

Pest Management (Acre) 595

DEFINITION

Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies, to manage weeds, insects, diseases, animals and other organisms (including invasive and non-invasive species) that directly or indirectly cause damage or annoyance.

PURPOSES

This practice is applied as part of a Conservation System to support one or more of the following purposes:

- Enhance quantity and quality of commodities.
- Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

CONDITIONS WHERE PRACTICE APPLIES

Wherever pests will be managed.

CRITERIA

General Criteria Applicable to All Purposes

A pest management component of a conservation plan shall be developed.

All methods of pest management must comply with Federal, State, and local regulations, including management plans for invasive pest species, noxious weeds and disease vectors.

Agricultural producers who comply with pesticide labels and labeling, relevant state and federal laws, Michigan State University (MSU) pesticide

recommendation bulletins, and follow pertinent sections of the Generally Accepted Agricultural and Management Practices (GAAMPs) for Pesticide Utilization and Pest Control will meet provisions of Public Act 93 of 1981, as amended, the Right to Farm Act. For detailed information on label requirements, refer to Michigan State University Extension (MSUE) Bulletins E-2195 and E-2182.

Compliance with the Food Quality Protection Act (FQPA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Worker Protection Standard (WPS); and Interim Endangered Species Protection Program (H7506C) is required for chemical pest control.

Integrated Pest Management (IPM) that strives to balance economics, efficacy and environmental risk, where available, shall be incorporated into planning alternatives. (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. IPM suppression systems include biological controls, cultural controls and the judicious use of chemical controls.) Refer to the MSUE Bulletin E-2704, "Michigan Field Crop Pest Ecology and Management" for guidance on IPM in field crops. Refer to MSUE Bulletins FAS-104 and FAS-105 for guidance on IPM in orchard crops.

An appropriate set of mitigation techniques must be planned and implemented to reduce the environmental risks of pest management activities in accordance with quality criteria in the local Field Office Technical Guide. Mitigation techniques include practices like a Filter Strip or Conservation Crop Rotation, and management techniques like application method or timing.

All methods of pest management must be integrated with other components of the conservation plan.

Clients shall be instructed to pay special attention to all environmental hazards and site-specific application criteria listed on pesticide labels and contained in Extension and Crop Consultant recommendations.

Additional Criteria to Protect Quantity and Quality of Commodities

As an essential component of both commodity-specific IPM and IPM general principles, clients shall be encouraged to use the minimum level of pest control necessary to meet their objectives for commodity quantity and quality.

Additional Criteria to Protect Soil Resources

In conjunction with other conservation practices, the number, sequence and timing of tillage operations shall be managed to maintain soil quality and maintain soil loss at or below the soil loss tolerance (T) or any other planned soil loss objective. Soil loss shall be estimated using the current procedures in Section I of the Michigan NRCS Field Office Technical Guide (FOTG) for water and wind erosion.

Clients shall be encouraged to pay special attention to pesticide label instructions for limiting pesticide residues in soil that may negatively impact non-target plants, animals and humans.

Additional Criteria to Protect Water Resources

Pest management environmental risks, including the impacts of pesticides in ground and surface water on humans and non-target plants and animals, must be evaluated for all identified water resource concerns. The current versions of the Soil-Pesticide Screening Tool and the Leaching Index, found in Section II of the FOTG, will be used to evaluate the risk to surface and/or ground water resources.

When a chosen alternative has significant potential to negatively impact water resources, (e.g., WIN-PST “Extra High,” “High” or “Intermediate” soil/pesticide human risk ratings in the drainage area of a drinking water reservoir), an appropriate set of mitigation techniques must be put in place to address risks to humans and non-target plants and animals.

Appropriate conservation practices shall be identified that address the pesticide loss pathway and specific resource concern (e.g., a Filter Strip, Irrigation Water Management or pesticide incorporation may be appropriate mitigation techniques for pesticide solution loss that is impacting a surface water body.) Clients shall be encouraged to pay special attention to pesticide label instructions for limiting pesticide

residues in leachate and runoff that may negatively impact non-target plants, animals and humans.

The number, sequence and timing of tillage operations shall be managed in conjunction with other sediment control tactics and practices, in order to minimize sediment losses to nearby surface water bodies.

Additional Criteria to Protect Air Resources

Clients shall be encouraged to pay special attention to pesticide label instructions for minimizing volatilization and drift that may negatively impact non-target plants, animals and humans.

All pesticide applications shall be made in a manner that minimizes off-target drift. When pesticide off-target drift is anticipated due to the nature of the application, a Drift Management Plan shall be utilized by the applicator to minimize the occurrence and adverse effects of off-target drift. The Drift Management Plan shall be in writing and shall document drift minimization practices. The Michigan Department of Agriculture (MDA) will consider the presence and use of a Drift Management Plan as a factor in determining appropriate enforcement action in the event of drift. Refer to the GAAMPs for Pesticide Utilization and Pest Control for more information on Drift Management Plans.

Additional Criteria to Protect Plant Resources

Clients shall be encouraged to pay special attention to pesticide label instructions including those directed at:

- Preventing misdirected pest management control measures that negatively impact plants (e.g., removing pesticide residues from sprayers before moving to the next crop and properly adjusting cultivator teeth and flame burners).
- Appropriate climatic conditions, crop stage, soil moisture, pH, and organic matter in order to protect plant health.
- Limiting pesticide residues in soil that can carry over and harm subsequent crops.

Additional Criteria to Protect Animal Resources

Clients shall be encouraged to pay special attention to pesticide label instructions that minimize negative impacts to animals.

Additional Criteria to Protect Humans

Clients shall be encouraged to pay special attention to pesticide label instructions that minimize negative impacts to humans.

