



Areawide Pest Management Program

USDA Agricultural Research Service

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Agricultural Research Service

USDA's chief scientific *in-house* research agency.

Mission: Conduct research to find solutions to agricultural problems that affect Americans every day from field to table.

Scope:

- 750 research projects, 17 National Programs
- 2000 PhD Researchers + 6000 other employees
- 90 research locations, including 4 overseas labs

National Program 304: Crop Protection and Quarantine



Conduct research that develops

- Safe, integrated insect pest and weed management methods for key pests of agriculture and natural ecosystems.
- Safe systems for protecting post-harvest commodities (e.g. grains and fruits) for trade and food distribution

Areawide Pest Management Program

- ▶ Develop effective, sustainable strategies for controlling pests of significant economic or ecological consequence
- ▶ Target pests that require an areawide approach for effective control



ARS Areawide Pest Management Program

- ▶ ARS is not a granting Agency (that is NIFA)
- ▶ Within our research programs: developed from the ground up
- ▶ Request project ideas from ARS researchers
 - ▶ Competitive evaluation
 - ▶ Annual funding cycle



Areawide Projects address:

An agricultural pest problem of severe economic, ecological, or med-vet health impact in the United States

- ▶ Demonstrated need for an areawide approach to solve the problem
- ▶ Relevant pest control tools already exist, a system for implementation is needed
- ▶ Customers and stakeholders are likely to implement the proposed strategies by the end of the project
- ▶ Continues after ARS project funding ends

Areawide Components

▶ **Operational component**

- ▶ How the project is implemented—
- ▶ Control methods, system of integration, locations involved, general design of the pest control system
- ▶ The primary goals of an AWPM project are development and implementation

▶ **Research component**

- ▶ “Scale-up” needs
- ▶ Developing decision support models
- ▶ To quantify the success or failure of pest control under AWPM.

Areawide Components...

▶ **Outreach and Technology Transfer component**

- ▶ Identify the end users (e.g., private land owners, pest control companies, local governments)
- ▶ Provide outreach to expand users' knowledge and understanding of the areawide methods and strategy.
- ▶ Ensure a continued, broad adoption of the strategies
- ▶ Achieve early user buy-in to the project.

▶ **Assessment component**

- ▶ Define progress and success using quantifiable measures
- ▶ Measure and assess progress
- ▶ Define who is involved in evaluating project progress
- ▶ Economic & ecological impacts, as well as pest control

Areawide Project Phases

▶ Phase I. Initiation

- ▶ Solidifying teams, planning, site selection
- ▶ Feasibility studies
- ▶ Base-line data collection and limited implementation.

