



CONSERVATION STEWARDSHIP PROGRAM

Reduce risk of pesticides in surface water and air by utilizing IPM PAMS techniques

Conservation Practice: 595 Integrated Pest Management

APPLICABLE LAND USE: Crop (annual & mixed), Crop (perennial), Pasture

RESOURCE CONCERN: Water, Air

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Utilize integrated pest management (IPM) prevent, avoidance, monitoring, and suppression (PAMS) techniques to reduce risk of pesticides in water and air. Reduce the potential for delivery of chemicals into water or ozone precursor emissions.

Criteria

- Documentation of producer’s record of how integrated pest management is meeting all general criteria within the Integrated Pest Management Conservation Practice Standard (CPS 595).
- Utilize ***at least four additional activities from techniques below***. The four or more activities can come from one or all of the PAMS activities identified below:
 - Prevention activities include cleaning equipment and gear when leaving an infested area, using pest-free seeds and transplants, and irrigation scheduling to limit situations that are conducive to disease development.
 - For pasture, activities could include: longer rotation periods, higher stop grazing heights, identify quarantine or exclusion zones if pests are present, and utilize weed free hay. Utilize forage species or varieties with generic resistance to anticipated insects or diseases.
 - Avoidance activities include maintaining healthy and diverse plant communities, using pest resistant varieties, crop and livestock rotation, and refuge

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management. Maintain populations of beneficial species to limit development of weed and insect infestations.

- For pasture, activities include establishment of trap and/or cover crops to avoid pests’ migration and invasion into healthy pasture lands. Utilize grazing practices that maintain vigorous forage growth that competes with weeds and able to withstand insects or diseases. Consider adding a diversity of forage species to dilute insect host plants and reduce opportunities for plant pest pressure.
- Monitoring activities include scouting for both pests and beneficial organisms, degree-day modeling, and weather forecasting to help target suppression strategies and avoid routine preventative treatments. Monitoring may include the use of drones, or other remote sensing tools which can provide color, red, or infrared images to help detect pest issues. Utilize weather models to help predict disease or insect outbreaks.
 - For pasture, use pasture condition score (PCS) and/or determining indicators of pasture health (DIPH) to assess and evaluate effects of invasive pests.
- Suppression activities include judicious use of cultural, mechanical, biological and chemical control methods that reduce or eliminate a pest population or its impacts while minimizing risks to non-target organisms. Optimizing application timing (plant phenology, weather and soil conditions etc.), using precision application equipment, or substituting lower risk pesticides.
 - For pasture, consider biological control activities, such as livestock grazing for targeted suppression and control of invasive plant species used in conjunction with other pest management activities. Consider utilizing the timing, duration, frequency and intensity of grazing to disrupt insect or disease cycles. Also consider other synthetic or biological agents (other than livestock) to manage weeds, insects and diseases.
 - When addressing air quality, include at least one suppression activity to reduce emissions of ozone precursors, such as choosing low-emission application methods, selecting alternatives or avoiding use of emulsifiable concentrate (EC) formulations, use of precision application, solarization, biofumigants or adding adjuvants. Consider conditions/practices that reduce herbicide volatilization (in areas with low RH and high temps).

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Documentation and Implementation Requirements

Participant will:

- Prior to implementation, provide documentation for review showing producer’s record of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria.
- During implementation, keep documentation, such as records, plans, receipts, showing the implementation of the activities selected.
- After implementation, make documentation available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- Prior to implementation, provide and explain NRCS Conservation Practice Standard Integrated Pest Management (CPS 595) as it relates to implementing this enhancement.
- As needed, provide technical assistance to the participant as requested.
- After implementation, verify implementation by reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____

Contract Number _____

Total Acres Applied _____

Fiscal Year Completed _____

NRCS Technical Adequacy Signature

Date

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ENHANCEMENT NUMBER AND TITLE: **E595B:** Reduce risk of pesticides in surface water and air by utilizing IPM PAMS techniques

CONSERVATION PRACTICE: 595 – Pest Management Conservation System (PMCS)

BRIEF DESCRIPTION OF ENHANCEMENT: This enhancement is prepared to reduce risk of pesticides in surface water and air by utilizing Integrated pest management (IPM) prevent, avoidance, monitoring, and suppression (PAMS) techniques.

