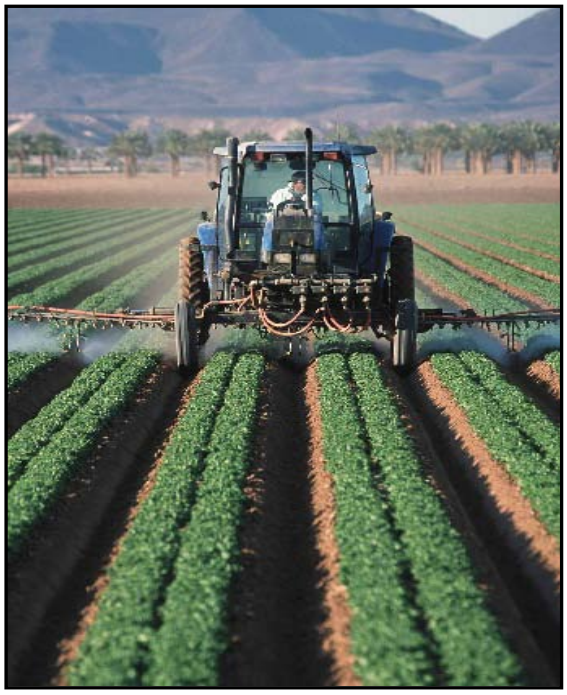
United States Department of Agriculture
Natural Resources Conservation Service

2011 Ranking Period 1

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.

WQL13 – High Level Integrated Pest Management to Reduce Pesticide Environmental Risk:

Additional Criteria requirements for "High Level IPM" must include:

- Monitoring technique, including intensive crop scouting (i.e. during planting/emergence, early, mid and late season development and pre-harvest evaluation). Follow economic threshold levels, as referenced in a Purdue Extension/scientific publication, or a predicted threat by Purdue University Specialists, for all pesticide applications
- At least one item from each of the following techniques:
    - Prevention Techniques;
    - Avoidance Techniques;
    - Suppression Techniques.
- And at least one additional (new) item from either of the following techniques:
    - Prevention Techniques;
    - Avoidance Techniques;
    - Monitoring Tools;
    - Suppression Techniques.

Additional References include:
Corn & Soybean Field Guide (ID-179), current edition

Purdue University, *Field Crops Pest Management Manual* (IPM-1)

Purdue University Field Crops IPM website:
http://extension.entm.purdue.edu/fieldcropsipm/

Purdue University Pest and Crops Newsletters at:
http://extension.entm.purdue.edu/newsletters/index.html

Purdue University, Field Crops Publications:
http://extension.entm.purdue.edu/publications.php

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