USDA-NRCS

EQIP- Orchard/Vineyard Fund Pool

What is the EQIP Program?

- EQIP stands for the ***Environmental Quality Incentives Program***
- EQIP uses Farm Bill money to help agricultural producers address resource concerns on their property. This money is grant money and not a loan.
- EQIP money is competed for statewide and the amount of money available usually depends on the demand.
- A conservation plan on the producers property is required when trying to obtain funding.
- Conservation plans are developed prior to application funding.
- Applications for EQIP are accepted year round.

Conservation plan

- Needed for contract development
- NRCS will meet with the producer to get an understanding of what they want to accomplish
- Field Inventory to locate resource concerns
- Address those resource concerns through the conservation plan with the following
  - Structural Practices
  - Management Practices

Orchard/Vineyard Fund Pool

- What is available for funding?
  - Filter strips and cover crops between orchard rows
  - Irrigation system improvements (sprinkler, micro spray, drip irrigation)
  - Wind breaks to reduce soil erosion and wind damage on crops.
  - Integrated Pest Management (IPM) principals such as mating disruption
  - Management practices such as irrigation and nutrient management


Cover Crops

Micro irrigation and Pivots










Windbreaks – Tree and Shrub establishment

Management Practices

- Irrigation Water Mgt
- Nutrient Mgt
- Pest Mgt





IWM

- Learn to effectively operate your irrigation system to meet the crop needs.

- Learn how to effectively manage your available water resources.

-Use Water mark sensors to determine your irrigation frequency.

- Use ET data from on farm weather stations to determine irrigation amounts.



Nutrient Management

- Take yearly soils tests and apply fertilizer based on those recommendations.
- Know what each crops different requirements are for certain nutrients throughout the growing season.



Pest Management

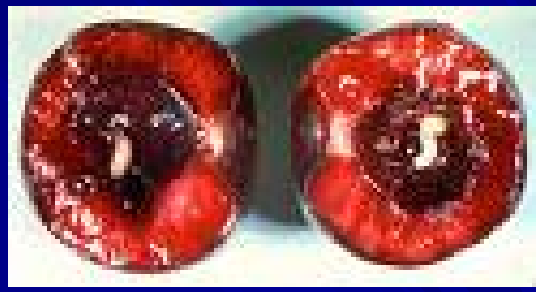
Scouting /Monitoring pest populations





Integrated Pest Management

"IPM is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks."



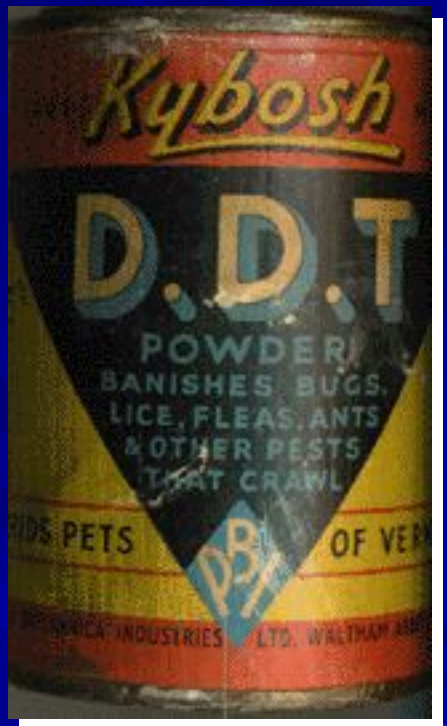


- IPM is to be incorporated in conservation plans in a manner that will balance economics, efficacy, and environmental risk

Why IPM? Historical Perspective

Pesticide (DDT) over-use led to:

