

*Panel Discussion, Integrated Pest Management in Action  
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# A Convergence of the Integrated Pest Management and Invasion Biology Paradigms

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# Integrated Pest Management

What is IPM? Integrated pest management (IPM) is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties....

*- UC Statewide IPM Program*

# Integrated Pest Management

*California led the way*

- biological control
- ‘supervised control’ rather than strictly preventative pesticide treatments (scouting or monitoring)
- integrated control
- economic thresholds, decision-making based on risk assessment

# Biological Control

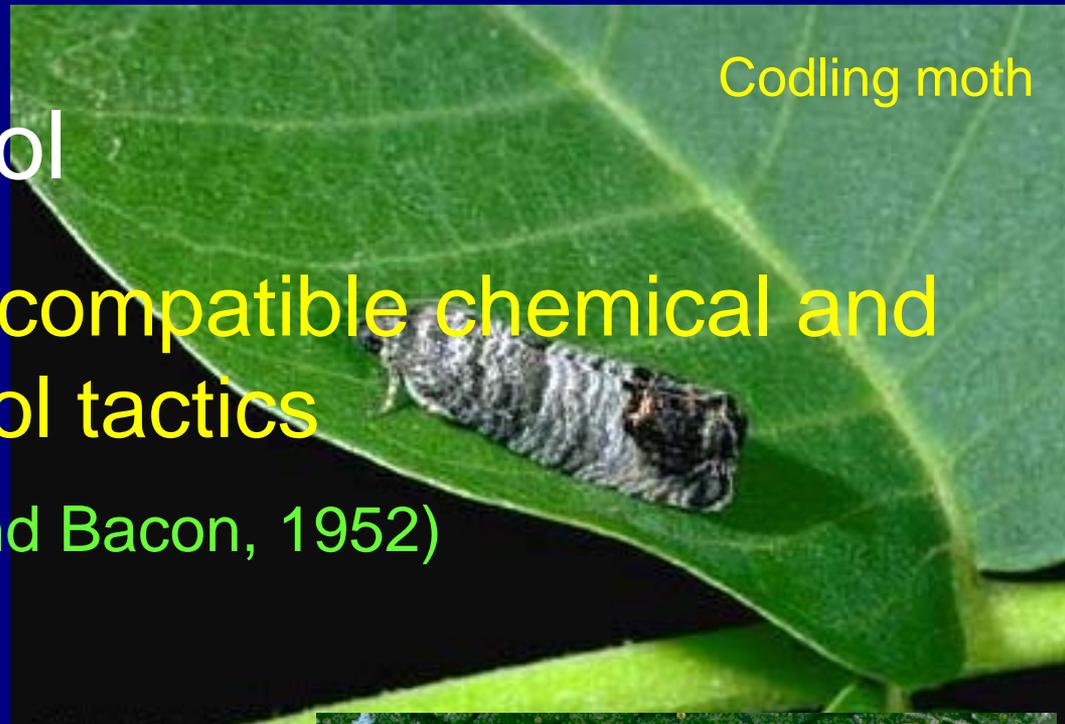
- California citrus, earliest success (USDA, 1888)
- State Board of Horticultural Insectary - Sacramento, 1913
- UC Citrus Experiment Station Insectary - Riverside, 1925
- UC Berkeley Insectary - 1945



# Integrated Control

- combination of compatible chemical and biological control tactics

(Michelbacher and Bacon, 1952)



Codling moth



*Trioxys pallidus*

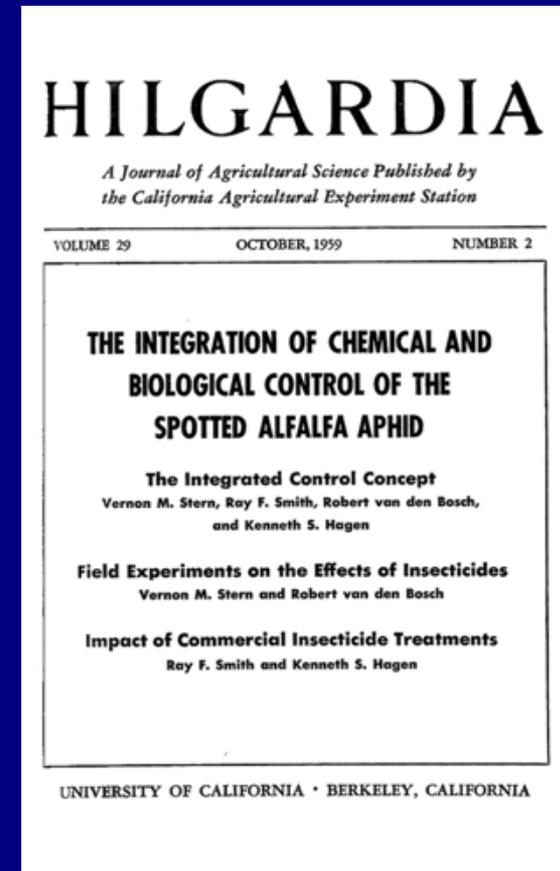


Walnut aphid

UC Statewide IPM Project  
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# Integrated Pest Management

