**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.

## PURPOSE

- Enhance accessibility, quantity, and quality of forage and/or browse.
- Restore or release native or create desired plant communities and wildlife habitats consistent with the ecological site.
- Protect soils and control erosion
- Reduce fine-fuels fire hazard and improve air quality

## CONDITIONS WHERE PRACTICE APPLIES

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 (use Prescribed Burning (338)) or removal of herbaceous vegetation to facilitate a land use change (use Land Clearing (460)).

## 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 the protection of desired species using mechanical, chemical, or biological methods either alone or in combination. When burning is used as a control method, the Conservation Practice Standard (CPS) Prescribed Burning (338) will be applied.

NRCS will not develop biological or chemical treatment recommendations except for biological control utilizing grazing animals, in which case, Prescribed Grazing (528) is used to ensure desired results are achieved and maintained.

NRCS may provide clients with acceptable biological control, chemical control, and/or other references to achieve desired management objectives.

When herbicides are used, environmental hazards and site-specific application criterion listed on pesticide labels and contained in Extension Service and other approved pest management references must be followed.

Herbaceous weed control will include post treatment measures (e.g., seeding, Prescribed Grazing (528), etc.,) as needed to achieve resource management objectives.

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

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

### 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 (512).

### Additional Criteria to Restore or Release Native or Create Desired Plant Communities and Wildlife Habitats Consistent with the Ecological Site

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

Use applicable Ecological Site Description (ESD) State and Transition models, 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. If an ESD is not available, base specifications on the best approximation of the desired plant community composition, structure, and function.

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

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

Treatments will be conducted during periods of the year that accommodate reproduction and other life-cycle requirements of target wildlife and pollinator species.

**Additional Criteria to Protect Soils and Control Erosion**

Apply herbaceous weed control to minimize soil disturbance and soil erosion.

Additional treatment will be applied as needed to protect soils 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 desired plant community that decreases the potential for accumulating excessive fuel loads and increased wildfire hazards.

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

## CONSIDERATIONS

A South Dakota pesticide applicators license (Private, Certified Operator or Qualified Supervisor) may be required to apply certain herbicides.

If pesticides will be sprayed into water bodies, the general pesticide permit, effective October 31, 2011, must be followed. Following is a link to the permit: http://denr.sd.gov/des/sw/PesticidePermit.aspx

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(s) to achieve desired objectives.

Consider impacts to wildlife species, in general, treatments that create a mosaic pattern may be the most desirable.

Consider impacts to wildlife food supplies, space, and cover availability when planning the method and amount of herbaceous weed control.

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

Adjacent land uses and the potential for off-site impacts must be considered before chemicals are used.

## PLANS AND SPECIFICATIONS

Prepare plans and specifications for each field or treatment unit according to the criteria included in this standard.

Specifications will describe the requirements for applying this practice to meet the intended purposes.

Plans and specifications, which will be documented on the South Dakota Herbaceous Weed Control, 315 Job Sheet, the NRCS-CPA-6 Planning Assistance Notes, and/or the conservation plan practice narrative will include the following, as a minimum:

1. Goals and objectives statement including the stated purpose for planning and applying the conservation practice.
2. Plan map, resource inventory map, and soil map for the site.
3. Pre-treatment and planned post treatment cover or density of the target plant(s).
4. Maps, drawings, and/or narratives detailing or identifying areas to be treated, pattern of treatment (if applicable), and areas that will not be disturbed.
5. A description of the monitoring that will occur to document changes in the plant community.

**For Mechanical Treatment Methods**

Plans and specifications shall include items 1 through 5 above, plus the following:

- Type of equipment to be used
- Planned dates of treatment
- Mitigation, grazing restrictions and other planned procedures

**For Chemical Treatment Methods.**

Plans and specifications will include items 1 through 5 above, plus the following:

- List references where weed control guidance may be found.
- The planned herbicides, application method, and timing to be used.
- Evaluation and interpretation of herbicide risks associated with the selected treatment(s) using WIN-PST or other approved assessment tools.
- Required mitigation, grazing restrictions, timing considerations or other factors.
- Reference to product label instructions

**For Biological Treatment Methods.**

Plans and specifications shall include items 1 through 5, above, plus the following:

- Biological treatment references from South Dakota State University or South Dakota Department of Agriculture for the selected biological agents used to manage the target herbaceous weed species.
- Document release dates, kind, and number of agents.
- Timing, frequency, duration and intensity of grazing or browsing (if applicable).
- Desired degree of grazing or browsing use for effective management of target species (if applicable).
- Maximum allowable degree of use on desirable non-target species (if applicable).
- Special mitigation, precautions, or requirements associated with the selected treatment(s).