IMPORTANT CONSIDERATIONS:

- Use the current version of the pesticide risk assessment tool (Windows Pesticide Screening Tool (WIN- PST)) to evaluate site-specific water quality impacts associated with chosen pesticides. WIN-PST uses U.S. Environmental Protection Agency data for labeled pesticides and USDA Soil Survey, as well as locally observed soil properties to predict pesticide movement through one of three pesticide loss pathways: Leaching, Solution runoff and Soil adsorbed runoff (pesticides adsorbed to soil carried in surface runoff water).
- Determine if any pesticides considered for use in the planned area pose potential impacts to humans or fish, and their associated potential loss pathways. The minimum level of mitigation required for each resource concern is based on the final risk ratings in the “WIN-PST Soil/Pesticide Interaction Hazard Ratings” Table below:

| WIN-PST Identified Hazard Rating | Minimum Mitigation Index Score Level Needed |
|----------------------------------|---|
| Low or Very Low | None needed |
| Intermediate | 20 |
| High | 40 |
| Extra High | 60 |

- Use Agronomy Technical Note 5-Pest Management in the Conservation Planning Process ([OpenNonWebContent.aspx \(usda.gov\)](#)):
 - Table 1-IPM techniques for reducing pesticide environmental risk,
 - Table 2-Conservation practices for reducing pesticide environment risk
- The minimum level of mitigation required for drift is an index score of 20. For Volatile Organic Compound (VOC) emission concerns, apply at least one IPM mitigation technique from the Pesticide Volatilization section of Agronomy Technical Note 5 - Pest Management in the Conservation Planning Process.
- Use IPM guidelines from the Alabama Cooperative Extension System as supplemental information on prevention, avoidance, monitoring, and suppression (PAMS) activities.
- Document pest management activities that meet CPS 395 general criteria including but not limited to:
 - **Prevention activities:** Keeping away potential pests from entering an area or inhibiting their spread to new areas by cleaning equipment, using pest-free certified seed and transplants, eliminating alternative hosts, proper water management, and placing or erecting barriers like fencing or netting.
 - **Avoidance activities:** Utilizing tactics that limit resources and create unfavorable conditions for the present or reoccurring pest organism by rotating crops, selecting

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pest-resistant varieties, altering planting and harvesting dates, and planting right plant in the right place.

- **Monitoring activities.** Watching regularly for the appearance and reappearance of insects, weeds, diseases, and other pests. Identify pests and where potential pests are present, determine the severity of infestations, presence of pesticide resistance in the population, indications of activity or presence of natural enemies and damage to the asset being protected (crop/plants). Combine the two essential stages (monitoring and assessment). **Assess** answers if the pest causing damage and current prevention or avoidance tactics working, and, if there is a need to act.
- **Suppression activities:** Judicious use of cultural practices, physical barriers, biological controls, and pesticide applications. When using *Pesticides*- use judiciously, with proper timing for the best targeted control, and according to all written instructions on the product label. The pesticides must be labeled for use on the intended crop or site.
- Combine tactics from each of the PAMS activities into a single strategy, utilize rotation of pesticide mode of action (MOA) with at least three new or additional activities from the techniques such as:
 - Pre-season strategies,
 - Planting strategies,
 - Growing season strategies and
 - Harvesting strategies to manage pests and to minimize environmental impacts.

PROVIDE REQUIRED DOCUMENTS AND IMPLEMENTATION REQUIREMENTS:

- Documentation for E595B review showing record of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria.
- Documentation, such as records, plans, receipts, showing the implementation of the activities selected.
- Documentation for review to verify implementation of the enhancement.

THE ATTACHED DOCUMENTS SUPPORT THE FULL IMPLEMENTATION OF THIS CONSERVATION STEWARDSHIP ENHANCEMENT.

CSP Participant Name

Date