SARE Logic Model – Research and Education (R&E) Programs

Effective Management of Thousand Cankers Disease of Walnut through Disruption of Insect Vector Behavior

Process

Outcomes

1. Inputs

2. Participants

3. Outputs

4. Learning 5. Actions

6. Conditions

UC Davis and USDA FS/ARS faculty, scientists, staff, and students

UC ANR/UC Cooperative Extension (UCCE) scientists/advisors

Walnut producer cooperators and Advisor Representative providing access to orchards

UC and USDA laboratories, field supplies, equipment, and facilities

UCD business office staff and grants administration

UCCE Tulare County support staff

Target audiences:

- · Walnut growers
- Pest control advisors
- California Walnut Board
- · Farm advisors
- Nursery managers
- Other scientists with interest in walnut production research

Partners:

- Jerry Moore as producer and Advisor Representative
- Producer cooperators
- UCCE Orchard Systems Advisors

Research Activities:

- Field tests of MBO lure/repellent under commercial orchard conditions
- Semiochemical discovery for improved lure
- Identification/ characterization of risk-factors that predispose trees to TCD
- TCD orchard riskrating system

Information from research about:

 Deploying lures and repellents and assessing orchard risk

Educational activities including:

 Grower/stakeholder workshops, short course, CA Walnut Board Conf.,other

Information products including:

Updated online resources, new guidelines for growers

Growers, Crop Advisors, and other stakeholders gain or increase:

- Knowledge of new tools to mitigate TCD threat
- Knowledge of various contributing factors to orchard decline
- Knowledge of sustainable management practices for longterm orchard health
- Skills in deploying the new semiochemical tools
- Awareness of the importance of maintaining tree health and vigor
- Knowledge and skills for our producer cooperators to provide leadership among regional grower communities in the use of the new tools.

Growers, Crop Advisors, and other stakeholders begin adoption:

- Of repellent as informed by TCD risk-rating system
- Of semiochemical tools as part of their IPM program for long-term sustainability of walnut orchards

Ag professionals, farm advisors, scientists, and educators:

- Incorporate project findings into their education and outreach programs
- Encourage new areas for collaborative research to identify and understand additional factors that may predispose trees to TCD and other pests/diseases in walnut orchards

Reduced incidence and severity of TCD in CA walnut orchards

Increased appreciation for and implementation of efforts to mitigate predisposing factors.

Adoption of sustainable practices that increase orchard longevity and productivity.

Increased production efficiency with corresponding economic return

Reduced risk of introducing TCD to states and other countries through movement of contaminated walnut material from CA