## OPERATION AND MAINTENANCE

**Operation.** Herbaceous weed control practices shall be applied using approved materials and procedures. Operations will comply with all local, state, tribal, and federal laws and ordinances.

Success of the practice shall be determined 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 will depend on the herbaceous weed species being monitored, proximity of propagules (seeds, plant materials and roots) to the site, transport mode of seeds (wind or animals) and methods and materials used.

The operator will 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.

- Hennepin Regional Poison Center Minneapolis, MN Emergency Phone: (800) 222-1222; (612) 904-4691 (TTY)
- National Pesticide Information Center (NPIC) Corvallis, Oregon (for non-emergency information) 1-800-858-7384, Mon-Fri, 6:30 a.m. to 4:30 p.m. PST
- National Chemical Transportation Emergency Center (CHEMTRAC): 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 herbicide and herbicide 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 herbicide labels may be accessed on the Internet at: http://www.greenbook.net/

Calibrate application equipment according to recommendations before each seasonal use and with each major chemical and site change.

Replace worn nozzle tips, cracked hoses, and faulty gauges on spray equipment.

Maintain records of herbaceous weed control for at least two years. Herbicide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Recordkeeping Program and state-specific requirements.

**Maintenance.** Following initial application, some regrowth, resprouting, or reoccurrence of herbaceous weeds may be expected. Spot treatment of individual plants or areas needing re-treatment should be completed as needed when weed vegetation is most vulnerable to desired treatment procedures.

Review and update the plan periodically in order to incorporate new treatment technologies, response to grazing management and complex weed population changes.

Avoid the development of weed resistance to herbicide chemicals.

## REFERENCES

Alex, J.F., and C.M. Switer. 1982. Ontario weeds. Publ. 505, University of Guelph – Ontario Agricultural College, Guelph, Ontario, Canada.

American Sheep Industry, A. Peischel and D.D. Henry, Jr., 2006. Targeted Grazing: a Natural Approach to Vegetation Management and Landscape Enhancement.

Chaney, M. Common poisonous plants of western Washington which affect livestock. [Online] Available at: http://www.piercecountycd.org/tip_toxicplnts_p.html (Accessed 15 October 2008).

Ciba-Geigy Corp. Plants that poison livestock: Information chart.

Cornell University: Department of Animal Science. Plants Poisonous to Livestock and Other Animals. Available: http://www.ansci.cornell.edu/plants/

DeWolf , G. and M. Hondalus. 1988. Common Massachusetts plants poisonous to horses. University of Massachusetts Cooperative Extension Service, Amherst, MA.

Ensminger, M.E. 1992. The stockman's handbook. (7th Ed.) The Interstate Printers and Publishers, Inc. Danville, Il.

Evers, R.A., and R.P. Link. 1972. Poison plants of the Midwest and their effects on livestock. Special Publication 24, University of Illinois – College of Agriculture, Urbana, Il.

Hamilton, G.W., and J.R. Mitchell. 2001. [Online] Poisonous plants in pastures. Univ. of New Hampshire Coop. Ext. Serv., Durham, NH. Available: http://extension.unh.edu/resources/representation/Resource000623_Rep645.pdf.

Hill, R.J., and D. Folland. 1986. Poisonous plants of Pennsylvania. Pennsylvania Department of Agriculture, Harrisburg, PA.

Reed, C.F. 1970. Selected weeds of the United States. Agriculture Handbook No. 366, U.S. Government Printing Office, Washington, D.C.

USDA-ARS. 2006. Bulletin 415 - Plants poisonous to livestock in the Western states. Available: http://www.ars.usda.gov/Services/docs.htm?docid=12140