CONSIDERATIONS

If commodity-specific IPM is not available, the following IPM principles should be considered:

- Prevention, such as using pest-free seeds and transplants, cleaning tillage and harvesting equipment between fields, irrigation scheduling to avoid situations conducive to disease development, etc.
- Avoidance, such as using pest-resistant varieties, crop rotation, trap crops, etc.
- Monitoring, such as pest scouting, soil testing, weather forecasting, etc. to help target suppression strategies and avoid routine preventative pest control.
- Suppression, such as cultural, biological and chemical controls, that can reduce a pest population or its impacts. Conservation practices that promote cultural pest control include Conservation Crop Rotation (328), Cover Crop (340), Prescribed Grazing (528A) and Prescribed Burning (338). Chemical controls should be used judiciously in order to minimize environmental risk and pest resistance.

Adequate plant nutrients and soil moisture, including favorable pH and soil conditions, should be available to reduce plant stress, improve plant vigor and increase the plant's overall ability to tolerate pests.

On irrigated land, irrigation water management should be designed to minimize pest management environmental risk.

PLANS AND SPECIFICATIONS

The pest management component of a conservation plan shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended purpose(s).

As a minimum, the pest management component of a conservation plan shall include:

- Plan map and soil map of managed site, if applicable (conservation plan maps may be used).
- Location of sensitive resources and setbacks, if applicable (conservation plan maps may be used).
- Environmental risk analysis, with approved tools and/or procedures, for probable pest management recommendations by crop (if applicable) and pest.
- Interpretation of the environmental risk analysis and identification of appropriate mitigation techniques.
- Operation and maintenance requirements.

OPERATION AND MAINTENANCE

The pest management component of a conservation plan shall include appropriate operation and maintenance items for the client. Include all of the following that apply to the client's operation:

- Review and update the plan periodically in order to incorporate new IPM technology, respond to cropping system and pest complex changes, and avoid the development of pest resistance.
- Maintain mitigation techniques identified in the plan in order to ensure continued effectiveness.
- Develop a safety plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment centers and the telephone number for the nearest poison control center. Refer to MSUE Bulletin E-2575, "Emergency Planning for the Farm." The MDA

has a toll-free, 24-hour hotline available for reporting agricultural pesticide, fertilizer and manure spills, as part of their Spill Response Program. The MDA Agriculture Pollution Emergency (APE) Hotline is designed to reduce response time and provide appropriate technical assistance:

1-800-405-0101

Users of agricultural pesticide, fertilizer and manure products should report all uncontained spills or releases to the MDA APE Hotline.

The National Pesticide Information Center (NPIC) telephone number in Corvallis, Oregon may also be given for non-emergency information:

1-800-858-7378

Monday - Friday

6:30 a.m. to 4:30 p.m. Pacific Time

For advice and assistance with emergency spills that involve agrichemicals, the local emergency telephone number should be provided. The national 24-hour CHEMTREC telephone number may also be given:

1-800-424-9300

- Follow label requirements for mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, or reservoirs. (State or local regulations may be more restrictive).
- Post signs according to label directions and/or Federal, State, and local laws around sites that have been treated. Follow restricted entry intervals.
- Pesticide storage and handling shall meet the Michigan Practice Standard 702 (Agrichemical Containment Facilities).
- Dispose of pesticides and pesticide containers in accordance with label directions and adhere to

Federal, State, and local regulations. Refer to MSUE Bulletin AM-95.

- Read and follow label directions and maintain appropriate Material Safety Data Sheets (MSDS).
- Calibrate application equipment according to Extension and/or manufacturer recommendations before each seasonal use and with each major chemical change.
- Replace worn nozzle tips, cracked hoses, and faulty gauges.
- Maintain records of pest management for at least two years. Pesticide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Record Keeping Program and state-specific requirements. In order to comply with federal record keeping regulations and the GAAMPs for Pesticide Utilization and Pest Control, the following information must be documented:
 - Month/Date/Year of Application
 - Time of Application
 - Pesticide Brand/Product Name
 - Pesticide Formulation
 - EPA Registration Number
 - Active Ingredient(s)
 - Restricted-entry Interval (REI)
 - Rate per Acre or Unit
 - Crop, Commodity, Stored Product or Site that Received the Application
 - Total Amount of Pesticide Applied
 - Size of Area Treated
 - Applicator's Name
 - Applicator's Certification Number
 - Target Pest
 - Location of the Application
 - Method of Application

REFERENCES

Michigan State University Extension Bulletins:

AM-95 Rinsing and Recycling Pesticide Containers.
June 1984.

E-2195 Pesticide Applicator Core Training Manual.
April 1997. (available online at
<http://www.pested.msu.edu/BulletinsSlideSetsNewsletters/bulletins/E2195.htm>)

E-2182 Reading a Pesticide Label March 2001(English
and Spanish) (available online at
<http://www.pested.msu.edu/BulletinsSlideSetsNewsletters/bulletins/BulletinList.htm>)

E-2575 Emergency Planning for the Farm. January
2001. (available online at
<http://www.pested.msu.edu/BulletinsSlideSetsNewsletters/bulletins/EmergencyFarm.html>)

E-2704 Michigan Field Crop Pest Ecology and
Management. January 2000.

FAS-104 Orchard-A-Syst: Pesticide and Nutrient
Management for Orchards. October 2001. (available
online at
<http://www.msue.msu.edu/ipm/OrchardASyst.htm>)

FAS-105 Seasonal IPM Checklist for Orchards.
December 2001. (available online at
<http://www.msue.msu.edu/ipm/OrchardIPM.htm>)

Other References:

Generally Accepted Agricultural and Management
Practices for Pesticide Utilization and Pest Control.
Michigan Commission of Agriculture, Lansing, MI
(available at <http://www.Michigan.gov>)