United States Department of Agriculture

Notice of Proposed Changes to the National Handbook of Conservation Practices for the Natural Resources Conservation Service

[Docket No.]
PROPOSED FULL TEXT FOR PRACTICE STANDARD CODE 595

Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

PEST MANAGEMENT CONSERVATION SYSTEM

CODE 595

(ac)

DEFINITION

A system that combines ~~an~~ integrated pest management (IPM) ~~decision-making process~~ with natural resource conservation ~~to address pest and environmental impacts~~.

PURPOSE

This practice is used to accomplish one or more of the following purposes:

- Reduce plant pest pressure.
- Reduce injury to beneficial organisms.
- Reduce transport of pesticides to surface and ground water.
- ~~Reduce emissions of particulate matter (PM) and PM precursors (~~Reduce chemical droplet drift~~).~~
- Reduce emissions of ~~ozone precursors (pesticide volatilizations)~~volatile organic compounds.

CONDITIONS WHERE PRACTICE APPLIES

On lands where pests are managed. The purpose to reduce emissions of volatile organic compounds is only applicable in ozone nonattainment areas.

CRITERIA

General Criteria Applicable to All Purposes

~~Use~~ Implement and document a Land Grant University (LGU) or science- based IPM ~~professionally accepted resources to develop a pest management conservation system (PMCS) based on~~ system for the desired plant community (i.e., crop, pasture, range, forest) utilizing prevention, avoidance, monitoring, and suppression (PAMS) ~~strategies.~~

~~Adapt the~~techniques. Supplement with information from appropriately certified professionals

including extension specialists, IPM ~~system for the specific crop or~~ professionals, certified crop ~~rotation in a specific location and adhere to applicable elements and guidelines of LGU standards. Where LGU standards are not available, use science-based standards appropriate for the crop and the region.~~advisers, or technical service providers, etc. Refer to USDA-NRCS Agronomy Technical Note 5 - Pest management in the Conservation Planning Process, Amendment 2, Table A:

~~Identify~~

- Table A - Prevention Avoidance Monitor Practices to Reduce Need for Pesticides.

Document all activities and resources used to manage for pesticide resistance.

- Table B Pesticide Resistance Activities.

Monitor and identify target pests including plants, insects, ~~and~~ pathogens, etc. Obtain information on their life cycles and natural enemies in ~~the~~ impacted ~~area~~areas.

Evaluate ~~and document the PAMS techniques chosen for the PMCS in the crop systems.~~

~~When choosing tillage or soil incorporation activities, evaluate~~ impacts with the current NRCS ~~wind~~Wind and ~~water erosion~~Water Erosion prediction technologies to plan for systems that will address any resulting soil erosion resource concerns when choosing tillage or soil disturbing activities.

~~Document all activities and resources used to avoid development and to manage for pest resistance.~~

Evaluate the impacts when choosing to implement fire as a pest management technique. Refer to Prescribed Burning (CPS 338). Activities will meet established regulations and guidelines for smoke, fugitive dust, ozone precursors, and state and local permit requirements.

Additional criteria to reduce pesticides transported to surface and ground waters.

The current version of [your state] pesticide hazard mitigation worksheet, located in the Field Office Technical Guide, will be used to evaluate potential hazards to humans and fish, as appropriate, for each pesticide to be used when identifying water quality concerns related to pesticide leaching, solution runoff, and adsorbed runoff.

The minimum level of mitigation required for each resource concern is based on the final Win-PST soil/pesticide interaction hazard ratings.

Table 1 - Soil/Pesticide Interaction Hazard Ratings

Identified Hazard Rating	Minimum Mitigation Index Score Level Needed
Low or Very Low	None Needed
Intermediate	20
High	40
Extra High	60

Refer to Agronomy Technical Note 5, tables:

- Table 1—IPM techniques for reducing pesticide environmental risk, and
- Table 2— Conservation practices for reducing pesticide environment risk.

Determine if existing conservation practices, along with any currently implemented IPM techniques, provide adequate mitigation. If more mitigation is needed, use the tables to choose and apply IPM mitigation techniques and/or conservation practices to meet the minimum mitigation index score needed.

Additional Criteria to ~~**Reduce/Discontinue Use of, or Mitigate for Effects of, Pest Management Ac- tivities That May Create Environmental Impacts to Water, Animal, or Air Natural Resources**~~ ~~When pesticides are part of a PMCS, 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. They are –~~

- ~~Leaching.~~
- ~~Solution runoff.~~
- ~~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~~ reduce pesticide impacts to ~~humans or fish, and their associated potential loss pathways.~~

~~**Use the following technical notes to evaluate current or planned techniques and existing or planned conservation practices' mitigation value. Plan additional techniques to further mitigate at least one resource concern such as, but not limited to, water quality,**~~ **beneficial** ~~**organism**~~**organisms' habitat**~~**, etc.**~~

