

INVASIVE SPECIES: *A Trade Issue*





Approximately $\frac{1}{4}$ of all land acreage in California is devoted to farming and ranching

California's agriculture revenue leads the nation at \$34.8 billion

California produces nearly half of all U.S. grown fruits, nuts and vegetables

60% of all certificates for agricultural exports from the U.S. are written in California



The Role of California Agriculture in the Nation and the World

Why Invasive Species Matter to California Agriculture



- Increase production costs
- Increase use of pesticides
- Decrease market access
- Increase costs to consumers
- Decrease species diversity and lower ecosystem functionality

California Agriculture and the International Marketplace



International trade operates in a fully integrated world economy governed by international trade agreements.

- ✦ **Global Agreement on Trade and Tariffs and the World Trade Organization**
- ✦ **Sanitary and Phytosanitary (SPS) Agreement**

The Purpose of the SPS Agreement



- **Allows each country to establish its own conditions pertaining to the health and safety of its citizens and agricultural and natural resources**
- **Obligates participating countries to ensure their import requirements are:**
 - **Based on science and pest risk**
 - **Transparent**
 - **Non-discriminatory**

How Does the SPS Agreement Promote Trade in Agricultural Goods?



- Facilitates agricultural trade in while reducing the movement of pests
- Facilitates the development of the International Standards for Phytosanitary Measures (ISPMs)



International Standards for Phytosanitary Measures (ISPM)



- **USDA/APHIS is the lead agency for the United States in developing the ISPMs**
- **ISPM topics include:**
 - ✦ **How to develop and analyze Integrated Pest Management measures**
 - ✦ **How to conduct Pest Risk Analysis**
 - ✦ **How to establish Pest-Free Areas**
 - ✦ **How to conduct Pest Eradication programs**



Implementing the ISPMs in California (1)



- When pests become established in California, USDA/APHIS organizes and utilizes **Technical Working Groups (TWG)** to make recommendations on containment, control or eradication strategies
- Recommendations are consistent with ISPMs and may result in an official federal regulation (Federal Order)
- Recently, TWGs have been used for: LBAM, EGVM, ACP
- CDFA works with USDA to choose eco-friendly options
- The TWG recommends response triggers

Implementing the ISPMs in California (2)



- **CDFA cooperates with USDA/APHIS to enact regulations (State Interior Quarantines) and follow protocols for eradication and/or control**
- **State Interior Quarantines:**
 - ✦ Minimize the impact of the pest to as small an area as possible
 - ✦ Protect the uninfested portions of the state from domestic or international trade restrictions



CDFA and the International Agreements



- CDFA is part of a national and international network of plant pest regulatory agencies

- Mission statement:

To protect California from the damaged caused by the introduction or spread of harmful plant pests

- This mission is carried out by:
 - ✦ Collaborating with USDA/APHIS
 - ✦ Implementing policies and procedures consistent with the ISPMs
 - ✦ Preventing the entry of pests into the state (Pest Exclusion)

State/Federal/County Pest Exclusion Programs



- **Customs and Border Protection**
- **USDA/APHIS**
- **California Border Protection Stations**
- **County High Risk Pest Exclusion**
- **California Dog Team Program**



Pest Exclusion Activities



Customs and Border Protection (CBP)



U. S. Customs and Border Protection agriculture specialist Hugo Rodriguez inspects a box of hydrangeas shipped in from South America. The inspectors check the flowers for pests and diseases.

Orange County Register



Pest Exclusion Activities



USDA/Animal and Plant Health Inspection Program

- Enacts Federal Domestic Quarantine Regulations to minimize impacts of pests that are present in the United States (i.e., Asian longhorned beetle, *P. ramorum*, citrus canker)
- Provides funding and resources to enforce Federal Domestic Quarantines
- Cooperates with CPB to identify pests found in incoming shipments
- Works with international trade partners to develop and implement conditions of entry for foreign commodities
- Conducts follow-up investigations when shipments violate import conditions (IES, SITC)



