



Pennsylvania USDA – NRCS Agricultural Management Assistance (AMA) Integrated Pest Management (IPM) Program

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NRCS provides leadership in an effort to help people conserve, maintain, and improve natural resources and the environment.

Evaluate site-specific environmental risks to soil, water, plants, air, animals, and humans and plan appropriate mitigation techniques such as IPM, conservation practices, and other management techniques into a Resource Management Plan.

Agricultural Assistance Management (AMA)

- AMA is available in 15 states, where participation in the Federal Crop Insurance Program is historically low (as designated by Secretary).
- AMA provides financial & technical assistance for implementing/improving water & irrigation management structures, windbreaks or to improve water quality; and to mitigate risk through production diversification or resource conservation practices, including soil erosion control, integrated pest management, or transition to organic farming.



PA AMA – IPM Program

- Pennsylvania NRCS added AMA-IPM practices in 2004, and it was initially oriented towards the Fruit Industry.
- The purpose of this IPM program is to address some environmental concerns related to pest management.
- AMA will accomplish this by providing financial assistance, and with the assistance of Penn State University Fruit & Research Extension Center, technical assistance to implement IPM practices that reduce the use of pesticides, and therefore reducing some of the environmental risks.



Integrated Pest Management

- In overall an integrated pest management (IPM) aims to manage pests such as insects, diseases, weeds and animals by combining physical, biological and chemical tactics that are safe, profitable and environmentally compatible.



IPM Levels

Basic IPM

- Monitoring of pest populations to plan pesticide applications according to infection periods, trap catches & weather conditions (IPM Scouts).
- Also includes pesticide resistance management strategies such as rotations or alternation and cultural controls.

Intermediate IPM

- Basic IPM tactics plus precision application technologies (sprayers) & weather based pest phenology models.
- Non-pesticide population suppression techniques such as pheromone mating disruption, pest resistant cultivars, and conservation of biological control.

Advanced IPM

- Transition to Reduced Risk and Organic IPM programs.
- Hiring or training to be a IPM crop consultant for intensive pest monitoring, resistance management, conservation biological control etc.
- Release and establishment of new biocontrol agents (augmentation).
- Area wide mating disruption or whole farm IPM programs that transition across all crops.



NRCS IPM Role

- NRCS pest management policy emphasizes the importance of reducing environmental risks from pest management decisions in agriculture and supports the adoption of IPM through the NRCS Pest Management Standard (595).
- This standard helps producers:
 - Get credit for their mitigation practices & justify USDA “Green” program payments
 - Reduce the regulatory burden on other government agencies
 - Conserve natural resources



Financial Assistance Available for IPM practices - PA NRCS AMA Program



- **Basic Pest Management for Tree Fruit** (\$35/ac)
- **Non-Chemical Control – Increase Beneficial Insects** (\$6/ac)
- **Advanced PM practice – Mating Disruption for 1 species** (\$38/ac)
- **Advanced PM practice – Mating Disruption for 2 species** (\$76/ac)
- **Advanced PM practice – Intensive Disease & Insect Monitoring & Trapping** (\$45/ac)
- **Advanced PM practice – Reduced Risk Pesticides** (\$50/ac)
- **Use of Precision Application Technology** (\$38/ac)
- **Weather and Growing Degree Day Monitoring** (\$375/yr)
- **Field Crops** (\$8/ac)
- **Ag-Chemical Handling Facility** (up to 75% c.s.)