- ~~Agronomy Technical Note 5 (Title 190), "Pest Management in the Conservation Planning Process"~~
  - ~~Table 1 – "IPM techniques for reducing pesticide environmental risk"~~
  - ~~Table 2 – "Conservation practices for reducing pesticide environment risk"~~

Refer to Agronomy Technical Note 9 ~~(Title 190), "Preventing or Mitigating Potential Negative Impacts of Pesticides on Pollinators Using Integrated Pest Management and Other~~ , Pest Management Conservation ~~Practices"~~Strategies to Protect Pollinators and their Habitat, tables:

- Table 2 ~~–~~ " - Risk Mitigation Practices and Techniques for Pollinator Protection Within Treatment Areas~~."~~, and
- Table 3 ~~–~~ " - Risk Mitigation Practices and Techniques for Pollinator Protection Outside ~~Treatment~~of Treated Areas~~."~~.

The minimum criteria for protecting pollinators **within the treatment area** is **ten** mitigation points.

For direct contact of pesticide risks to pollinators and other beneficial species within treatment area, determine if existing conservation practices along with any currently implemented IPM techniques provide adequate mitigation. If more mitigation is needed, use Table 2 to choose and apply appropriate mitigation techniques to meet the minimum mitigation index score level needed.

The minimum criteria for protecting pollinators **outside of a treatment area** is **twenty** mitigation points.

For impacts to pollinators outside the treatment area, determine if existing conservation practices, in conjunction with any currently implemented IPM techniques provide adequate mitigation. If more mitigation is needed, use Table 3 in Agronomy Technical Note 9 and Table 1 in Agronomy Technical Note 5, to apply appropriate mitigation techniques to meet the minimum mitigation index score level needed.

Additional Criteria to reduce chemical droplet drift

The minimum level of mitigation required for drift is an index score of 20.

Refer to Agronomy Technical Note 5 table:

- Table 1—IPM techniques for reducing pesticide environmental risk.

Determine if any currently implemented IPM techniques provide adequate mitigation. If more mitigation is needed, use Table 1 to choose and apply appropriate mitigation techniques to meet the minimum mitigation index score level needed.

Additional Criteria to reduce emissions of volatile organic compounds in ozone nonattainment areas

Choose low-emission pesticides or formulations. Solid formulations will typically release the least amount of volatile organic compounds. When possible, avoid emulsifiable concentrate formulations and fumigants.

Reduce the overall amount of pesticide applied by spot treating, making fewer applications, or using precision application equipment.

For fumigants, choose low-emission application methods, such as:

- Fumigate and cover with tarps.
- Fumigate and cover with several post-fumigation water treatments.
- Apply through drip irrigation.
- If possible, apply fumigants before May or after October.

CONSIDERATIONS

~~IPM guidelines from the LGU or extension service may be supplemented with information from appropriately certified professionals including extension specialists, certified crop advisers, technical service providers, etc.~~

Support naturally occurring beneficial organisms, ~~particularly~~especially when they are included as a pest control strategy. Use an appropriate habitat assessment tool to evaluate the availability of adequate larval and adult habitat for predator and parasitoid species of the target pests.

Improving the habitat for beneficial insects may include hedgerows and conservation cover plantings on adjacent land, and practices within the crop field such as crop rotation, intercropping, cover crops, and mulching.

~~On cropland, diverse~~Avoid drift and runoff into adjacent habitat areas.

Diverse crop rotations, including cover crops, are an effective means to minimize the development of pest pressures from weeds, insects, diseases, and nematodes on cropland.

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

~~Design~~Maintaining diverse, vigorous plant communities can aid in minimizing the development of pest pressures from invasive plants (herbaceous and woody) in perennial plant communities (range, pasture, or forest).

Irrigation water management should be designed to avoid conditions conducive to disease development and minimize offsite contaminant movement~~.~~ on irrigated land.

Poor soil drainage may increase soil-borne diseases that thrive in moist conditions (e.g., many root rot diseases). Applying appropriate drainage management (surface and subsurface) can reduce this risk and not exacerbate leaching and runoff.

Use local weather monitoring information that is available to make better pesticide application decisions.

Tillage for weed control and other physical soil disturbance reduces the presence of mycorrhizal fungi and soil organic matter (i.e., carbon loss to the atmosphere) content ~~which~~. Mycorrhizal fungi have multiple benefits for both soil and plant health.

Many bats consume large quantities of insects. In forests or shaded areas consider using bats as a biological control method. Install bat houses to support natural pest management. Consider broader pest management strategies and forest insect remedies in forests.

When providing technical assistance to organic producers, follow USDA Agricultural Marketing Service National Organic Program standards ~~including, but not limited to~~.
Information can be shared with the local community through a network for identified pests. Such information can also be shared with the local extension or LGU so that proper steps can be taken to mitigate the effects of pests where they exist and prevent their spread. Established networks, such as Integrated Pest Information Platform for Extension and Education (iPiPE), provide robust avenues for information sharing above and beyond local networks.

