USDA
NATURAL RESOURCES
CONSERVATION SERVICE
DELAWARE
CONSERVATION PRACTICE
STANDARD

BRUSH MANAGEMENT

CODE 314
(Reported by Acre)

DEFINITION

Removal, reduction, or manipulation of nonherbaceous plants.

PURPOSES

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

- To create or restore the desired plant community;
- To reduce competition for space, moisture, and sunlight among desired species;
- To control noxious and/or invasive woody plants;
- To maintain or enhance wildlife habitat;
- To improve forage accessibility, quality, and quantity for livestock;
- To improve visibility and access for handling livestock.

CONDITIONS WHERE PRACTICE APPLIES

This practice may be applied on pastureland, wildlife habitat areas, riparian corridors, and other areas where removal or reduction of undesirable or excess woody (non-herbaceous) plants is desired.

This practice does not apply to controlling herbaceous weeds or other undesirable non-woody plants. (Refer to the conservation practice standard for Pest Management, Code 595.)

CONSIDERATIONS

Consider the long-term land use objectives of the client and how the implementation of this practice will affect those objectives.

Assess site conditions, including the potential for soil erosion if the method of control will involve soil disturbance.

Consider the species of brush to be controlled, the possible methods of control, and timing and duration of treatment needed to achieve the desired results. If replanting the area is planned, consider how these factors will affect establishing the desired species.

Identify and evaluate other constraints such as management options, economic feasibility, access, or cost-share program requirements.

Consider the timing and sequence of brush management in a pasture system to ensure the availability, quality, and quantity of needed forage.

This practice has the potential to affect National Register listed cultural resources or eligible (significant) cultural resources. These may include archeological, historic, or traditional cultural properties. Care should be taken to avoid adverse impacts to these resources. Follow NRCS state policy for considering cultural resources during planning.

CRITERIA

Criteria Applicable to All Purposes

Brush management shall be applied in a manner to achieve the desired control of the target woody species and protection of desired species. This shall be accomplished by mechanical, chemical, or biological methods, or by using a combination of these methods.

Preference shall be given to the use of brush control methods having the lowest potential hazard to humans, domestic animals, and the natural environment. Non-herbicide methods of brush management shall be used to the extent feasible.

Operations shall comply with all local, state, and federal laws and ordinances. Follow all label requirements when using herbicides. All required permits and approvals shall be obtained before implementing brush management. If mechanical control is being used, insure compliance with wetland regulations if applicable.

Success of the practice shall be determined by evaluating regrowth or reoccurrence of target species after sufficient time has passed to monitor the site and gather reliable data. Evaluation periods will depend on the methods and materials used.

This practice must conform to all federal, state, and local laws and regulations.

Additional Criteria for Pastureland

Brush management shall be utilized in association with prescribed grazing to ensure the desired response from treatment.

Additional Criteria to Restore, Create, or Enhance Wildlife Habitat

Brush management shall be planned and applied to meet the habitat requirements of the desired wildlife species.

If the area is to be replanted, select plant species that are beneficial to wildlife and native to Delaware or are introduced and are non-invasive (i.e., not likely to spread beyond the planted area and displace native species). Selection of native species shall be a priority when feasible. Refer to the Conservation Practice Standard for Conservation Cover (Code 327) for a selected list of native tree and shrub species that may be used.

Note: Specific cost-sharing programs or other funding sources may impose management criteria in addition to, or more restrictive than, those specified in this standard.

SPECIFICATIONS

Plans and specifications for this practice shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail concerning site preparation and establishment to ensure successful management of the practice. Appropriate conservation practice standards shall be used for designing and installing structural and vegetative measures. Documentation shall be in accordance with the section "Supporting Data and Documentation" in this standard.

Mechanical Control. Mechanical control is most effective when plants are small and few in number. One or more of the following techniques may apply:

1. Cut or mow the main stems and sprouts using axes, power saws, rotary mowers, or similar equipment. Cut as close to the ground as possible.

