

Learn the basics of the science of insect rearing

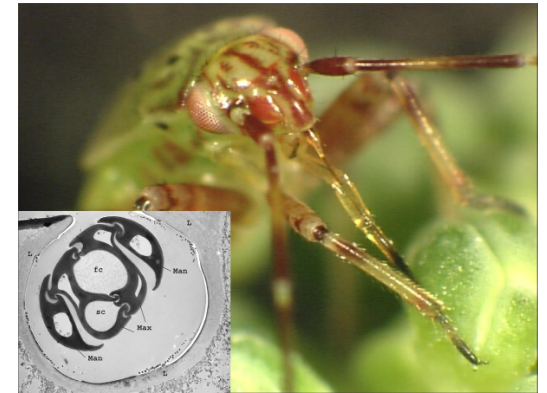
This is a lecture class with several laboratory experiences, including a wax moth rearing project. Rearing science is treated with a statistics, Design of Experiments approach. The course surveys nutrition, dietetics, environmental factors, and all other major factors in rearing.



Laboratory Experiences
Wax Worm Rearing Project
Readings from Primary Rearing Literature

Insect Rearing Science & Technology

Spring 2019, T TH 8:35 to 10:00 am.





"This should be required for all entomology graduate students" "This is one of the best graduate courses I have taken." Typical comments from past insect rearing students.

Unique Experience

This is the only semester-long, for-credit course in insect rearing science. We study insects' biology in the context of controlled laboratory conditions.

How Principles of Insect Rearing Science Affects Your Research:

This course provides insights into all insects produced in laboratory systems. The quality or fitness of the insects you use in your research depends on many factors in their rearing history. This course helps you evaluate how well you can depend on laboratory-reared insects to perform according to your expectations and research hypotheses.

This course is based on the concept that rearing is a designed system that simulates nature. Rearing systems are treated with principles from Design of Experiments and various analytical approaches to understand insects' biology in the context of rearing systems as microcosms of natural ecosystems.

"Know Your Insect" Approach

We approach our understanding of insect/rearing system interactions from an ecological, behavioral, genetic, physiological, biochemical, and morphological perspective. We study adaptations from these categories or disciplines in terms of how successful rearing systems meet the requirements of insects in our systems. We use tools from microscopy, food science principles, biochemical analyses, and statistical design to better understand our target insects.

Expectations

All lectures based on rearing concepts with dozens of model systems for commonly-reared insects. Tests are based on rationale and understanding of the underlying scientific concepts behind successful rearing programs. Students will complete a rearing project and write a report summarizing their findings in the context of rationale and concepts taught in the lectures. Grades will also be based on prompt attendance and constructive contributions.

Key Concepts

Learn these concepts and more:

Diets, nutrition, feeding biology

Rearing history & infrastructure

Rearing equipment

Designing rearing experiments

Insectaries as environmental microcosms

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