- ~~Improving soil health.~~
- ~~A diverse crop rotation that reduces habitat for major pests and increases habitat for natural enemies.~~
- ~~Creating beneficial organism habitat.~~
- ~~Planting of locally adapted, pest-resistant crop cultivars.~~

~~Resistance management techniques including but not limited to—~~

- ~~Rotating crops to disrupt the host plant/pest cycle and reduce the use of the same pesticides season after season.~~
- ~~Managing the soil and crop/plant residue to maximize conservation goals and beneficial organisms while reducing pest populations.~~
- ~~Planting certified (or tested by a certified lab) crop, cover crop, and pollinator habitat seed to reduce introduction of new weed pests.~~
- ~~Manage the soil seedbank by reducing seed inputs and manage the soil and crop environment to lessen the probability of weed establishment and to enhance seed~~

~~decay and predation.~~

- ~~Using grazing animals in some cases to reduce (some) weed populations.~~
- ~~If available, using scientifically verified methods to sample pest populations and correlating them to economic estimates of crop damage before applying pesticides.~~
- ~~Timing chemical applications when the most susceptible life stage of the pest is present for the pesticide selected (e.g., adult emergence as detected in monitoring traps, or using degree day models to predict egg deposition or larval emergence, or using preventive fungicide applications when weather models predict conditions appear to be conducive to disease development).~~
- ~~Scouting before and after pesticide application to correctly identify the pest and to determine if the application provided effective control.~~
- ~~Monitoring for favorable environmental conditions in the development of a given pest, such as with a validated weather forecasting model for temperature relative humidity and rainfall (if applicable) that could favor disease development.~~
- ~~Managing the crop according to recommendations from local IPM advisors for the location to promote overall crop vigor, resilience, and competitiveness.~~
- ~~If thresholds are not available for a pest, then providing general decision-making guidelines for each typical pest to assist determining when treatment is warranted.~~
- ~~Rotating or tank mixing products with different modes of action (MOA) based on consultation with IPM experts.~~

PLANS AND SPECIFICATIONS

Prepare a plan for each crop or desired plant community and record the information in an implementation requirements document or an equivalent document. Include the recommendations of the LGU or science-based resources.

The ~~PMCS~~Pest Management Conservation System for each crop or desired plant community must include~~—~~:

- Plan and soils map ~~where~~for implementing the practice, if applicable ~~(use~~. Use conservation plan maps if available~~).~~.
- Location of sensitive resources and setbacks.

- Identification of resource concerns used to guide development of the system.
- List by crop or ~~cropping system~~desired plant community to include~~—~~:
- ~~The specific~~Specific pests (weeds, insects, and disease-causing pathogens) of concern either identified on the planned acres or ~~have~~where there is a historical presence in the area or ~~State~~state.
- ~~The prevention~~Prevention and avoidance activities planned to reduce pest pressures.
- ~~The~~A schedule for monitoring and scouting for each typical pest that can cause economic loss or environmental degradation associated with the land use, crop, or plant community.
- Description of thresholds or methods to determine a threshold before treatment is warranted.
- If thresholds are not available for a pest, then provide general decision-making

guidelines for each typical pest to assist in determining when treatment is warranted.

- Suppression techniques for identified pests.

- Completed implementation requirements documentation.
- Results of an evaluation of the IPM plan as implemented, noting efficacy of methods employed for control of target insect, nematode, disease, and weed ~~pest~~pests.
- When addressing additional criteria include environmental impact analysis including the WIN-PST report for all pesticides used including those identified as suppression alternatives in the Pest Management Conservation System Plan. Where ~~mulitple~~multiple soil types are present, include a WIN-PST run for each ~~signficant~~significant soil/pesticide combination.

OPERATION AND MAINTENANCE

Develop an operation and maintenance (O&M) plan that is consistent with the purposes of the practice, its intended life, safety requirements, and the criteria for its design.

Producers and applicators are responsible for following all pesticide label restrictions and instructions and complying with all applicable ~~Federal, State~~federal, state, and local regulations.

At a minimum, plans must be reviewed and revised as needed, when crops, pest pressure, or management options or growing conditions change.

Maintain records for at least the year in which the practice was implemented and 1 year after for conservation planning purposes. Records of the use of federally restricted use pesticides (RUPs) are required for at least 2 years. Pesticide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Recording Keeping Program (see ~~https://www.ams.usda.gov/rules-regulations/pesticide-records), and any State~~https://www.ams.usda.gov/rules- regulations/pesticide-records), and any state and local requirements.

Maintain mitigation techniques identified in the plan to ensure continued effectiveness.

Calibrate application equipment according to extension and/or manufacturer recommendations before each season of use, with Agricultural Marketing Service's Pesticide Recording Keeping Program, and site- specific requirements for each major chemical change.

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