

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

This enhancement is applicable on crop, pasture, forest and range land.

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 for utilizing high level Integrated Pest Management (IPM)

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.



United States Department of Agriculture
Natural Resources Conservation Service

- 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 for utilizing high level Integrated Pest Management (IPM)

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:
 - Pest prevention techniques
 - Pest avoidance techniques
 - Pest monitoring (scouting) techniques
 - Economic pest thresholds
 - Pesticide environmental risk analysis tool that was utilized (e.g., the NRCS Windows Pesticide Screening Tool - WIN-PST)
 - 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.



United States Department of Agriculture
Natural Resources Conservation Service

NH State Supplement WQL13 – High Level Integrated Pest Management to Reduce Pesticide Environmental Risk

High Level Integrated Pest Management (IPM)

1. A high level of IPM is achieved when >66% of possible points are attained using crop specific IPM guidesheets from the University of Massachusetts.

<http://www.umass.edu/umext/ipm/publications/guidelines/index.html>

OR

2. A high level of IPM is achieved when payment level is “high” using the Maine draft IPM jobsheet. This jobsheet may also be used for assistance in developing an IPM plan.

<http://www.maine.gov/agriculture/pi/IPM/documents/DraftIPMJobsheet.xls>

How to Use the IPM Job Sheet Integrated Pest Management (IPM) Job Sheet

This tool is under development by the Northeast Vegetable IPM Working Group in cooperation with Maine NRCS with input from vegetable specialists and conservation professionals throughout the US. It is designed to assist conservation planners and vegetable growers to develop the IPM component of a farm's conservation plan. We welcome your suggestions for improvement (contact Kathy Murray, Kathy.murray@maine.gov, 207-287-7616)

Here's how to use the IPM Jobsheet:

Step 1) Download the draft version Job Sheet from <http://www.maine.gov/agriculture/pi/IPM/NRCS.htm>. Click 'Enable Macros' in the dialog box that appears when you open the file.

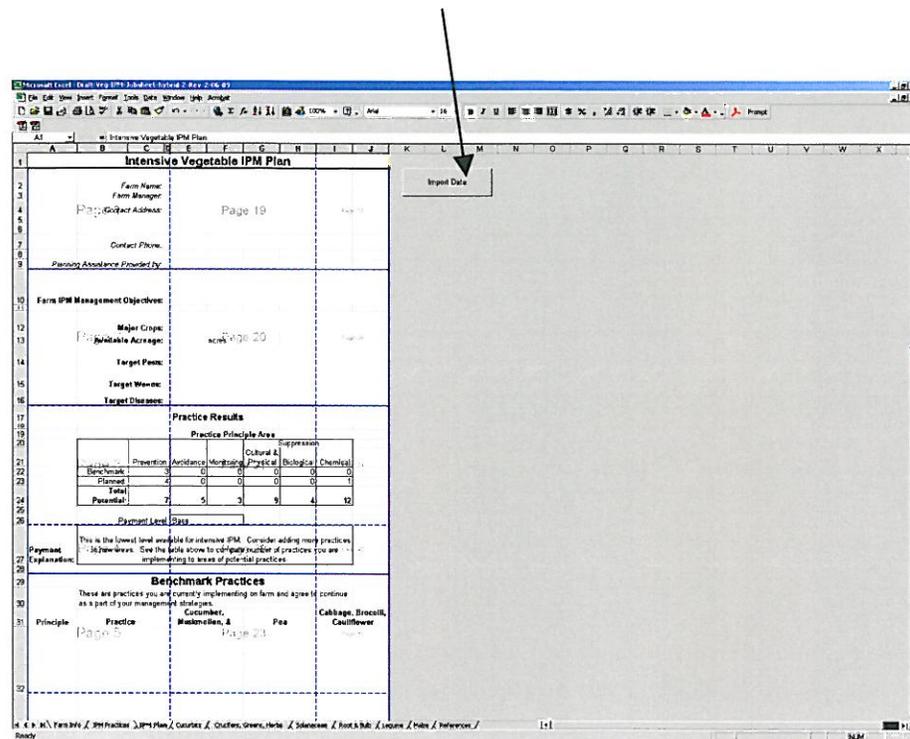
Step 2) Click on the Farm Info tab and fill in the boxes to identify the farm, crops, management objectives, etc