Pest Exclusion Activities



Border Protection Stations



Pest Exclusion Activities



Border Protection Stations



Pest Exclusion Activities

County High Risk Pest Exclusion



Pest Exclusion Activities



County High Risk Pest Exclusion Program



Pest Exclusion Activities



Dog Teams



Pest Exclusion Activities



Dog Teams

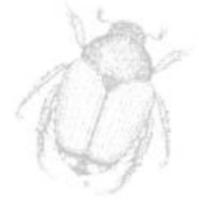




Pest Detection/Eradication and Quarantine Projects



Pest Detection /Emergency Projects



Detection Trapping



Pest Detection /Emergency Projects



Fruit Stripping



IPM Principles

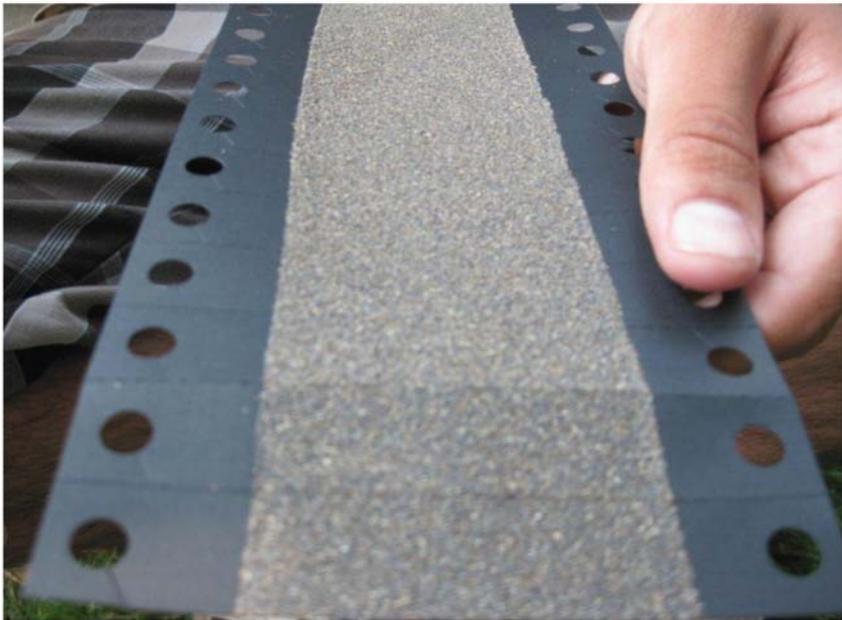


- **Pest Exclusion**
- **The establishment of response triggers**
- **Monitor for pest presence (pretreatment monitoring)**
- **Establish pest-free areas**
- **When treatment is required, we analyze all alternatives**
- **Choose the most eco-friendly, effective treatments**
- **Post treatment monitoring**

Pest Detection /Emergency Projects



Biocontrol



Pest Detection /Emergency Projects



Foliar Treatment/Ground Bait Spray



Pest Detection /Emergency Projects



Sterile Insect Technique (SIT)



Pest Detection /Emergency Projects



Male Attractant Technique (MAT)

Bait Station Treatment



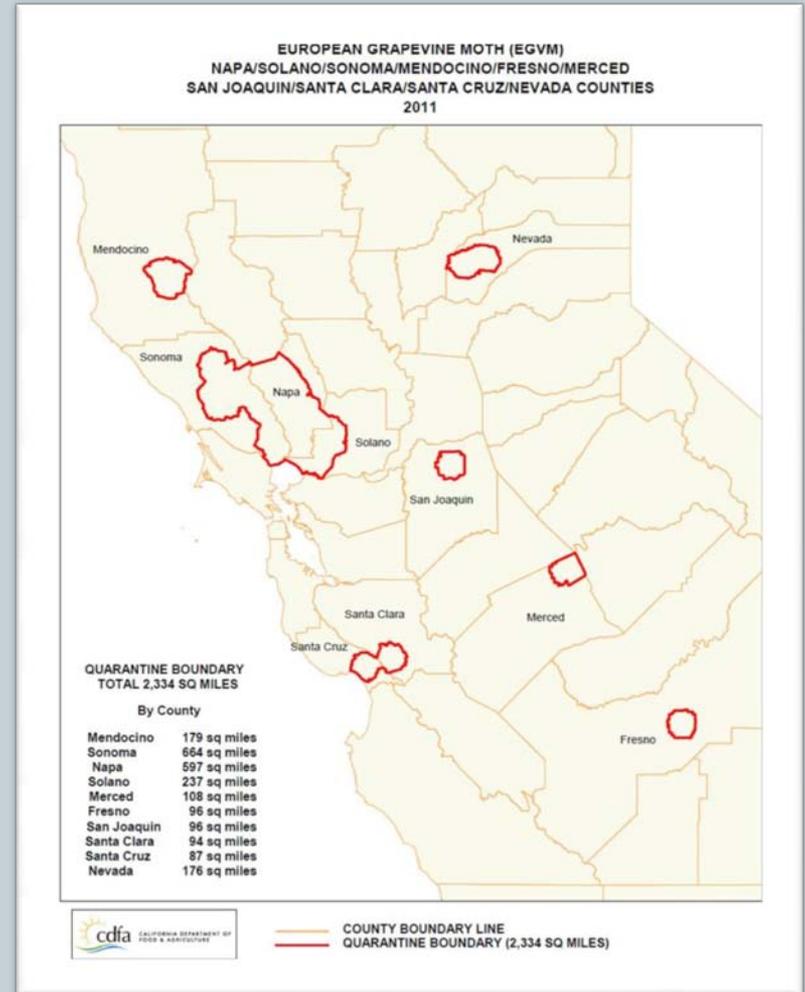
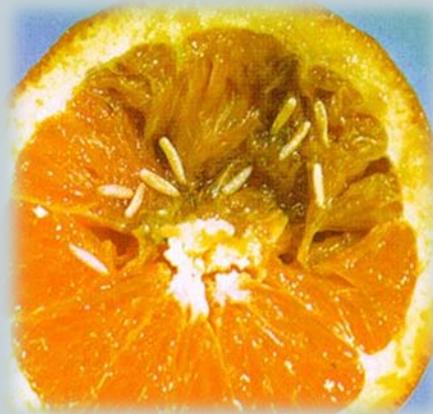
Pest Detection /Emergency Projects



