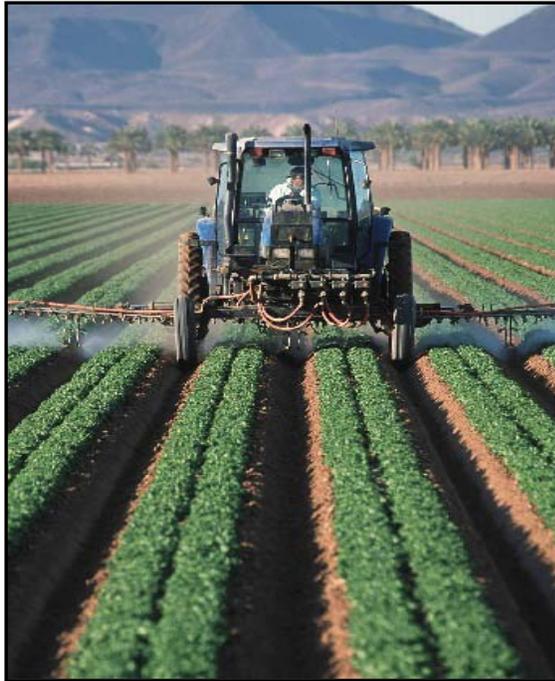


**Water Quality Enhancement Activity – WQL13 – High level integrated pest management to reduce pesticide environmental risk**



**Enhancement Description**

Utilize advanced Integrated Pest Management (IPM) prevention, avoidance, monitoring, and suppression techniques, and only apply the lowest risk pesticides available (or if higher risk pesticides are used appropriate mitigation techniques are used to ameliorate the risk) in an environmentally sound manner when monitoring indicates that an economic pest threshold has been exceeded. Pesticide applications must follow all label requirements.

**Land Use Applicability**

Cropland, pastureland, rangeland and forestland.

**Benefits**

This enhancement will improve water and air quality by reducing toxic pesticide runoff, leaching, drift and volatilization, and also reduce pesticide

impacts on pollinators and other beneficial insects.

**Criteria**

IPM is a sustainable approach to pest control that combines the use of prevention, avoidance, monitoring and suppression strategies, to maintain pest populations below economically damaging levels, to minimize pest resistance, and to minimize harmful effects of pest control on human health and environmental resources. High level IPM suppression systems include effective agro-chemicals and cost effective biological and cultural controls as well as the lowest risk pesticides available that can sustain the cropping system.

High level IPM includes:

1. This enhancement requires a written IPM plan and implementation of activities that include:
  - a. Prevention techniques such as cleaning equipment and gear when leaving an infested area, using pest-free seeds and transplants, irrigation scheduling to avoid situations conducive to disease development, etc.
  - b. Avoidance techniques such as maintaining healthy and diverse plant communities, using pest resistant varieties, crop rotation, refuge management, etc.
  - c. Monitoring techniques such as pest scouting, degree-day modeling, weather forecasting, etc. to help target suppression strategies and avoid routine preventative treatments.



- d. Suppression techniques such as cultural, biological and low risk chemical control methods, used judiciously to reduce or eliminate a pest population or its impacts while minimizing risks to non-target organisms.

### **Documentation Requirements**

1. A description of the high level IPM system that is utilized on all of the offered acres. This description should include each of the following items:
  - a. Pest prevention techniques
  - b. Pest avoidance techniques
  - c. Pest monitoring (scouting) techniques
  - d. Economic pest thresholds
  - e. Pesticide environmental risk analysis tool that was utilized (e.g., the NRCS Windows Pesticide Screening Tool - WIN-PST)
  - f. Pesticide application records with the specific management techniques that were utilized to reduce pesticide environmental risk (i.e., spot treatment, banding, pheromone traps, pesticide incorporation, etc.)
2. If formal IPM Guidelines with a numeric scoring system have been developed and approved by Extension, a completed set of those guidelines can be substituted for the documentation requirements in number 1 above.