Step 3) Click on the IPM Practices Tab. General IPM practices are listed in Column D, organized by type of action [e.g. Prevention (yellow), Avoidance (green), Monitoring (blue) and Suppression (orange)]. Each practice is defined specifically for a selected crop in Column E. To begin, select a crop family for the green box in cell F7 by clicking on the box, then on the small black triangle that pops up to the right of the box. Select a crop family from the pull-down menu that appears.

Currently Practicing (Benchmark)	Plan on implementing (Plan)	Principle	Practices	Crop Family	Legume	Crucifera
<input type="checkbox"/>	<input type="checkbox"/>		Use certified seed and purchase transplants when available. (Example: Purchase certified seed and ensure plants are free of insects, diseases, and weeds before transplanting.)	Cucurbita Cucurbitaceae Pumpkin Squash Cucumber	Use treated seed.	Use transplants grown in New England to avoid importing DDM that have already developed resistance to one or more classes of insecticide.
<input type="checkbox"/>	<input type="checkbox"/>		Prevent weeds from going to seed. (Example: Cultivate, pull, mow, flame, etc.)		Pin 2	2
<input type="checkbox"/>	<input type="checkbox"/>		Reduce moisture on plant surfaces to prevent disease incidence. (Example: Use drip irrigation or avoid overhead irrigation between 8 a.m. and midday to minimize disease.)		Pin 3	Maintain adequate soil water during seeding, transplanting and period of rapid vegetative growth.
<input type="checkbox"/>	<input type="checkbox"/>		Employ methods to avoid spreading insects (pathogens, weeds, and insects). (Example: Work crop when dry, wear collected boots last, wash equipment between fields, etc.)		Pin 4	4
<input type="checkbox"/>	<input type="checkbox"/>		Destroy and/or remove crop residues for field sanitation procedures. Include fall tillage where appropriate to control weeds and break pest cycles. (Example: Plow under corn residue in the fall to control European corn borers.)		Pin 5	Incorporate and disk crop residues shortly after harvest.
<input type="checkbox"/>	<input type="checkbox"/>		Eliminate unwanted plants that serve as pest reservoirs, such as abandoned crops, volunteer corn from previous crop, or weed hosts of viruses.		Pin 6	6
<input type="checkbox"/>	<input type="checkbox"/>		Test soil or plant tissue annually to determine proper fertility and pH levels for crop and lime application according to crop needs. Apply nutrients, fertilizers, and pH adjusting agents according to recommendations.		Pin 7	7
<input type="checkbox"/>	<input type="checkbox"/>		Rotate crops that break the pest cycle. Do not plant crops from the same family at less than recommended intervals for the identified pests.		Pin 8	8
<input type="checkbox"/>	<input type="checkbox"/>		Rotate crops to appropriate sites to optimize plant health and avoid known pests. (Example: Avoid planting cucurbit crops between 8 a.m. and midday to minimize disease.)		Pin 9	9

Next select the crop within that family from the pull-down menu in cell F8.

Step 5) Click on the IPM Plan tab. Click Import Data button



Step 6) Review practices with grower. If necessary, revise the plan by doing Steps 3-5 again to make changes to select or unselect IPM practices for each crop.

Step 7). Save the file under a unique name (e.g. FarmerBrownIPMPlan.xls), print a copy of the IPM plan.

NOTE: The Practice Results table and Payment Explanation table are presented for example only and are not fully functional in this draft version of the Job Sheet. Each state NRCS office will want to make decisions about whether to set minimum numbers of IPM practices or tiered payment levels.