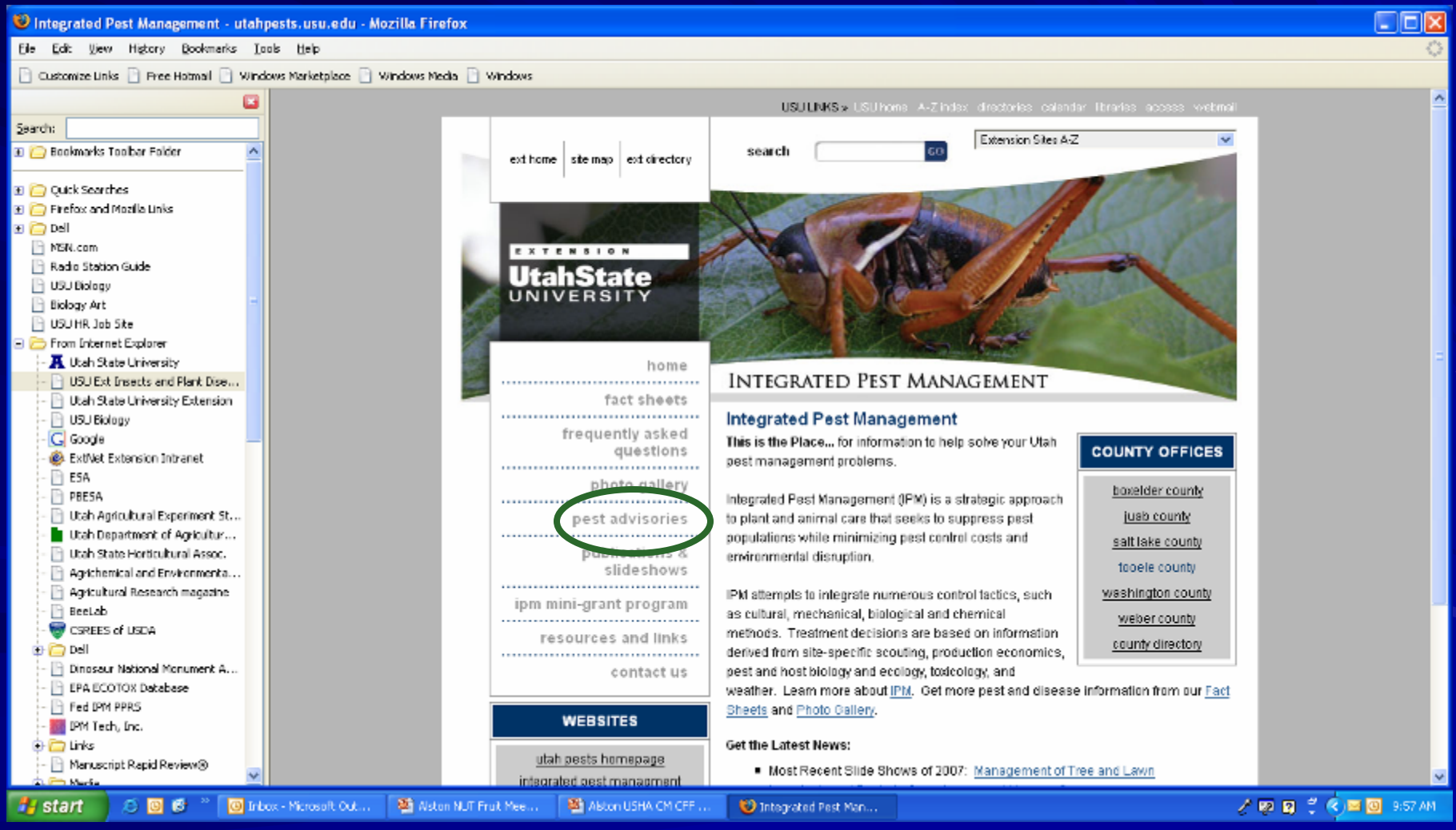
- **Resistance in pest populations**
- **Reduction of beneficial insect populations**
- **Outbreaks of secondary pests**
- **Health hazards and environmental degradation**