IPM Practices



Mating Disruption



Precision Application



Monitoring - Trapping

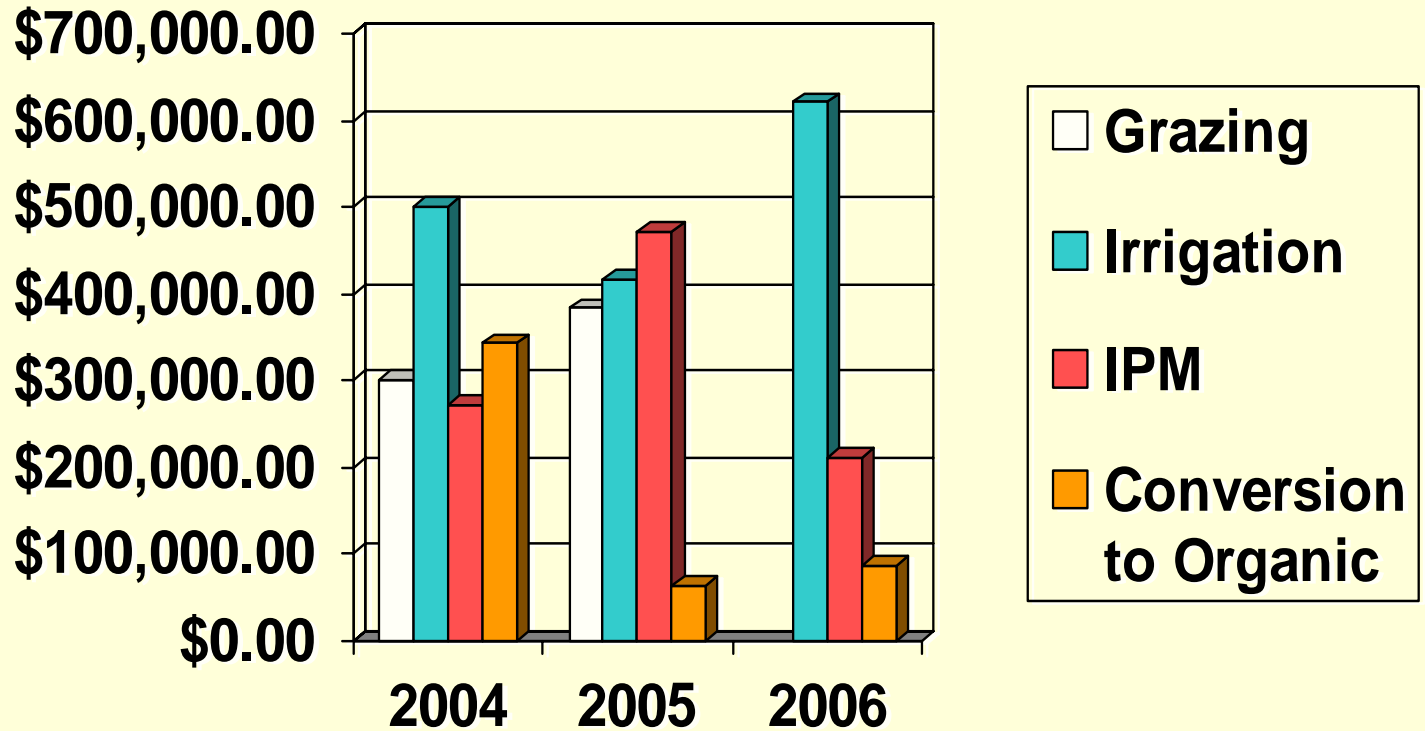


Biological Control



Ag-Chem Handling Facility
(Management Practice)