Environmental Compliance and Monitoring

- CNDDDB and FWS Critical Habitat Portal Review
- Informal consultation, if necessary
- Observe buffers, if necessary
- Document background levels of target chemicals prior to treatment
- Post treatment sampling

Regulatory Quarantine/Containment



Regulatory Quarantine/Containment



Regulatory Restrictions on the Movement of Hosts



Regulatory Quarantine/Containment



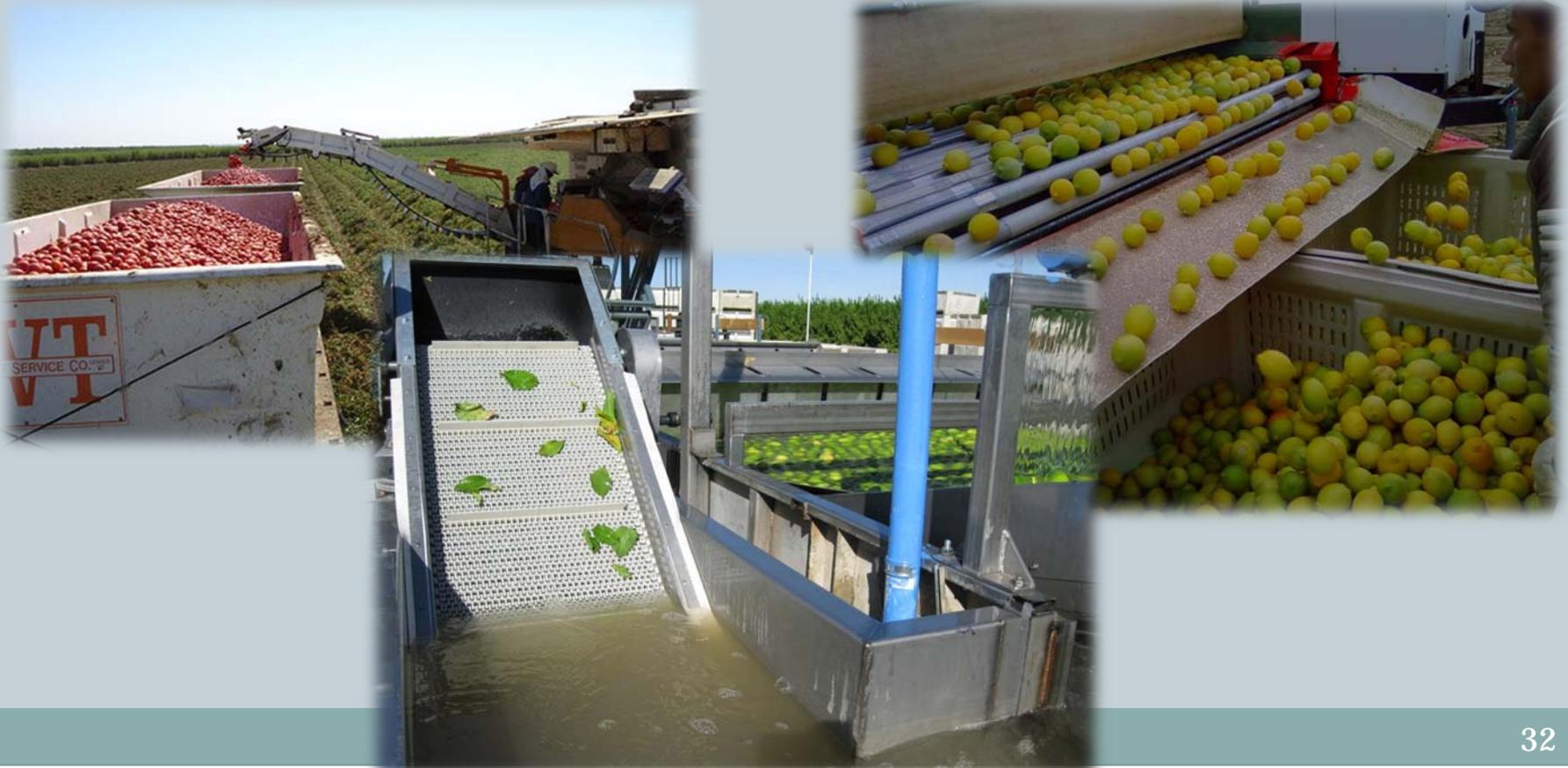
Visual inspection allows the movement of ACP host material within the quarantine area