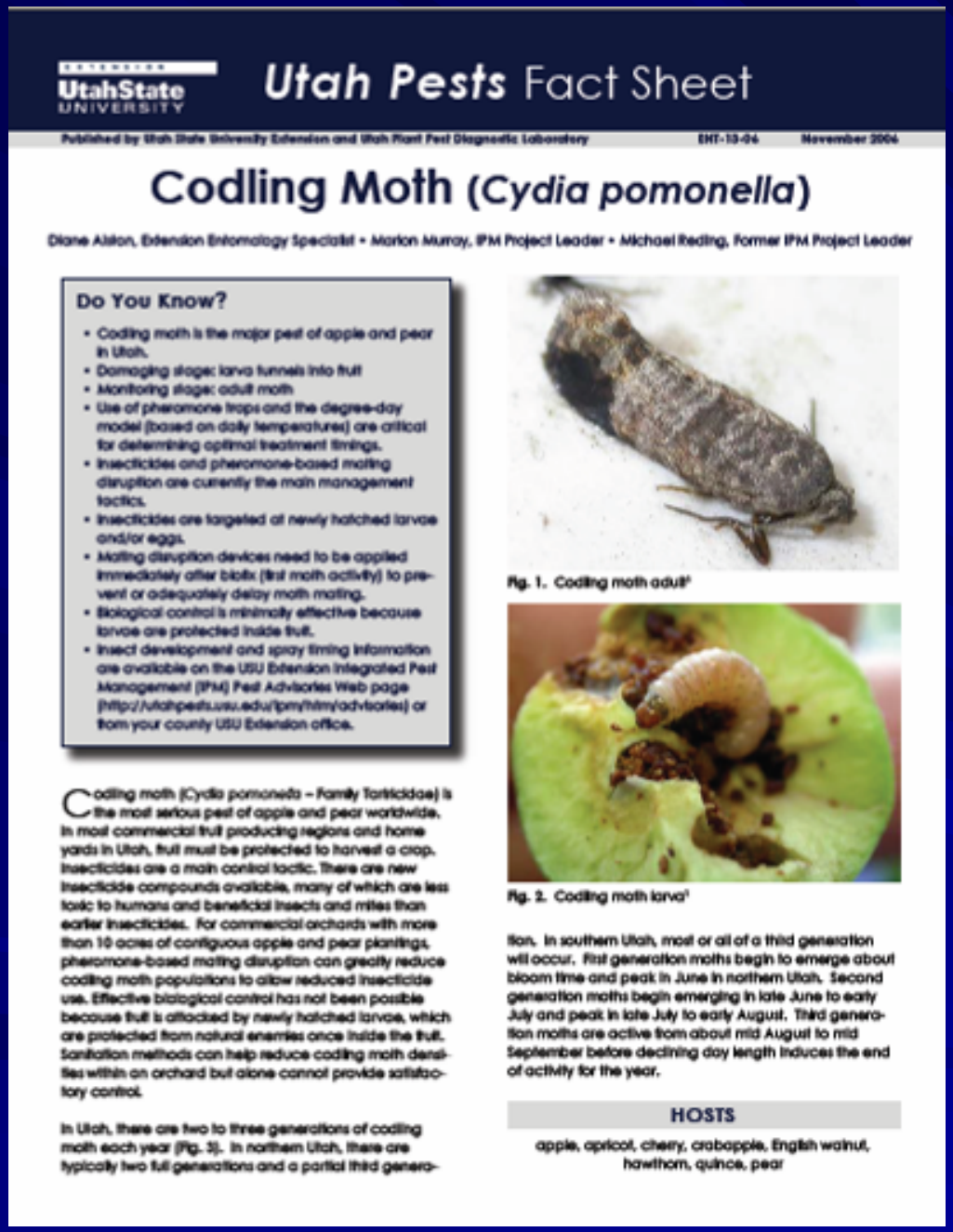


+**Developed concepts of Economic Injury Level and Action Threshold**

USU IPM Web Site

http://utahpests.usu.edu/ipm





UtahState UNIVERSITY

Utah Pests Fact Sheet

Published by Utah State University Extension and Utah Plant Pest Diagnostic Laboratory ENT-10-04 November 2004

Codling Moth (*Cydia pomonella*)

Diane Alston, Extension Entomology Specialist • Marion Murray, IPM Project Leader • Michael Reding, Former IPM Project Leader

Do You Know?

- Codling moth is the major pest of apple and pear in Utah.
- Damaging stage: larva tunnels into fruit
- Monitoring stage: adult moth
- Use of pheromone traps and the degree-day model (based on daily temperatures) are critical for determining optimal treatment timings.
- Insecticides and pheromone-based mating disruption are currently the main management tactics.
- Insecticides are targeted at newly hatched larvae and/or eggs.
- Mating disruption devices need to be applied immediately after biofix (first moth activity) to prevent or adequately delay moth mating.
- Biological control is minimally effective because larvae are protected inside fruit.
- Insect development and spray timing information are available on the USU Extension Integrated Pest Management (IPM) Pest Advisories Web page (http://utahpests.usu.edu/ipm/htm/advisories) or from your county USU Extension office.

Codling moth (*Cydia pomonella* – Family Tortricidae) is the most serious pest of apple and pear worldwide. In most commercial fruit producing regions and home yards in Utah, fruit must be protected to harvest a crop. Insecticides are a main control tactic. There are new insecticide compounds available, many of which are less toxic to humans and beneficial insects and mites than earlier insecticides. For commercial orchards with more than 10 acres of contiguous apple and pear plantings, pheromone-based mating disruption can greatly reduce codling moth populations to allow reduced insecticide use. Effective biological control has not been possible because fruit is attacked by newly hatched larvae, which are protected from natural enemies once inside the fruit. Sanitation methods can help reduce codling moth densities within an orchard but alone cannot provide satisfactory control.

In Utah, there are two to three generations of codling moth each year (Fig. 5). In northern Utah, there are typically two full generations and a partial third generation. In southern Utah, most or all of a third generation will occur. First generation moths begin to emerge about bloom time and peak in June in northern Utah. Second generation moths begin emerging in late June to early July and peak in late July to early August. Third generation moths are active from about mid August to mid September before declining day length induces the end of activity for the year.

Fig. 1. Codling moth adult[5]

Fig. 2. Codling moth larva[1]

HOSTS

apple, apricot, cherry, crabapple, English walnut, hawthorn, quince, pear

Updated the Codling Moth Fact Sheet

http://utahpests.usu.edu/ipm

Includes:

- -Monitoring in MD orchards
- -Lure types
- -Timing insecticides that target multiple life stages
- -Revised DD and "management events" table
- -Insecticide options
- -Mating disruption

Outreach

- Partnership with Dr. Diane Alston
  - (USU Extension)
- NRCS Provo field office, working with growers
- 2007 - around $200,000 allocated
- 2008 - around $350,000 allocated

NRCS – Contact Information

- Visit your local USDA Service Center

Provo Field Office

302 East 1860 South

(801) 377-5580

Ask for Mike Marshall or David Hanson