

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

HERBACEOUS WEED CONTROL

(Ac.)

CODE 315

DEFINITION

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

PURPOSES

This practice may be applied for one or more of the following purposes:

1. Enhance accessibility, quantity, and quality of forage and/or browse;
2. Restore or establish native or other desired plant communities and wildlife habitats;
3. Protect soil and control erosion;
4. Reduce fine-fuels fire hazard and improve air quality;
5. Control pervasive plant species to a desired level of treatment that will ultimately contribute to creation or maintenance of an ecological site description “steady state,” addressing the need for forage, wildlife habitat, and/or water quality.

CONDITIONS WHERE PRACTICE APPLIES

This practice may be applied on all lands except active cropland, where removal, reduction, or manipulation of herbaceous vegetation is desired.

This practice does not apply to removal of herbaceous vegetation by prescribed fire or removal of herbaceous vegetation to facilitate a land use change.

CRITERIA

General Criteria Applicable to All Purposes

Herbaceous weed control will be applied in a manner to achieve the desired control of the target species and protection of desired species through utilization of Integrated Pest Management (IPM) principles. This will be accomplished by mechanical, chemical, or biological methods either alone or in combination.

NRCS will not develop biological or chemical treatment recommendations except for biological control utilizing grazing animals. Use Prescribed Grazing (528) in addition to this practice to ensure desired results are achieved and maintained.

NRCS may provide clients with acceptable biological and/or chemical control references to achieve desired management objectives. Refer to University of Delaware recommendations (<http://extension.udel.edu/ag/weed-science/>) for the species being treated when selecting the appropriate method, timing, and management to achieve the desired results.

Biological control must conform to release standards when using species other than grazing animals as control agents. All necessary local, state, or other permits must be secured prior to release of the control agent.

When herbicides are used, 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. For specific herbicide recommendations, contact the

appropriate specialist from Delaware Cooperative Extension.

Anyone buying or using a restricted use pesticide must be certified by the Delaware Department of Agriculture (DDA). Anyone in the business of applying pesticides, either restricted use or general use, to the land or property of another must be certified and obtain a Pesticide Business License from the DDA.

Livestock and human access will be controlled based on the treatment methods applied and restrictions as listed on the chemical labels.

Herbaceous weed control will include post treatment measures as needed to achieve resource management objectives.

Manage and/or dispose of treated weed species in a manner that will prevent the spread of herbaceous weeds to new sites.

Control noxious weeds as required by state law.

Additional Criteria to Enhance Accessibility, Quantity, and Quality of Forage and/or Browse

Herbaceous weed control will be applied in a manner to minimize negative impact to forage and/or other non-targeted plants. Timing and sequence of control shall be planned in coordination with specifications developed for Prescribed Grazing (528) or Forage Harvest Management (511).

Additional Criteria to Restore or Establish Native or Other Desired Plant Communities and Wildlife Habitats

Apply herbaceous weed control in a manner to protect the health and vigor of native or other desired plant species.

Use the ecological site description “steady state” to develop specifications that are ecologically sound and defensible. Treatments must be congruent with dynamics of the ecological site(s) and keyed to state and plant community phases that have the potential and capability to support the desired plant community. Base specifications on the best approximation of the desired plant community composition, structure, and function.

Additional treatments will be planned and applied as needed to achieve effective control of pervasive plant species through reapplication.

Treatments will be conducted during periods of the year when weed species are most vulnerable and will promote restoration of the native or other desired plant communities, and also accommodate reproduction and other life-cycle requirements of target wildlife and pollinator species.

Apply herbaceous weed control in a manner that maintains or enhances important wildlife habitat components, such as plant community composition and structure, to meet the requirements of target wildlife species.

Additional Criteria to Protect Soil and Control Erosion

Apply herbaceous weed control in a manner that minimizes soil disturbance and soil erosion on sites where erosion is currently occurring, or has the potential to occur when weed control is implemented. Apply additional conservation practices as needed to protect soil and prevent erosion.

Additional Criteria to Reduce Fine-Fuels Fire Hazard and Improve Air Quality

Treat weed species in a manner that creates a native or other desired plant community which reduces the potential for accumulating excessive fuel loads and increased wildfire hazards.

Apply treatment methods in a manner that minimizes the potential for unintended impacts to air resources, e.g., chemical drift, dust, etc.

Note: Specific programs may dictate criteria in addition to, or more restrictive than, those specified in this standard.

CONSIDERATIONS

Consider using Integrated Pest Management (595) in support of herbaceous weed control. Consider soil erosion potential and difficulty of vegetation establishment when choosing a method of control that causes soil disturbance.

Consider the appropriate time period for treatment. Some herbaceous weed control activities can be effective when applied within a single year; others may require multiple years of treatment to achieve desired objectives.

Consider impacts to wildlife species, food supplies, space, and cover availability when planning the method and amount of herbaceous weed control. Treatments that create a mosaic pattern may be the most desirable.

For air quality purposes, consider using chemical methods of herbaceous weed control that minimize chemical drift and excessive chemical usage. Consider mechanical methods of herbaceous weed control that minimize the dispersal of particulate matter into the air.

Consider adjacent land uses before chemicals are used.

PLANS AND SPECIFICATIONS

Plans and specifications for this practice shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail to ensure successful implementation of this practice, and may be recorded in narrative form, on Implementation Requirements (IR) worksheets, on fact sheets, or other approved forms.