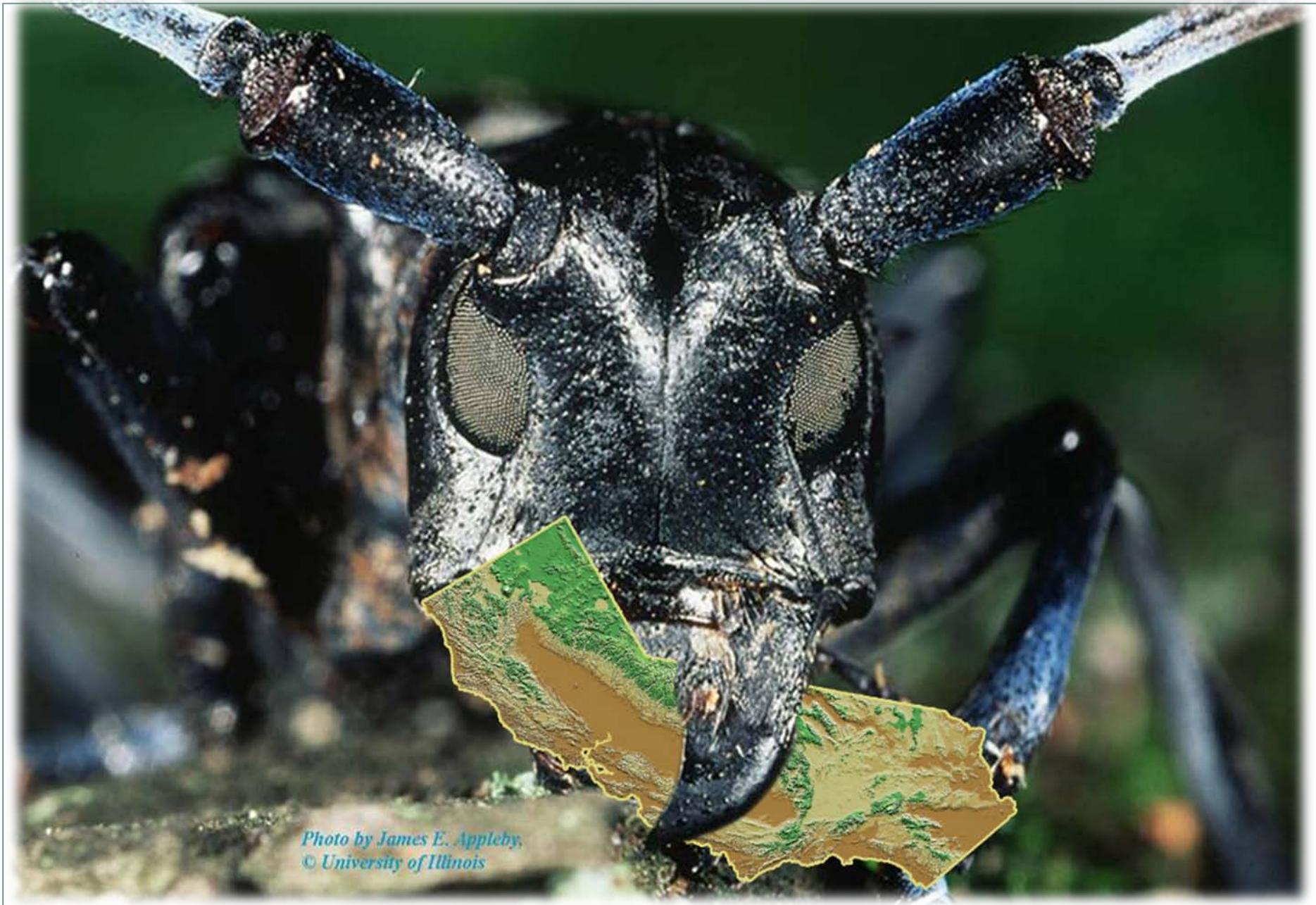


Regulatory Quarantine Containment



Processing is an acceptable quarantine treatment and facilitates movement





*Photo by James E. Appleby,
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The End