

IPM Herbicide Resistance Weed Conservation Plan

Criteria - Practice/Activity Code (154) (No.)

1. Definition:

Integrated Pest Management Herbicide Resistance Weed Conservation Plan is a plan with emphasis to modify herbicide use for suppressing weeds on cropland by utilizing four IPM strategies: Prevention, Avoidance, Monitoring and Suppression, that will be implemented with the augmentation of three key essential conservation practices: Crop Rotations, Cover Crops, Residue Tillage Management. The IPM Herbicide Resistance Weed Conservation Plan must:

- Meet NRCS quality criteria for soil, water, and air quality;
- Comply with federal, state, tribal, and local laws, regulations and permit requirements;
- Address the operator's objectives.

Producers choose to implement an IPM Herbicide Resistance Weed Conservation Plan for reasons that include, but are not limited to:

- To change herbicide rotation (modes of action and herbicide) and intensify mechanical practices. Initially some manual labor may be needed where farms are presently populated with herbicide resistance weeds;
- To change herbicide rotation (modes of action and herbicide) and increase the use of conservation practices, along with IPM techniques, that prevent early term resistance weeds on farms;
- Minimize resistance weeds seed production by reducing the weed populations before the flowering stage or before maturity;
- To manage the weeds seed bank with a healthy soil (cover crops) to improve soil biological activity and shorten the half-life of the weed seed bank and establishing a desirable habitat for seed predators (invertebrates, small rodents, birds) that consume weed seed.
- To manage resistance weeds effectively and economically;
- Cover Crops – consider using cover crops (1) to aid in controlling herbicide resistance weeds by shading and out competing weeds for nutrients, (2) for reducing water erosion to prevent herbicide contamination of water bodies and streams adjacent to treated site or field, and (3) managing cover crop residues left on soil surface can maximize the allelopathic (chemical) and mulching (physical) effects in suppressing herbicide resistance weed.

2. IPM Herbicide Resistance Weed Conservation Plan Criteria

This section establishes the minimum criteria to be addressed in the development and implementation of IPM Herbicide Resistance Weed Conservation Plan on cropland

Conservation Systems are reviewed periodically, and updated if needed. To obtain the current version of this system, contact your Natural Resources Conservation Service State Office, or visit the [Field Office Technical Guide](#).

developed by a certified Technical Service Provider (TSP). Complete the IPM Herbicide Resistance Weed Plan (154) template provided that includes the following items:

- Background and site information - list and document information on the template or jobsheet about the site condition, herbicide resistance weeds, and tools needed;
- Name of owner/operator;
- Farm location and mailing address;
- Soils Map and soil map units description using the Web Soil Survey <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm> as a minimum printout the Soil Report > AOI Inventory > Map Unit Descriptions
- Site specific assessment of environmental risk associated with existing and alternative pest suppression system. To assist with the implementation of the practice standard (595) utilized the Agronomy See Technical Note No. 5 – Title: Pest Management in the Conservation Planning Process which is located in the eDirectives <http://directives.sc.egov.usda.gov/> under Technical notes, title 190-Ecological Sciences, Agronomy Technical Note 5; then click the attachment;
- Digital Conservation plan map with;
 1. Location of sensitive areas such as: streams, surface waters, surface drainage, and wetlands on or adjacent to site
 2. Property lines, field boundaries, field name/number, field acres, and land use
 3. Map scale
 4. Structural practices located on the map
 5. Legend
 6. Grower Name, County, State
- Monitoring guidelines (see #3 below)
- State University’s IPM guidelines for specific crops (optional)
- WIN-PST Report (NRCS Copy) – (see item #4 below)
- Record Keeping (see item #5 below)
- IPM guidelines for specific crops (optional) - Consult with Weed Society of America; <http://www.hracglobal.com> and State University’s IPM guidelines for specific crops (optional)
- Total acres of the plan;
- Planned conservation practices and IPM techniques to mitigate the potential environmental risk (soil, water, air, and plant quality) associated with the selected control tactics for herbicide resistance weed. (see item #6 below)
- Other practices to address soil, water, air, plant quality and other resources concerns.

3. IPM key essential technique of an IPM Herbicide Resistance Weed Conservation Plan Monitoring/Scouting. This element addresses scouting strategies that addresses weeds population levels, minimizing weeds maturity, and the reduction of seed production. The

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scouting report should include:

- a. List of crops to be grown/managed;
- b. Weed thresholds, which may be a goal of zero, based on the tolerant level for the specific weed and monitoring frequency;
- c. Scouting plan for weeds; specifying scouting frequencies based on time of season and weed species. Where needed include post harvest scouting plans.