The appropriate fact sheet(s) and completed 315 IR worksheet can serve as the plan and specifications for this practice. The following items shall be addressed, as appropriate:

1. Purpose(s) of herbaceous weed control;
2. Plan map and soil map for the site;
3. Method(s) to be used and herbaceous weed species to be controlled;
4. Pre-treatment cover or density of the target plant(s), and the planned post-treatment cover or density (goal);
5. Maps, drawings, and/or narratives identifying areas to be treated, pattern of treatment (if applicable), and areas that will not be disturbed;

6. A monitoring plan that identifies what shall be measured, including timing and frequency, and the changes in the plant community that will be achieved.

For Mechanical Treatment Methods. In addition, the following components shall be included in a plan for mechanical treatment:

1. Acceptable mechanical treatment references for containment and management of target species;
2. Type(s) of equipment needed;
3. Dates for effective treatment;
4. Operating instructions (if applicable);
5. Techniques and procedures to be followed.

For Chemical Treatment Methods. In addition, the following components shall be included in a plan when chemicals are utilized:

1. Acceptable chemical treatment references for containment and management of target species;
2. Evaluation and interpretation of herbicide risks associated with the selected treatment(s) using WIN-PST or other approved tools;
3. Techniques to be used, planned dates, and rates of application;
4. 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;
5. Reference to product label instructions.

For Biological Treatment Methods. In addition, the following components shall be included in a plan with biological treatment:

1. Acceptable biological treatment references for the selected biological agent used to contain and manage the target species;
2. Release date, kind, and number of agents;

3. Timing, frequency, duration, and intensity of grazing or browsing, if used;
4. Special mitigation, precautions, or requirements associated with the selected treatment(s).

OPERATION AND MAINTENANCE

An Operation and Management (O&M) plan shall be prepared and is the responsibility of the client to implement. The appropriate fact sheet(s) and IR worksheet may serve as the management plan, as well as supporting documentation, and shall be reviewed with and provided to the client.

At a minimum, the following components shall be addressed in the O&M plan, as applicable:

1. Apply herbaceous weed control practices using approved materials and procedures. Comply with all local, state, and federal laws and ordinances;
2. Inspect the area after treatment to assess the effectiveness of weed control, and then at least annually thereafter, to the extent feasible. Following initial treatment, some regrowth, resprouting, or reoccurrence of weeds may be expected. As needed, use spot treatment of individual plants or areas needing re-treatment when undesirable plants are most vulnerable to treatment procedures;
3. When chemical treatment is used:
 - a. Anyone buying or using a restricted use pesticide must be certified by the Delaware Department of Agriculture (DDA). Anyone in the business of applying pesticides, either restricted use or general use, to the land or property of another must be certified and obtain a Pesticide Business License from the DDA;
 - b. Read and follow label directions. Labels include requirements for mixing/loading, and application setbacks from wells, water courses, natural or impounded water bodies, wetlands, and other environmentally sensitive areas;

- c. Control livestock and human access based on the treatment methods applied and restrictions as listed on the chemical labels. Post signs, according to label directions and/or federal, state, and local laws, around fields that have been treated. Follow restricted entry intervals;
- d. Dispose of leftover herbicide and herbicide containers in accordance with label directions and adhere to federal, state, and local regulations;
- e. Maintain appropriate Material Safety Data Sheets (MSDS). MSDS and herbicide labels may be accessed at: <http://www.cdms.net/LabelsMsds/LMDefault.aspx>;
- f. Calibrate application equipment according to recommendations before each seasonal use and with each major chemical and site change;
- g. Replace worn nozzle tips, cracked hoses, and faulty gauges on spray equipment;
- h. Maintain herbicide application records in accordance with USDA Agricultural Marketing Service's Pesticide Record-keeping Program and state-specific requirements;
- i. Develop an emergency response 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.

SUPPORTING DATA AND DOCUMENTATION

The following is a list of the minimum data and documentation to be recorded in the case file:

1. Location of the practice on the conservation plan map;
2. Assistance notes. The notes shall include dates of site visits, name or initials of the person who made the visit, specifics as to alternatives discussed, decisions made, and by whom;
3. For chemical treatment, WIN-PST risk assessment and documentation of mitigation practices. The website for the WIN-PST, Windows Pesticide Screening Tool is located at:
<http://www.wsi.nrcs.usda.gov/products/W2Q/pest/winpst31.html>
4. Completed IR worksheet, and copy of the appropriate fact sheet(s) or other specifications and management plans.

REFERENCES

1. Johnson, Quintin, Mark VanGessel, Richard W. Taylor. 2015. *Pasture and Hay Weed Management Guide*. University of Delaware, Cooperative Extension.
<https://s3.amazonaws.com/udextension/ag/files/2015/01/PHWeedguide.pdf>
2. Peischel, A. and D.D. Henry, Jr., 2006. *Targeted Grazing: A Natural Approach to Vegetation Management and Landscape Enhancement*. American Sheep Industry Association.
3. USDA, Natural Resources Conservation Service. *Conservation Practice Standards*. Delaware Field Office Technical Guide, Section IV.
4. USDA, Natural Resources Conservation Service. 2005. *Prescribed Grazing with Goats*. Conservation Practice Information Sheet, NRCS, Missouri.
http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_010401.pdf
5. Virginia Cooperative Extension. 2015. *Pest Management Guide*. Virginia Tech, Pub. No. 456-016 and 456-017.
<http://pubs.ext.vt.edu/456/456-018/456-018.html>