

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, 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.

Conditions Where Enhancement Applies

This enhancement applies to all land uses where pesticide environmental risks are present that need mitigation options to meet or exceed the criteria detailed below.

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 requires:

1. 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.
2. A minimum mitigation index score of ≥ 45 for the identified environmental risk but not less than specified by NRCS Agronomy Technical Note #5.
3. Mitigation index scores are quantified using NRCS Agronomy Technical Note #5, [Pest Management in the Conservation Planning Process](#).

Adoption Requirements

This enhancement is considered adopted when a management system has been implemented on the land use acreage that meets or exceed the minimum mitigation index criteria.

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), and
 - 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.

References

Ignazi, J.C. 1991. Prevention of Water Pollution by Agriculture and Related Activities. Proceedings of the FAO Expert Consultation – Water Report 1, pp 247-261.

USDA-NRCS. 2010. Conservation Practice Standard: Integrated Pest Management-Code 595

USDA-NRCS. 2011. Agronomy Technical Note No. 5 – Pest Management in the Conservation Planning Process.



United States Department of Agriculture
Natural Resources Conservation Service

IDAHO ADDENDUM 2013

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High Level Integrated Pest Management to Reduce Pesticide Environmental Risk

The Idaho Pest Management worksheet must be used to establish mitigation points. A minimum point value of 45 for the identified environmental risk is required.

The producer may document his/her IPM system using *Idaho's Guidance\Checklist for Integrated Pest Management* located at:

http://www.id.nrcs.usda.gov/technical/guidance_ipm.html

If some other format is used, it must contain ALL the elements discussed in the *Idaho Guidance*. A high level IPM system involves the use of multiple strategies to manage pests and reduce reliance on pesticides. High level IPM includes all of the following:

1. Field scouting and use of economic thresholds and pest forecasting when available,
2. Use of non-chemical avoidance, suppression and prevention techniques,
3. Environmental risk assessment, and implementation of mitigating practices (IPM techniques) to reduce potential for off-site transport.
4. Resistance management by alternating pesticide chemical class, and use of lower risk pesticides when appropriate.

Specific Requirements for High Level IPM

FOR CROPLAND:

- Scouting should be performed a minimum of three times per year, and more frequently for intensive cropping or situations where multiple pests (weeds, insects, disease) are a concern. Pests of concern and timing and frequency of effective scouting should be described in your IPM plan. Results of each scouting activity **MUST** be recorded.
- Record keeping for all IPM activities is required.
- Utilize NRCS Agronomy Technical Note #5 and the Idaho Pest Management worksheet to assist with identifying appropriate IPM techniques to mitigate risk. These should include the following types of activities:

- Use economic thresholds, where available, or describe your rationale for determining when pest control is needed
- Use pest resistant-varieties wherever feasible
- Use a crop rotation that helps control pests
- Utilize non-chemical method to address pests (besides resistant varieties and crop rotations). Ideally, use both cultural and biological methods to prevent, avoid and suppress pests.
- Rotate chemical class of insecticides and herbicides to avoid pest resistance

FOR PASTURE/RANGELAND/FOREST:

- Scouting should be performed a minimum of three times per year, and more often where as needed, depending on pest biology. This should be described in your IPM plan. Results of each scouting activity MUST be recorded.
- Record keeping for all IPM activities is required.
- Participate in and/or follow the weed management plan for the local Cooperative Weed Management Area or county-level programs for noxious weed management
- Utilize NRCS Agronomy Technical Note #5 and the Idaho Pest Management worksheet to assist with identifying appropriate IPM techniques to mitigate risk. These should include the following types of activities:
 - Use economic thresholds, where available, or describe your rationale for determining when pest control is needed. For noxious weeds, there is no threshold – noxious weeds should be treated when discovered.
 - Use spot treatment on a regular basis to control new weed infestations and keep them from spreading
 - Utilize non-chemical methods to address pests. Ideally, you use both cultural and biological methods to prevent, avoid and suppress pests. Remember that prescribed grazing contributes to pest management and reduces off-site transport by maintaining healthy rangelands/pasturelands. Similarly, good forestry practices help reduce pest problems and promote healthy, sustainable forests.
 - Rotate chemical class of herbicides used to avoid weed resistance.

NOTE: Scouting, pest forecasting, economic thresholds, and non-chemical alternatives must be based on defensible information sources and should be documented in the plan. This enhancement does not preclude the use of pesticides where used as part of an integrated pest management approach.

**This activity may NOT be used with the following enhancements:
ANM21, WQL19, WQL20, WQL21**

**Potential Duplicate Practices:
595- Integrated Pest Management**