Pennsylvania NRCS – AMA Financial Assistance

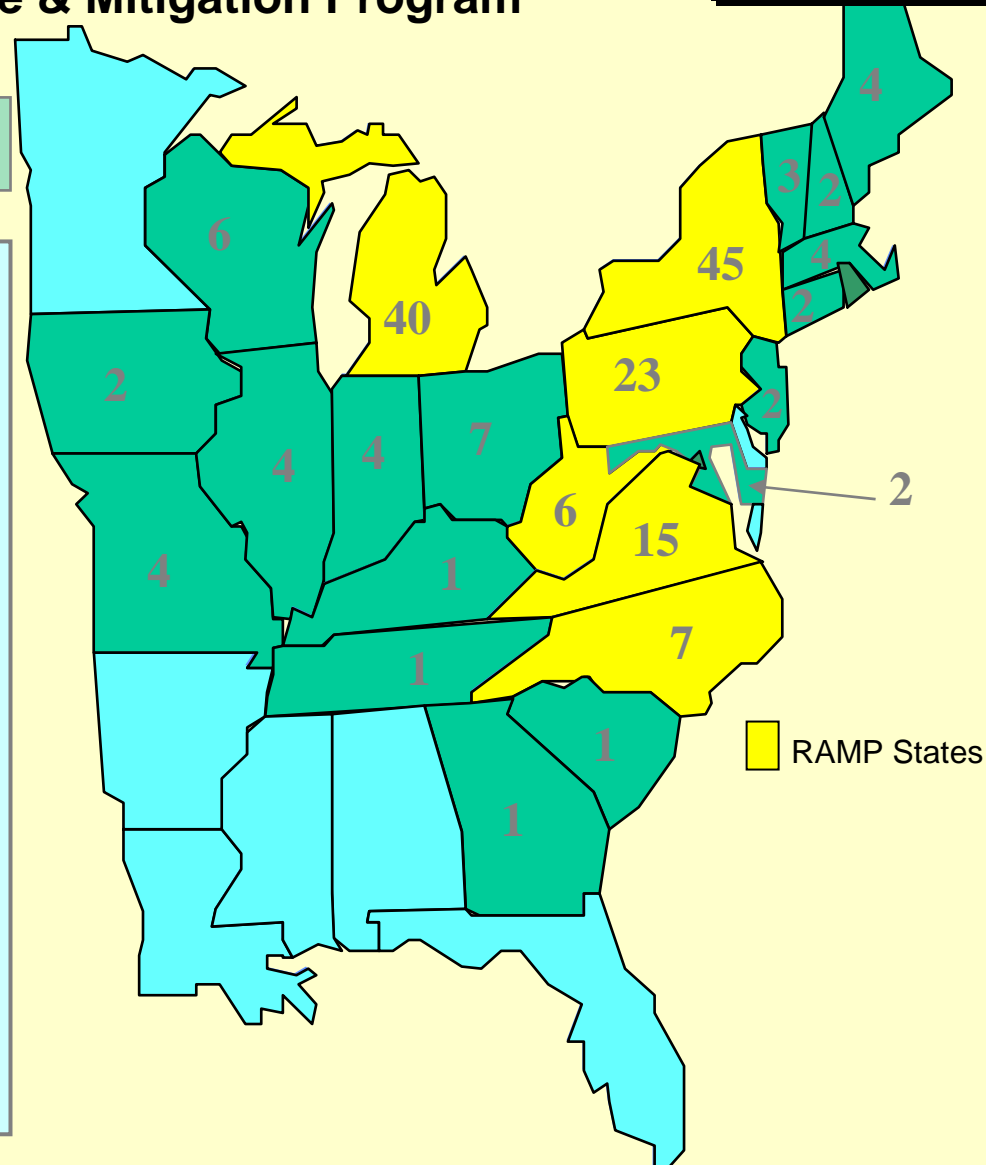


Active Ingredient Reductions with Reduced Risk Programs for Insect Control on Apples

Eastern U.S. Risk Avoidance & Mitigation Program

2004 Apple Acres X 1,000

- Represent 73% of Eastern apple acreage.
- Av. lb ai/A for all states 6.06 lb of which 84% are OPs & 6% are CBs .
- Av. ai/A reduction of 83.1%.
- Total tons ai/A for insecticides /miticides in East – **614 tons.**
- Potential ai/A reduction of **381 tons in RAMP states**; potentially **513 tons in all Eastern states.**
- Preliminary results as of 2/7/06.

