

CRMI Outline for Curriculum Development

Purpose

The participants of this course will understand the basic principles of fungal (mold) contamination in residential structures. They will learn and demonstrate a proficiency of the IESO sampling and assessment standards. This will include equipment usage in swabs, tape, air sampling for viable culture and non-viable cassettes, dust collection, and the standard for inspecting residential structures for fungal contamination. They will know the proper procedures for the paperwork involved (i.e. chain of custody forms and laboratory reports). In addition, they will acquire a fundamental understanding of laboratory reports and how to interpret the results from those reports according to recognized guidelines. They will perform a mock inspection and complete all of the associated paperwork.

Introduction

- Introduction to IESO
- Brief history of problems
- Public awareness and media
 - Recent media stories relating to mold
- Examples of recent lawsuits
- Environmental issues
- Health risks
 - Allergenic, Pathogenic, and Toxicogenic effects
- Building technology and its relation to mold
 - Energy crisis effect on house construction
 - Building materials
 - OSB
 - Pressboard cabinets
 - Gypsum sheathing

Mold and Mold Contamination

- Definition
- Common terms used in mycology and aerobiology
- Parts of fungi
- Characteristics
- Metabolic processes
 - Mycotoxins
- Factors that affect microbial growth
 - Environmental conditions
 - Sources of nutrients
 - Water activity level
- Prevention
- Colonization vs. contamination
- Common fungi
- Moisture indicator fungi
- Other knowledge
 - Scientific method and general approach to sampling
 - Understanding metric unit conversions
 - Qualitative vs. Quantitative tests
 - Laboratory accreditation

IESO Sampling and Assessment Standards

- Tape sampling
- Scope
- Terminology
- Equipment
 - Illustrations of the equipment
- Methodology
 - Slides illustrating the methodology
- Applicability and limitations
- Swab sampling
- Scope
- Terminology
- Equipment
 - Illustrations of the equipment
- Methodology
 - Slides illustrating the methodology
- Applicability and limitations
- Evaluation of surfaces for fungal colonization
- Scope
- Definitions
- Procedures
 - Slides illustrating procedures
- Applicability and limitations
- Air cassette sampling
- Scope
- Terminology
- Equipment
 - Illustrations of the equipment
- Methodology
 - Slides illustrating the methodology
- Applicability and limitations
- Air sampling using a viable impactor
- Scope
- Terminology
- Equipment
 - Illustrations of the equipment
- Methodology
 - Slides illustrating the methodology
- Quality Assurance
- Applicability and limitations
- Dust sampling
- Scope
- Terminology
- Equipment
 - Illustrations of the equipment
- Methodology
 - Slides illustrating the methodology
- Applicability and limitations
- Standard for inspecting residential structures for fungal contamination
- Scope

- Definitions
- Inspections areas
- Grounds and grading
 - Foundation
 - Roof
 - Attic
 - Interior
 - Plumbing
 - HVAC and ventilation
- Suspect conditions for potential moisture problems
- Sampling locations and numbers
- Applicability and Limitations

Other equipment

- Thermometer
- Hygrometer
- Moisture meters
- Camera
- Measuring equipment
- Reporting formats

Health and safety

- Personal protective equipment PPE

Inspection methodology

- Investigation pattern

Knowledge application session

- Exercises for completing chain of custody forms
- Exercises for calibrating flow meters and completing logs
- Hands on experience with the equipment for inspection and sampling
- Practice exercises for collecting samples (all types)

Data interpretation

- Definitions
 - Explaining the report
- General guidelines for contamination
 - Total spore count
 - Total fungal fragments
 - Comparing suspect areas and non-suspect areas
 - Moisture indicator organisms
 - Confirmation of suspect area/suspect condition
- Discussion of thresholds
 - Ruling out contamination or refer for further evaluation
- Exercises with interpreting laboratory reports

Practice exercise for inspection and completing a report

- Inspection technique
- Completing checklist
- Collecting samples
- Completing chain of custody