## ALABAMA SUPPLEMENT TO ENHANCEMENT – WQL-13 HIGH LEVEL IPM TO REDUCE PESTICIDE ENVIRONMENTAL RISKS

Integrated Pest Management (IPM) is a long-standing process that is science based and aids in the environmentally-friendly decision-making process regarding pests and pest management. It coordinates the understood science regarding pests and modern technology to implement effective pest management while posing the least harm to people, property, resources and the environment.

The IPM strategy is based on four basic strategies; prevention, avoidance, monitoring and suppression. A high level of IPM will involve several practices within each of the basic strategies.

### Prevention Strategies:

#### Examples:

- Use certified, pest-free seed or plants
- Prevent weeds from producing seed with cultural methods such as cultivation, mowing, hoeing, flaming
- Avoid spreading of pests and vectors by sanitizing equipment, work infected field last, etc.
- Evaluate nutrient levels for optimum plant health
- Use drip irrigation instead of overhead irrigation to prevent disease opportunities
- Burn thatch in grass fields

### Avoidance Strategies:

#### Examples:

- Rotate crops that break pest cycles
- Choose pest resistant cultivars
- Adjust planting dates to avoid early or late season pests
- Use or manage trap crops to protect main crop

### Monitoring Strategies:

#### Examples:

- Monitor for pests as recommended for each crop. Or if no guidelines monitor on regular basis, such as once a week or every two weeks in line with production needs. Map weeds in fall to develop strategies for the next crop or spring. Record findings and document extents of pests, locations. Record keeping required.
- Use on-farm weather monitoring devices to aid in prevention and control of plant diseases.
- Use pest-forecasting tools to aid in monitoring conditions for development of diseases or insect pressure.

## Suppression:

### Cultural and Physical Control:

#### Examples:

- Use cover crops to reduce weed and disease incidence and improve soil quality
- Plant using recommended row widths and plant densities to ensure rapid canopy closure.
- Use mulches such as plastic or reflective mulches for insect or weed control.
- Inter-seed cover crops between rows to suppress weeds.
- Use mechanical controls such as cultivation, mowing, hoeing
- Use exclusion devices for insects or wildlife such as synthetic row covers or wildlife fences

### Biological Controls:

#### Examples:

- Release beneficial organisms such as predatory mites to control two-spotted spider mite or weevils specific for musk thistle control.
- Establish or use attractant plants to increase beneficial insect populations.
- Use goats to manage weeds in pastures or woodlots.
- Use biological insecticides

### Chemical Controls:

#### Examples:

- Recommended protocols and pesticide(s) from land grant university or extension system after implementing prevention, avoidance, monitoring, and suppression efforts
- Pesticide environmental risk analysis conducted to determine human and environmental impact such as conducted with the software Win-Pst.

## References:

The Integrated Pest Management Approach to Crop Production ANR-1038

<http://www.aces.edu/pubs/docs/A/ANR-1038/>

Alabama Pesticide Handbook Volume 1

<http://www.aces.edu/pubs/docs/A/ANR-0500-A/>

Alabama Pesticide Handbook Volume 2

<http://www.aces.edu/pubs/docs/A/ANR-0500-B/>

**ALABAMA SUPPLEMENTAL INFORMATION FOR THIS ENHANCEMENT**  
*WQL13 - High Level Integrated Pest Management to Reduce Pesticide Environmental Risk*

**Documentation Form**

|   |                |
|---|----------------|
| <b>Producer Name:</b>                         | <b>Date:</b>   |
| <b>Tract Number(s):</b>                       | <b>County:</b> |
| <b>Prevention Techniques Used:</b>            |                |
| <b>Avoidance Techniques Used:</b>             |                |
| <b>Suppression Techniques Used:</b>           |                |
| <b>Monitoring (scouting) Techniques Used:</b> |                |

Attach an example copy of pest management records documenting the above methods as well as the application of pesticides.

The submitted documents accurately reflect implementation of this enhancement.

**SIGNATURE:** \_\_\_\_\_ **Date:** \_\_\_\_\_