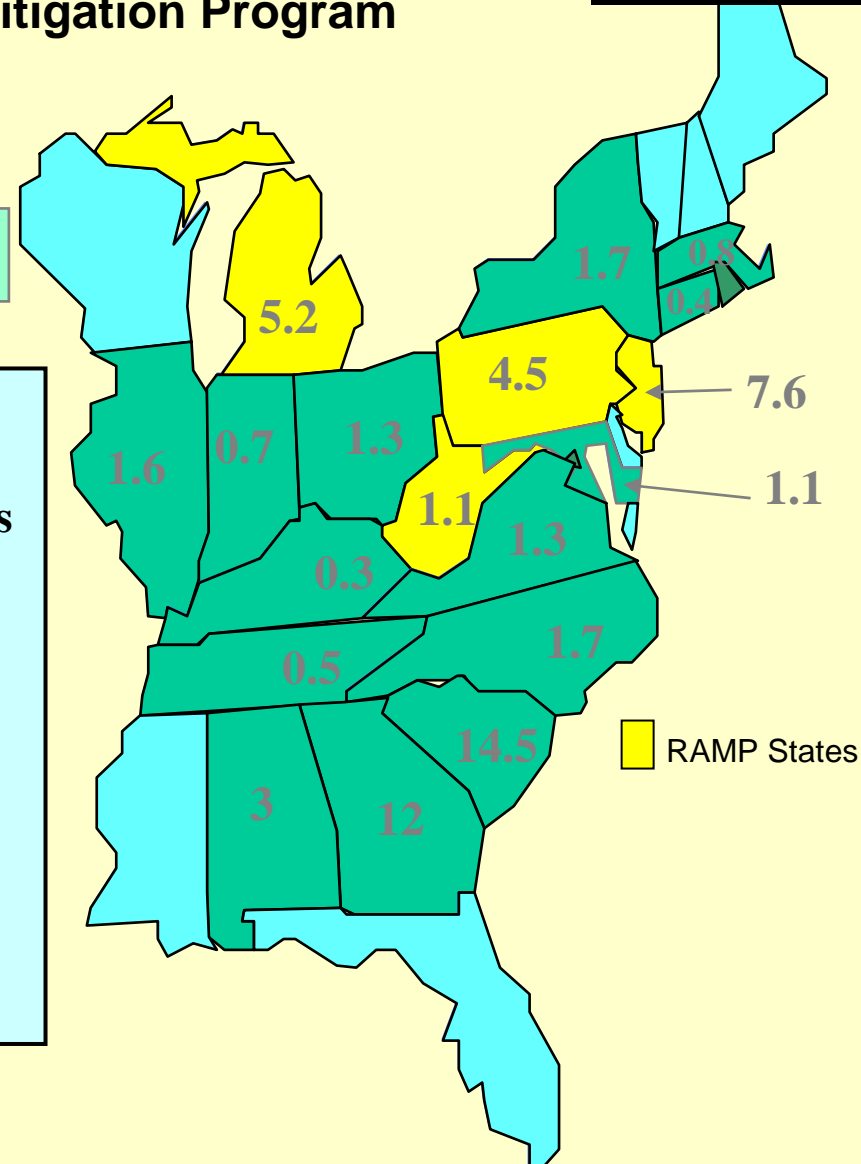


Active Ingredient Reductions with Reduced Risk Programs for Insect Control on Peaches

Eastern U.S. Risk Avoidance & Mitigation Program

2004 Peach Acres X 1,000

- Represent 30% of Eastern peach acreage.
- Av. lb ai/A for all states 4.39 lb - 83% are OPs & 13% CBs.
- Av. ai/A reduction of 77.7%.
- Total tons ai/A for insecticides /miticides in East – **128 tons.**
- Potential ai/A reduction of **37 tons in RAMP states;** potentially **97 tons in all Eastern states.**



Active Ingredient Reductions with Biological Control

T. pyri; Predatory Mite

Presently w/o *T. pyri*

- Total cost for miticides is approx. **\$900,000/year** on 22,000 acres. About 30% of arthropod pest control application costs.
- 1 ton of miticide AI/ year.
- Resistance to current miticides.

T. pyri Conserved/Introduced

- Assuming only a dormant oil application is necessary to supplement *T. pyri*
 - total cost is **\$100,000/year.**
- **Almost no miticide AI.**
- Sustainable long-term.
 - No resistance.
 - Basis for organic control.
 - Applic. to stone/small fruits.



For more Information:

- PA USDA-NRCS Programs
<http://www.pa.nrcs.usda.gov/programs/>
 - Agricultural Assistance Management
- Pennsylvania State University, Fruit Research & Extension Center
<http://frec.cas.psu.edu/>

PA IPM and NRCS

<http://paipm.cas.psu.edu/nrcs.html>