NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION INTERIM PRACTICE STANDARD

HERBACEOUS WEED CONTROL AND MANAGEMENT (ACRE)
CODE 797

DEFINITION

The eradication or control of herbaceous weeds including invasive, noxious and prohibited plants.

PURPOSES

- Enhance accessibility, quantity, and quality of forage
- Restore native or create desired plant communities
- Maintain or enhance wildlife habitat,
- Protect soils and control erosion
- Improve water quality and quantity

CONDITIONS WHERE PRACTICE APPLIES

Rangeland, pastureland, forestland and wildlife lands.

CRITERIA

General Criteria Applicable to All Purposes

Design, herbaceous weed control and management, to achieve the desired plant community through the utilization of Integrated Pest Management (IPM) principles. Control measures include prescribed burning, mechanical, biological, cultural, and chemical methods.

Apply treatments in a manner to achieve the desired control of the target invasive species and its effect on desired plant species. When using chemical control, use spot treatment methods whenever feasible.

NRCS will not develop biological or chemical treatment recommendations except for biological control utilizing grazing animals. NRCS may provide clients with current acceptable biological and/or chemical control references to achieve desired management objectives. Refer to UF IFAS management recommendations for the species being treated (http://edis.ifas.ufl.edu/TOPIC_Weeds) when selecting the appropriate method, timing and management to achieve the desired result.

Biological controls, if used, need to conform to release standards. All necessary local, state, or other permits must be secured prior to release of the control vector.

Environmental hazards and site-specific application criteria listed on pesticide labels and contained in extension service and other approved pest management references must be followed.

Herbaceous weed control /eradication must include post treatment measures as needed to achieve resource management objectives.

Areas where treatments have been implemented may require active revegetation methods to reestablish desirable plant species. Refer to Florida NRCS Conservation Practice Standards Range Planting, Code 550, Pasture and Hay Planting, Code 512, Critical Area Planting, Code 342, Tree/Shrub Site Preparation, Code 490, Tree/Shrub Establishment, Code 612 and Tree/Shrub Establishment, Code 612 Guidance Documents A and B for additional information on vegetative plantings and site preparation.

Livestock access need to be managed based on control methods applied and chemical labels.

Manage and/or dispose of treated weed species in a manner that will discourage colonization on existing or new sites. All equipment and personnel used on-site to treat these species must practice proper sanitation procedures for

all equipment (including personal protective gear) to avoid unnecessary spreading of invasive and exotic pest plant species within and from the treatment sites.

Application of this practice, need to comply with all local, state and Federal laws and regulations.

Impact to cultural resources, wetlands, and Federal and State protected species needs to be determined prior to implementation of this practice. Any adverse impacts need to be avoided or minimized to the extent practical during planning, design and implementation of this conservation practice in accordance with established National and Florida NRCS policy, General Manual (GM) Title 420-Part 401, Title 450-Part 401, and Title 190-Parts 410.22 and 410.26; National Planning Procedures Handbook (NPPH) FL Supplements to Parts 600.1 and 600.6; National Cultural Resources Procedures Handbook (NCRPH); and The National Environmental Compliance Handbook (NECH).

Additional Criteria to Enhance Accessibility, Quantity, and Quality of Forage

Producers need to use the minimum level of herbaceous weed control necessary to meet their objectives.

Specify appropriate follow-up management of grazing animals or other treatments to meet the forage and weed management objectives.

Additional Criteria to Restore Native or Create Desired Plant Communities

Design herbaceous weed control applications that protect the health and vigor of native or desired plant species.

Plan treatments during periods of the year when weed species are most vulnerable and will promote restoration of the native or desired plant communities.

Manage invasive vegetation in a manner that creates a desired plant community and reduces the potential wildfire hazard and subsequent damage. Invasive plant species such as

climbing fern (*Lygodium spp.)* and cogongrass (*Imperata cylindrical)* change the natural fire dynamics within native ecosystems.

Additional Criteria to Maintain or Enhance Wildlife Habitat

Design herbaceous weed control applications that maintain or enhance important wildlife habitat requirements. Make sure treatments do not adversely affect threatened or endangered species or their habitats.

Design and implement site-specific treatments in accordance with Florida NRCS Conservation Practice Standards Upland Wildlife Habitat Management, Code 645 and Wetland Wildlife Habitat Management, Code 644.

CONSIDERATIONS

Consider impacts to soil erosion, sedimentation, and water quality following treatment. Consider pesticide runoff into water bodies and the potential effect on aquatic species.

Consider the impacts of treatment methods on threatened and endangered species. Consider the loss of habitat and affected wildlife species during the treatment process and site recovery.

Consider the impacts of treatment methods on native and/or desirable vegetation. Consider the difficulty of vegetation recovery when choosing a method of control that causes soil disturbance.

Consider using a combination of treatments to achieve the best results. A combination mechanical, biological, chemical and/or prescribed burning often results in the greatest amount of control.

Consider the off-site impacts of treatment methods, including smoke from prescribed burning and pesticide run-off and drift.

Consider the effect of poisonous plants on domestic livestock if they are to be used as a biological control or treatment.

During the planning process, consider the following

1. Discussing future land use opportunities in relation to invasive plant management, including expected effect on forage production, livestock management, wildlife habitat, potential recreation use, and other uses.

2. Discussing the reasons why invasive species have increased, the technical requirements of the selected control method, possible hazards, and costs of the practice.
3. Assisting cooperators to understand the environmental impacts of invasive plant management, including the negative impacts occurring on and/or offsite.

