USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E595G

CONSERVATION STEWARDSHIP PROGRAM

Reduce resistance risk by utilizing PAMS techniques

CONSERVATION PRACTICE: 595 - Integrated Pest Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture

RESOURCE CONCERN: Plants – Pest Pressure

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Utilize integrated pest management (IPM) prevention, avoidance, monitoring, and suppression (PAMS) techniques to reduce pesticide resistance and address plant pest pressure.

Criteria

1) As a baseline, document the producer's record of Integrated Pest Management (IPM) activities currently used that meet the Conservation Practice Standard Pest Management Conservation System (CPS 595) general criteria, including but not limited to:
    - Current IPM- fields, tracts, or PLUs and acres under current management.
    - Planned IPM - fields, tracts or PLUs and acres affected.
    - Prevention activities: 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.
    - Avoidance activities: maintaining healthy and diverse plant communities, using pest resistant varieties, crop rotation, and refuge management.
    - Monitoring activities: pest scouting, degree-day modeling, and weather forecasting to help target suppression strategies and avoid routine preventative treatments.
    - Suppression activities: 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, using precision application equipment, or substituting lower risk pesticides.

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2) Utilize rotation of pesticide modes of action (MOA) and ***at least three new or additional activities*** from the techniques below that fit within the general PAMS strategies above:

Pre-season strategies:

- Acquisition of knowledge and skills to manage pesticide resistance by:
  - Attending educational meetings to obtain the latest information in development of sound pest management programs.
    OR
  - Promote communication regarding pesticide resistance, by hosting a field day or community meeting to discuss pesticide resistance issues in their community.
- Diversify the current crop rotation to add different crop types to disrupt the host plant/pest cycle and reduce use of the same pesticide MOA season after season.
- Add cover crops to the crop rotation or consider use of nurse crops and intercropping of crops to be competitive with weeds thereby reducing weed pressure in the cash cropland weed seed development or as host crops for beneficial insects
- Use grazing and/or browsing animals when applicable, to reduce weed populations.

Planting strategies:

- Plant certified (or tested by a certified lab) weed-free crop, cover crop, or pollinator habitat seed to reduce introduction of new weed pests.
- Use pre-emergence herbicides with soil residual activity, with different mechanisms of activity MOA on target weed species.
- Plant crops with stacked traits to maximize the diversity of available pest management tools a crop with Bt (bacillus thuringiensis) and herbicide resistance traits.

Growing season strategies:

- Managing the crop according to recommendations from local extension experts or crop consultants (i.e., Certified Crop Advisors) to promote overall crop vigor, resilience, and competitiveness.
- Scouting prior to pesticide application to correctly identify the target pest and to determine if economic thresholds or estimates of crop damage are met before applying pesticides.
- Time pesticide applications treatment or other PAMS activity when the most susceptible life cycle stage of the target pest(s) is present to maximize the efficacy for the treatment selected.
- Methods of monitoring include use of monitoring traps to indicate adult emergence, real time data feeds from monitoring systems, or using weather or vegetation growth models that predict conditions conducive to pest development.

- Perform in-field follow-up after pesticide application determine and document whether the applied pesticide provided effective control of the target pests.
- Use of cultural, mechanical, or biological pest management strategies such as, tillage, mowing, flaming, roller crimping etc.

Harvesting strategies:

- Manage the soil seedbank by reducing weed seed inputs through use of harvest weed seed destruction equipment i.e., combine weed seed grinding.
- Manage the field environment (including soils) to lessen the probability of weed establishment, enhance weed seed decay, and promote weed seed predation (e.g., maintaining habitat refuges, delaying postharvest tillage etc.).

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 Pest Management Conservation System (CPS 595) as it relates to implementing this enhancement.

☐ Evaluate any new pesticides used with this enhancement with WIN-PST and will plan appropriate mitigation if needed to protect water quality and/or beneficial organism protection.

☐ 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 enhancem[illegible]met all criteria a[illegible]irements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signatu[illegible] Date

Design Approvals & Acknowledgements:

Design Approval	Date	Job Approval Authority
Designed by:		
Approved by:		

Client's Acknowledgement Statement:

The client acknowledges:

- I have received a copy of the specification and understand the contents and requirements.
- It is my responsibility to obtain all necessary permits and/or rights and to comply with all ordinances and laws pertaining to the application of this practice.
- I will not begin installation of this practice until I have received appropriate approval to do so. I understand NRCS also has Federal and state laws to comply with that may take some time to address (e.g. cultural resources).

Client's	Date
Signature	

Certification Documentation:

☐	Field Evaluation: Post-treatment inventory, measurements, notes, as-built, and supporting documentation (document completion in conservation plan), as required.
☐	Map(s): Including field numbers, fields treated, and units treated (may document on conservation plan map), as required.
☐	Photos or other supporting documentation (e.g., seed tags, soil tests, receipts, invoices, spray records, fertilizer records, etc.)
Brief Description of Work Accomplished (types of equipment used, date of application, extents and quantities installed, etc.)	

Certification Statement:

The employee certifies the implementation of this conservation practice:

- Meets the purpose, general criteria, and any required additional criteria as documented in the conservation practice standard and/or enhancement sheet.
- Meets the specifications contained herein and is complete.
- Conforms to my existing Job Approval Authority controlling factors and levels.

Name	Date	Job Approval Authority

Field Level Certification – For multiple applications of this design.				
Land Unit/ Contract Item Number	Date	Unit(s)	Amount Installed	Certifier