- integrated control plus -
- economic thresholds, decision-making based on risk assessment
- multiple controls  
(Stern, Van den Bosch, Smith and Hagen, 1959)



# IPM Continuum:

**Biointensive**

biologically-based controls

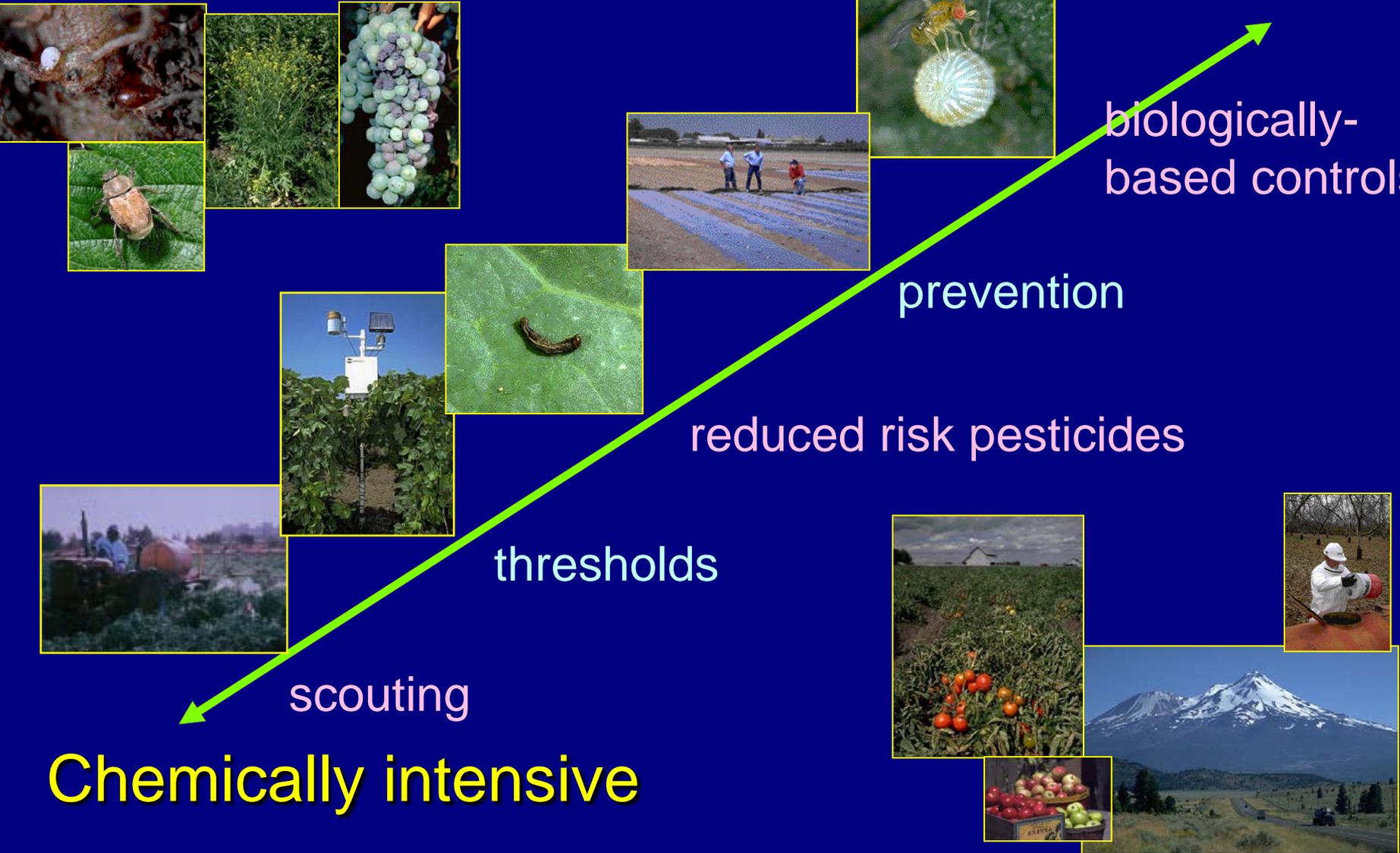
prevention

reduced risk pesticides

thresholds

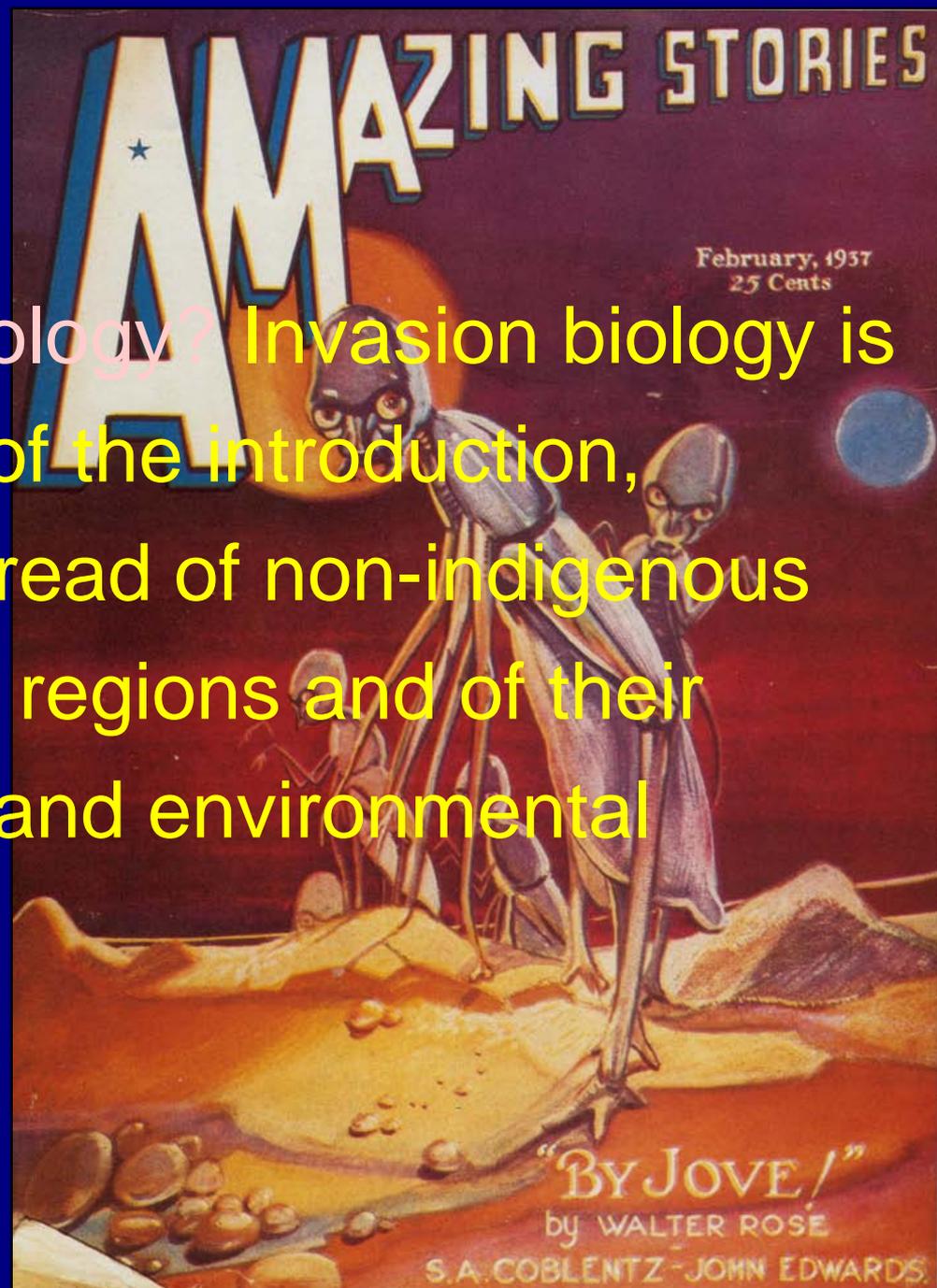
scouting

**Chemically intensive**



# Invasion Biology

What is invasion Biology? Invasion biology is the scientific study of the introduction, colonization and spread of non-indigenous organisms into new regions and of their economic, medical and environmental importance.



# A program for invasive species...

- prevention
- detection
- intervention/eradication
- quarantine
- trade

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