

## Practice Guide for Integrated Pest Management (595) (Acre)

NRCS pest management policy states that conservation planners have three roles in pest management with respect to NRCS Conservation Practice Standard Integrated Pest Management code 595 (IPM 595):

1. Evaluate environmental risks associated with a client's probable pest suppression strategies
2. Provide technical assistance to clients to mitigate identified environmental risks
3. Assist clients to adopt IPM techniques that protect natural resources

The prime function of the pest management component of a conservation plan is to reduce risk of pest management activities. NRCS focuses on environmental risk evaluation and recommending mitigation to meet the IPM 595 standard. Pest management mitigation is the process of minimizing the potential for harmful impacts of pest management activities on soil, water, air, plant, and animal resources through application of conservation practices and/or techniques. Mitigation of off-site movement of pesticides or sediment decreases the potential for those losses to damage at-risk resources. The goal of IPM 595 is to reduce potential hazards to the equivalent of a Low or Very Low Win-PST rating. IPM 595 should be applied where there is a high risk from pest management activities to vulnerable resources. This includes land in close proximity to at-risk resources and other land that has been shown to directly impact at-risk resources.

Windows Pesticide Screening Tool (Win-PST) is the NRCS-supported technical tool that is used to assess relative pesticide leaching, solution runoff, and adsorbed runoff risks to water quality. WIN-PST analysis is based on:

- soil properties
- pesticide physical properties
- pesticide toxicity data
- broadcast/banded/spot treatment
- surface-applied/incorporated/foliar
- standard/low rate/ultra low rate
- humid/dry (no irrigation)

The major components of Win-PST analysis are:

- the potential for pesticide loss in:
  - water that percolates below the root zone
  - water that runs off the edge of the field
  - sediment that leaves the field in runoff
- chronic (long-term) pesticide toxicity to humans in drinking water and fish in aquatic habitat
- the combination of pesticide loss potential with pesticide toxicity to humans and fish to provide site-specific ratings for offsite pesticide hazards in leaching, solution runoff, and sediment adsorbed runoff

## Practice Guide for Integrated Pest Management (595) (Acre)

WIN–PST provides ratings for five different categories of resource concerns:

- Human Hazard Leaching for leaching risk to drinking water
- Fish Hazard Leaching for leaching risk to aquatic habitat (lateral flow to streams)
- Human Hazard Solution for solution runoff risk to drinking water
- Fish Hazard Solution for solution runoff risk to aquatic habitat
- Fish Hazard Adsorbed for adsorbed runoff risk to aquatic habitat including benthic organisms

The final WIN–PST Soil/Pesticide Interaction Hazard ratings are very low, low, intermediate, high, or extra high.

IPM 595 has specific mitigation requirements for identified natural resource concerns. The minimum level of mitigation required for each resource concern is based on the final WIN–PST Soil/Pesticide Interaction Hazard ratings:

Win–PST identified final hazard rating	Minimum mitigation index score level needed
Low or Very Low	None
Intermediate	20
High	40
Extra High	60

Mitigation requirements can be met with other conservation practices as well as IPM techniques applied with IPM 595. Agronomy Technical Note No. 5 provides Mitigation Index Values for appropriate conservation practice standards and IPM techniques. Mitigation values added together to calculate the total index score for the planned conservation system.

As an alternative to mitigation, the conservation planner can also work with Extension personnel, published Extension recommendations, the producer, or their crop consultant to see if there are lower risk alternatives that still meet the producer’s objectives. A producer can choose to use a pesticide that has risk if they also apply appropriate mitigation, or they can choose a lower risk pesticide that needs less or no mitigation—pesticide choice is the producer’s decision.

The NRCS Pest Management Considerations in Conservation Planning Worksheet and Integrated Pest Management Jobsheet is a spreadsheet-based tool that imports a clients Win-PST report file data and allows planners to enter existing and planned practices and IPM techniques. The worksheet automatically matches the Win-PST Hazard Ratings and the current level of mitigation with the value required by Agronomy Technical Note No. 5. The worksheet documents when required mitigation has been attained and allows alternative practices and techniques to be entered and evaluated during the planning process. When the worksheet adequately meets mitigation criteria, the jobsheet is populated listing practices and techniques

## **Practice Guide for Integrated Pest Management (595) (Acre)**

for the planned system. Additional information for the client is provided on the jobsheet for clarification.