▶ Phase II. Implementation and program assessment

▶ Phase III. Completion

- ▶ Demonstrate full implementation
- ▶ Adoption by the end-users

Herbicide-resistant weed epidemic corn/soybean rotations

Initiated in 2015

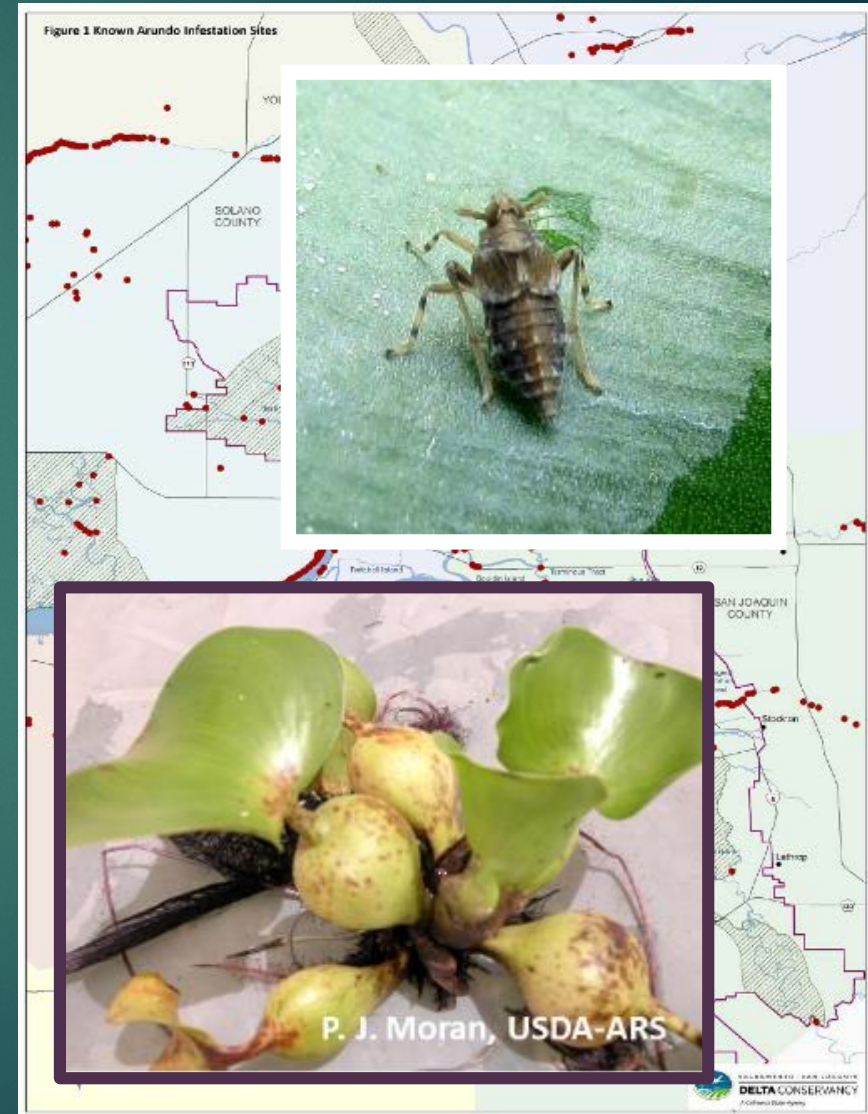
- Crop rotation
- Cover crops
- Reduce weed seed spread:
Harrington Seed
Destructor



Aquatic weeds, Sacramento San Joaquin Delta

Initiated Areawide in 2014

- Landsat & modeling to identify nursery populations
- Targeted herbicide applications
- Biological control agents



Aquatic weeds, Sacramento San Joaquin Delta

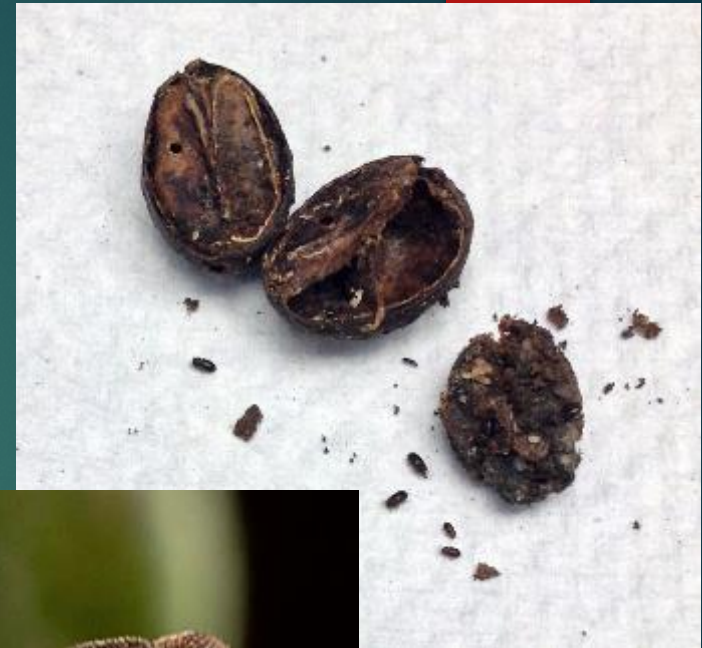


Coffee Berry Borer

Initiated in 2013.

Developing a multi-prong attack on this beetle:

- Sanitation methods to remove berries left in the field after harvest
- Repellents to ward off beetles
- Organic-approved plant treatments to synchronize bean ripening and harvest (starving the beetle between harvests)
- Sampling trees to spray only when necessary, using an organic-approved fungal biocontrol product
- Enhance native biological control agents



Major partners