4. Window Pesticide Screening Tool (WIN-PST) is a NRCS supported tool that is used to assess relative pesticide leaching, solution runoff, and adsorbed runoff risks to water quality.

5. Recordkeeping. This element addresses list of records that shall be maintained, detailing:

- a. Date of monitoring;
- b. Results of monitoring;
- c. Identification of crop and/or plant community condition;
- d. Threshold of infestation or tolerant level for each specific weed
- e. Tactics implemented with dates
- f. All required pesticide application records required by state and federal requirements;
- g. Records required or needed as part of the State University IPM guidelines being used

6. Typical conservation practices that support an IPM Herbicide Resistance Weed Conservation Plan.

a. Document the planned conservation practices. When any of the following practices are used in this plan, the site specific specifications shall be developed in the attached template, in a NRCS approved Jobsheet, or separate plan.

- Conservation Crop Rotation (328)
- Cover Crop (340)
- Residue Management Seasonal (344),
- Residue and Tillage Management Ridge Till (346),
- Residue and Tillage Management No Till/Strip Till/Direct Seed,
- Residue and Tillage Management Mulch Till (345).
- Integrated Pest Management (595) (see item c below)

b. For all other practices, the practice shall be documented for the planned amount, the fields where the practice is to be applied, and the planned year of application.

c. Herbicide use is last building box of planning tactical sequence for an IPM Herbicide Resistance weed plan. It should be noted that herbicides are not the do all for weed suppression. The use of herbicides need to be judicious; proper application rate, proper timing, proper weather conditions, rotate different herbicides annually, and

change mode of action regularly. Make use of extension recommendations and followed label warnings and instructions.

7. References

- USDA Natural Resources Conservation Service National Agronomy Manual, Parts 501, 502, 503, 504, 507, and 508.

8. Deliverables for the Client – hardcopy of the plan that includes:

- Cover page – name, address, and phone number of client and TSP, total acres of the plan, signature blocks for the TSP and producer, and a signature block for the NRCS acceptance.
- Complete Hardcopy of the client’s plan (MsWord copy of the “Plan Template” 154) with appropriate practice specifications (or jobsheets) for the (list in #6 above) planned practices and mitigations. **Optional:** If a Conservation Plug-in/Cplanner version is used, the Conservation Plan Map, the Soils Map, and Planned Conservation Practices can be deleted from the Plan Template.
- Soils Map and soil map units descriptions using the Web Soil Survey <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm> as a minimum printout the Soil Report > AOI Inventory > Map Unit Descriptions
- Resource assessment results soil, water, air, plant quality, and others identified resource concerns that may be needed documented in the template or add printouts from assessment tool (RUSLE2, and WEPS).
- Provide the Window Pesticide Screening Tool (WIN-PST) Soil/Pesticide Interaction Hazard Ratings report (**Only if the WIN-PST Identified Hazard Rating is intermediate or higher**).
- For management practices. The planned practices and the site specific specifications on how each practice will be applied; including when the practice will be applied and the extent (acres or number) that it will be applied.
- For engineering/structural practices. The planned practice, when it will be applied and extent, and location on the conservation plan map.
- Digital Conservation plan map with;
 - a. Streams, surface waters, surface drainage, and wetlands on or adjacent to site
 - b. Required setbacks
 - c. Property lines, field boundaries, field name/number/acres, and land use
 - d. Map scale
 - e. Structural practices located on map
 - f. Legend

g. Grower Name, County, State

9. Deliverables for NRCS Field Office (same as client except add an electronic copy of documents):

- Cover page – name, address, and phone number of client and TSP; Total Acres of the plan, signature blocks for the TSP and producer, and a signature block for the NRCS acceptance.
- Complete Hardcopy of the client’s plan (MsWord copy of the “Plan Template” 154) with appropriate practice specifications (or jobsheets) for the (list in #6 above) planned practices and mitigations. **Optional:** If a Conservation Plug-in/Cplanner version is used the Conservation Plan Map, the Soils Map, and Planned Conservation Practices can be deleted from the Planned Template.
- Soils Map and soil map units descriptions using the Web Soil Survey <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm> as a minimum printout the Soil Report > AOI Inventory > Map Unit Descriptions
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