Agronomy Technical Note No. 5 also provides guidance for mitigating air quality concerns created by spray drift and volatilization and mitigating pesticide risks to pollinators and other beneficial species.

### Comprehensive IPM Systems

IPM 595 is specifically designed to document the application of management activities that address site-specific natural resource concerns. IPM 595 is not designed to manage pests. Technical assistance for managing pests on cropland is not an identified role for conservation planners, however they must still work closely with Extension, producers, and their crop consultants to appropriately integrate all planned pest management activities into the conservation planning process.

The adoption of a comprehensive IPM system is always preferred, but 595 is not designed to prescribe what constitutes a comprehensive IPM system. Commodity-specific IPM elements, guidelines, and year-round IPM programs are available at the State level from land-grant universities extension to identify what constitutes a comprehensive IPM system. These guidelines should be used to help document the application of IPM 595. Comprehensive IPM systems use a site-specific combination of pest prevention, avoidance, monitoring, and suppression (PAMS) strategies. References cited at the end of this guide provide links to IPM guides and systems created and prescribed by land-grant universities.

### REFERENCES

#### Documents for 595

NRCS Conservation Practice Standard Integrated Pest Management (IPM) (Ac.) Code 595  
Pennsylvania July 2012

#### NRCS Agronomy Technical Note No. 5 Pest Management in the Conservation Planning Process February 2011

This technical note is designed to help conservation planners apply the Natural Resources Conservation Service (NRCS) Integrated Pest Management (IPM) Conservation Practice Standard (CPS) Code 595 and other NRCS conservation practices in the conservation planning process to prevent and/or mitigate pest management risks to natural resources. Information in the Technical Note must be used to determine if planned conservation practices and/or IPM techniques provide adequate mitigation.

#### Software tools for 595

NRCS Windows Pesticide Screening Tool (Win-PST) Version 3.1.20  
NRCS Pest Management Considerations in Conservation Planning Worksheet and Integrated Pest Management Jobsheet Version 1.80 March 2011

## Practice Guide for Integrated Pest Management (595) (Acre)

### Comprehensive Integrated Pest Management Systems References

IPM Guidelines & Elements: <http://www.ipmcenters.org/ipmelements/index.cfm> **Note:** IPM Guides & Elements for Pennsylvania and other Land Grant Institutions (LGI) for commodity groups can be accessed through this website including those from Cornell and Massachusetts. Conceptually, these IPM Elements and Guides are consistent but between universities, LGI have not adopted a standard format for these planning tools. Contact Pennsylvania NRCS IPM 595 resource staff if you have application questions.

IPM Guidelines (also known as IPM Checklists, Elements, Protocols, Definitions, and Standards) are best management practices for specific crops, developed in cooperation primarily with growers, university Extension specialists, and IPM consultants. These guidelines are used by various programs to qualify or certify that a grower or IPM practitioner is using accepted IPM practices. IPM Guidelines have been evaluated for their practicality and are often assigned points based on their importance to IPM and the level of difficulty required to implement. While these guidelines represent the best management options currently available, they evolve as new IPM technologies are developed.

Additional Penn State IPM systems guidance for specialty crops:

Organic Tree Fruit IPM <http://extension.psu.edu/ipm/resources/nrcs/programs/treefruit>

Conventional Tree Fruit IPM

<http://extension.psu.edu/ipm/resources/nrcs/programs/conventreefruit>

Christmas Tree IPM <http://extension.psu.edu/ipm/resources/nrcs/programs/christmas-tree-eqip-programs>

Small Fruit IPM <http://extension.psu.edu/ipm/resources/nrcs/programs/small-fruit>

Pennsylvania Fresh-market Sweet Corn IPM

<http://extension.psu.edu/ipm/resources/nrcs/programs/vegetable>

Additional references:

Core4 Manual Chapters on Pest Management Chapters 1 - 6 + Appendix A

NRCS Conservation Buffers to Reduce Pesticide Losses March 2000