If a specific IPM program is not available, the following IPM principles should be considered:

- Prevention, such as using certified weed-free seeds, transplants, and feed including forage and hay, seeds and transplants; cleaning mowers, tillage and harvesting equipment between fields; and apply nutrient , irrigation-scheduling, and grazing management to avoid the introduction and spread of weed populations. .
- Avoidance, such as using weed-resistant varieties, trap crops, etc.
- Monitoring, such as pest scouting, soil testing, weather forecasting, GPS mapping, etc., to help target suppression strategies and avoid weed invasion.
- Suppression, such as cultural, mechanical, biological, and chemical controls, to reduce weed populations or their impacts. Chemical controls should be used appropriately in order to minimize environmental risk and weed resistance.

Maintain adequate plant nutrients, soil moisture, and other soil amendments including favorable pH and soil conditions, as appropriate to reduce plant stress, improve plant vigor, and increase the desired plant community's overall ability to compete with weeds.

On irrigated land, design irrigation water management to minimize weed management environmental risk.

Adjacent land uses must be considered before herbicides are used.

PLANS AND SPECIFICATIONS

Prepare plans and specifications for each field or treatment unit according to the criteria included in this standard. At a minimum, a herbaceous weed control practice plan shall include:

1. Goals and objectives statement.
2. Invasive, noxious and/or prohibited plants to be treated
3. Plan map and soil map for the site. Including current and planned landuse, and primary habitat type present
4. Pre-treatment cover or density of the target plant(s) and the planned post-treatment cover or density and desired efficacy.
5. Overlay maps, drawings, and/or narratives detailing or identifying areas to be treated, pattern of treatment (if applicable), and areas that will not be disturbed.
6. Revegetation methods, including all necessary site preparation, planting and maintenance activities for the treated areas and a list of species to be planted
7. Method of disposing of treated invasive plant materials
8. A monitoring plan that identifies what is to be measured (including timing and frequency) and the changes in the plant community (compare with objectives) that will be implemented.
9. Outline follow-up control measures necessary to prevent a recurrence of the problem.

For Mechanical Treatment Methods. Plans and specifications will include items 1 through 9 above, plus the following:

- Type of equipment to use for control
- Dates of treatment for effective control
- Operating instructions (if applicable)
- Techniques and procedures to be followed (e.g. equipment cleaning prior to and following treatments)

For Chemical Treatment Methods: Plans and specifications will include items 1 through 9, above, plus the following:

- Acceptable chemical treatment references for containment, control, and/or eradication of target species
- Document techniques to be used, and planned dates and rates of application

- Evaluation and interpretation of herbicide risks associated with the selected treatment(s). Evaluation methods shall include the following: NRCS' Windows Pesticide Screening Tool (WIN-PST)
- Any special mitigation, timing considerations or other factors (such as soil texture and organic matter content) that must be considered to ensure the safest, most effective application of the herbicide
- Reference to product label instructions

For Biological Treatment Methods: Plans and specifications will include items 1 through 9, above, plus the following:

- Acceptable biological treatment references for the selected biological agent used to contain, control, and/or eradicate the target species
- Document release date, kind, and number of agents
- Timing, frequency, duration and intensity of grazing or browsing
- Desired degree of grazing or browsing use for effective control of target species
- Maximum allowable degree of use on desirable non-target species
- Special mitigation, precautions, or requirements associated with the selected treatment(s)

OPERATION AND MAINTENANCE

Operation: Apply herbaceous weed control practices using approved materials and procedures. Comply with all local, state, and federal laws and ordinances.

Determine success by evaluating regrowth or reoccurrence of target species after sufficient time has passed to monitor the situation and gather reliable data. Length of evaluation periods depends on the herbaceous weed species being monitored, proximity of propagules (seeds, branches, and roots) to the site, transport mode of seeds (wind or animals) and methods and materials used.

Maintenance: Following initial application, some regrowth, resprouting, or reoccurrence of herbaceous weeds may be expected. If re-treatment is needed spot treat individual plants or areas when vegetation is most vulnerable to desired treatment procedures.

Review and update the plan periodically in order to incorporate new IPM technology; response to grazing management and complex weed population changes; and avoid the development of weed resistance to herbicide chemicals.

The operator needs to develop a safety plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment centers and the telephone number for the nearest poison control center. The National Pesticide Information Center (NPIC) telephone number in Corvallis, Oregon, may also be given for non-emergency information:

1-800-858-7384
Monday to Friday
6:30 a.m. to 4:30 p.m. Pacific Time

The national Chemical Transportation Emergency Center (CHEMTRAC) telephone number is:

1-800-424-9300

- Follow label requirements for mixing/loading, setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, and reservoirs.
- Post signs, according to label directions and/or federal, state, tribal, and local laws, around fields that have been treated. Follow restricted entry intervals.
- Dispose of pesticides and pesticide containers in accordance with label directions and adhere to federal, state, tribal, and local regulations.
- Read and follow label directions and maintain appropriate Material Safety Data Sheets (MSDS). MSDS and pesticide labels may be accessed on the Internet at: www.greenbook.net/free.asp.
- Calibrate application equipment according to recommendations before each seasonal use and with each major chemical and site change.
- During treatments, frequently clean screens and filters on application equipment to ensure proper application rates and effective control of target species.

- Replace worn nozzle tips, cracked hoses, and faulty gauges.
- Maintain records of pest management for at least two years. Pesticide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Recordkeeping Program and state-specific requirements.

REFERENCES

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