**
 - Know and be able to answer questions about DoD/Component specific issuances that pertain to DoD/Component specific pest management programs to include:
 - Installation programs (structure/responsibilities)
 - Contingency programs
 - Training and certification programs
 - Pest management contracting
 - Natural resources program
 - Identify and be familiar with resources addressing specific pest management program topics to include:
 - Installation programs
 - Technical Guide No.18 – Installation Integrated Pest Management Program Guide
 - Contingency programs
 - Technical Guide No.24 – Contingency Pest Management Guide
 - Training and Certification Programs – DoDM 4150.07 (Vol 2)
 - Pest Management Contracting
 - Technical Guide No. 39 – Preparing DoD Pest Control Contracts and Assessing Contract Performance
 - Natural Resources Program
 - DoD Natural Resources Website - <https://www.denix.osd.mil/nr/>

- **Management Strategies**
 - Integrated pest management
 - Define integrated pest management
 - Design a comprehensive program for installations and contingencies
 - Integrated vector management
 - Define integrated vector management
 - Design a comprehensive program for installation and contingencies
 - One Health Concept
 - Define the One Health Concept
 - Explain how components of the concept may be incorporated into a pest management program

- **Installation Pest Management**
 - Describe the components of an installation pest management program
 - Identify and describe key roles and responsibilities

- **Urban Pests**
 - Using a key or other identification tool, accurately identify urban pests to genus/species
 - Design an appropriate surveillance strategy
 - Establish thresholds
 - Interpret results
 - Design an appropriate management strategy using IPM/IVM/OH concepts
 - Communication strategy
 - Coordination
 - Risk assessment
 - Risk communication
 - Assess program effectiveness. Institute program modifications to address shortfalls

- **Medically Important Pests**
 - Using a key or other identification tool, accurately identify medically important pests to genus/species
 - Design an appropriate surveillance strategy
 - Establish thresholds
 - Interpret results
 - Design an appropriate management strategy using IPM/IVM/OH concepts
 - Communication strategy
 - Coordination
 - Risk assessment
 - Risk communication
 - Assess program effectiveness. Institute program modifications to address shortfalls

- **Zoonotic Diseases (non-arthropod borne)**
 - Identify and describe militarily relevant zoonotic diseases
 - Design an appropriate surveillance strategy
 - Establish thresholds, as required
 - Interpret results
 - Design an appropriate management strategy using IPM/OH concepts
 - Communication strategy
 - Coordination
 - Risk assessment
 - Risk communication
 - Assess program effectiveness. Institute program modifications to address shortfalls

- **Additional Critical Skills/Knowledge**
 - Risk assessment/communication
 - Understand and explain the principles of risk assessment/risk communication
 - Conduct a risk assessment for a medically important pest
 - Be able to develop a risk communication strategy and present to different groups (e.g., public, commander)
 - Training
 - Instructor skills
 - Develop training materials (LTGs, presentations) for a pest management or disease vector topic based on target audience and expected outcome
 - Presentation
 - Understand how to use a variety of training tools and platforms
 - Understand the difference between formal and informal training
 - Conduct training
 - Be evaluated/review critique
 - Assessment
 - Understand how to assess the effectiveness of a training plan/program
- Epidemiology
 - Understand the concepts/principles of epidemiology and disease transmission
 - Understand how to interpret epidemiological information in assessing risk and use information to develop comprehensive IMP/IVM programs
 - Understand how to use epidemiological tools and techniques
 - Biostatistics
 - Mapping and GIS
 - Data analysis and interpretation
 - Identify epidemiology resources
- Landscape Epidemiology
 - Understand the concept/principles of landscape epidemiology and disease transmission
 - Understand how to use epidemiological tools and techniques
 - Biostatistics

- Mapping and GIS
 - Data analysis and interpretation
 - Explain how information generated may be used in developing an integrated IPM/IVM program
- **Special Interest**
 - Biosecurity
 - Define biosecurity in terms of pest management/natural resources
 - Explain the importance of biosecurity in protecting DoD operations. Provide examples
 - Explain the purpose of a biosecurity plan. Identify the components of a biosecurity plan. Identify roles and responsibilities
 - Review examples of biosecurity plans
 - Identify the role of pest management in developing and implementing biosecurity plans
 - Climate change
 - Define climate change
 - Understand and explain the impact of climate change on pest and vector management
 - Provide examples
 - Identify information sources and tools
 - Develop strategies for installations and contingencies in response to climate change
 - Global Health Engagement
 - Review and be familiar with the DoD Global Health Engagement mission
 - Identify information resources
 - Identify roles and responsibilities
 - Public health capability
 - What is the role of entomology
 - Identify best practices
- **“Putting It All Together”**
 - Participate in a Pest/Vector Surveillance/Control Exercise Scenario
 - Using information provided, complete the ‘Program Development and Implementation’ scenario outline.
 - Conduct an after action review. Assess your responses