

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

PEST MANAGEMENT

(Acre)
Code 595A

DEFINITION

Managing agricultural pest infestations (including weeds, insects, and diseases) to reduce adverse effects on plant growth, crop production, and natural resources.

PURPOSES

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- Control pest to the economic threshold level.
- Protect water quality.
- Protect human health.
- Protect plant and animal health.

CONDITIONS WHERE PRACTICE APPLIES

On cropland and other agricultural land where pest control is needed.

CRITERIA

General Criteria Applicable To All Purposes Named Above

Compliance with Federal, state, and local laws is required (e.g., Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Workers Protection Standard (WPS); and Chapter 5E-2 and 5E-9 Florida Administrative Code (F.A.C.)).

Pest control will be applied in a manner, amount, and/or rate consistent with meeting the quality criteria in Section III of the Field Office Technical Guide (FOTG).

Integrated pest management principles will be followed. These principles include using a combination of two or more biological, cultural, mechanical, sanitation, and chemical controls.

When using pesticides, label instructions and directions will be followed.

A pest management plan will be developed for the area of application and will include:

- a. Field number(s), crop(s), and target pest(s) to be treated, showing the best control method or combinations of control.
- b. Relative Leaching Potential Index (RLPI) and Relative Runoff potential index (RRPI) for the soils on the planned area will be determined. (Form FL-CPA-13, Documentation for Determining Soil Leach and Soilrun may be used);
- c. A statement regarding the level of soil leaching and soil runoff potential if pesticides are used. (Form FL-CPA-14 through 17, Pesticide Management Job Sheet may be used);
- d. University of Florida, Institute of Food and Agriculture Science (UF, IFAS) Pesticide Selection Guides (Circular #959 through 1015), crop specific supplement or copies of the filled out form(s) (last page of the circular) where the selection has been made by the cooperators in consultation with IFAS or a certified crop adviser.
- e. Record of pest management decisions. (Form FL-CPA-24, Pest Management Support Data Sheet may be used).
- f. A water budget showing the seasonal distribution of water resources under the selected soil-crop-management system.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Additional Criteria To Control Pest To The Economic Threshold Level

Pest control will be applied when the cost of treatment reaches the economic benefit of treatment.

Additional Criteria To Protect Water Quality

Where surface water may be impacted, aquatic toxicity will be listed for the selection of chemicals to be used. Only chemicals labeled for aquatic use will be applied to any surface water.

In areas where groundwater is subject to high level of potential contamination an evaluation of the stage of plant growth, ground cover, half life of the chemical, organic content of the soil, and amount of the active ingredient of the chemical will be provided the client.

Open mixing of chemicals will not occur within 100 feet of a well or surface water body. Open mixing will be performed on the down gradient of wells.

Where chemical mixing occurs continuously in the same location or within close proximity of a well or surface water, closed transfer systems or portable agrichemical handling facilities will be used.

Backflow prevention devices shall be used on all water sources which supply water to chemical mixing tanks or where chemicals are applied through irrigation systems.

Additional Criteria To Protect Human Health

Minimize exposure to chemicals, wear proper protective clothing, and use safety equipment as appropriate.

The pesticide applicator will know the exact field location to be treated.

Operators of equipment will be alert at all times to avoid bodily injury and unnecessary exposure to chemicals.

Signs will be posted according to label directions and/or state and Federal laws around fields that have been treated. Reentry times will be followed.

Store pesticides in original containers in a locked, well ventilated weather resistant building. Post

warning signs on or around the building. Locate the building so that accidental spills will create minimal environmental effects. Dispose of pesticide containers according to label directions and adhere to local or state regulations.

Provide emergency wash stations for personnel who might be accidentally exposed to chemicals, and formulate a safety plan complete with telephone numbers and information about locations of emergency treatment centers for personnel exposed to chemicals.

Material Safety Data Sheets (MSDS) shall be readily assessable to personnel.

CONSIDERATIONS

The following should be considered when developing the pest management section of a conservation plan:

- The importance of using integrated pest management principles. An integrated system using a combination of two or more mechanical, cultural, biological, and chemical systems will provide better and more economical control of most pests.
- Use of crop rotations, crop varieties resistant to the target pest(s), and adjusting planting dates to help control weed, insect, and disease problems.
- Using mechanical cultivation and biological controls, when feasible, to control pests.
- The effect of adequate plant nutrients and soil moisture, favorable pH, and good soil condition to reduce plant stress and improve plant vigor.
- Use of hand weeding for small, isolated areas, or on larger areas where labor costs are not prohibitive. Spot spraying and wick application of pesticides rather than full-coverage spraying may be the another alternative.
- Pesticide characteristics such as solubility, toxicity, degradation process, mobility, persistence, adsorption, and efficacy, and relationships to site characteristics such as soil, geology, depth to water table, proximity to surface water, topography, climate, and sensitive

environmental elements to determine the potential impact on water quality.

- Timing of pesticide application in relation to present soil moisture, anticipated weather conditions, wind speed, and irrigation to achieve greatest efficiency and reduce potential for offsite transport. The method of pesticide application, such as ground or aerial spraying, wicking, granules, etc., is important since the degree of drift and volatilization can vary considerably.

- The stage of plant growth and/or if soil applied in assisting with evaluating the leaching or runoff potential.

- The effects of erosion control practices, including subsurface water management, and filter strips, used to reduce soil loss and runoff transport of adsorbed and dissolved pesticides.

- Leaving plant residue (residue management) on the surface increases organic matter which reduces the chances of some herbicides like atrazine reaching groundwater.

- The effects of repetitive use of the same or similar pesticides on pest resistance and shifts in the pest types.

- Effects of pest control measures on non-target soil organisms, and on aquatic and terrestrial life. Special care should be afforded to threatened and endangered species of plants and animals.

- Effects of the seasonal water budget on potential pesticide loss from the plant environment to surface or ground water.

- Pesticide users must read and follow label directions, maintain appropriate MSDS, and become certified to apply restricted use pesticides.

- Properly located chemical mixing and equipment rinsing stations will reduce the potential for contamination of ground or surface water. Extreme care must be taken to follow loading and mixing procedures. Provide for managing accidental spills.

- Properly rinse equipment and re-use rinsate for subsequent batches of the same pesticide, where possible.

- The dangers from excessive exposure to many chemicals.

- Becoming familiar with Private Applicator Agricultural Pest Control (SM-53), UF, Cooperative Extension Service (CES), IFAS; and Applying Pesticides Correctly (SM 1), UF, CES, IFAS and the Environmental Protection Agency (EPA).

OPERATION AND MAINTENANCE

The pest management plan of the conservation management system plan will be the operation and maintenance for this practice standard.

Information on the need to maintain mechanical equipment in good working condition and calibration of application equipment to ensure recommended rates are applied will be provided.

Information on replacement of worn components on pesticide application equipment as well as other pest management implements will be provided.

REFERENCES

FIFRA
 Workers Protection Standard
 Chapter 5E-2 and 5E-9 (FAC)
 Section III, FOTG
 IFAS Circular Numbers 959-1015
 Private Applicator Agricultural Pest Control (SM through 53)
 Applying Pesticides Correctly (SM 1)