   This method is best used when stems are less than 6 inches diameter at breast height (dbh). Several cuttings may be necessary to kill the plants. It may also be desirable to chemically treat the stumps to prevent regrowth.

   Timing: Late June to early August is preferable, when root reserves are low and leaf growth is at its maximum. Early spring is next best. It may be necessary to apply such treatment during both of these periods for species that are difficult to eradicate or where brush is dense.

2. Girdle the bark of larger woody plants by cutting a band 1 to 6 inches wide completely around the stem, through the bark and

cambium layer. Girdle as close to the ground surface as practical.

Timing: Late fall to early spring.

3. Uproot, pull, or dig brush using bulldozers, power equipment, chains, and hand tools.

   Timing: Any time of year.

4. Use a moldboard plow or heavy disk to control brush up to 1 inch dbh.

   Timing: Any time when the ground is dry enough to plow.

Chemical Control. Apply herbicides specific for the woody species to be controlled. One or more of the following herbicide application techniques may be used:

1. Use a foliar spray for widespread general control. Completely wet the foliage. This method is most effective on plants that are less than 4 inches dbh.

   Timing: Apply when the plant is actively growing and leaves are reaching full size. Application between mid-April and mid-June is preferable, with specific timing dependent on the local growing season. Mid-June to the end of September is next best.

2. Use a basal spray for selective treatment. Drench the entire tree or shrub base to the point of runoff, from the ground line up the stem for a distance of 15 to 24 inches, depending on the recommendations of the herbicide label. This technique is most effective on plants that are less than 3 inches dbh.

   Timing: Any time of year.

3. Use a stump spray for treatment of cut stems. Completely saturate freshly cut areas and bark to ground level.

   Timing: Any time during the growing season.

4. Use a soil application of herbicide when chemicals can be absorbed through the roots of the plant. Apply to the soil in the area under the plant canopy.

   Timing: Any time when the ground is not frozen.

Important: Follow the directions and heed all of the precautions on the herbicide container label. Observe all applicable federal and state laws pertaining to the use of herbicides, including applicator licensing requirements. Herbicides shall not be used over or directly adjacent to wells (domestic, public, or agricultural), ponds, lakes, streams, wetlands, or other waterbodies unless so labeled.

For specific herbicide recommendations, contact the appropriate specialist from the Delaware Cooperative Extension Service.

Debris Disposal. Brush shall be disposed of in a manner consistent with maintaining a quality environment, based on the site conditions and the objectives of the land user. Disposal of brush shall not interfere with the establishment of desired plants and future maintenance of the area.

Acceptable disposal methods may include:

1. Burning, if conducted in compliance with local ordinances and permit requirements;

2. Piling, especially if providing brush piles for wildlife habitat is an objective of the land user. One brush pile per acre can provide effective wildlife cover. Place larger material on the bottom of the pile and make the pile at least 10 feet in diameter and 6 feet high;

3. Chipping, shredding, or mulching;

4. Removal to other areas.

OPERATION AND MAINTENANCE

An operation and maintenance (O&M) plan shall be prepared for each site or management unit.

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

1. Mechanical control - include the following information:

   a. Brush species to be controlled;

b. Types of equipment needed;

c. Techniques or procedures to be followed;

d. Dates of treatment.

2. Chemical control - include the following information:

   a. Brush species to be controlled;

   b. Herbicide name;

   c. Rate of application or spray volume;

   d. Acceptable dates of application;

   e. Mixing instructions (if applicable);

   f. Any special application techniques, timing considerations, or other factors that must be considered to ensure the safest, most effective application of the herbicide;

   g. Reference to label instructions.

3. Biological control - include the following information:

   a. Brush species to be controlled;

   b. Kind of biological agent or grazing animal to be used;

   c. Timing, duration, and intensity of browsing or grazing;

   d. Desired degree of browsing or grazing use for effective control of the target species;

   e. Maximum allowable degree of use on desirable non-target species;

   f. Special precautions or requirements when using insects or plants as control agents.

Following the initial treatment, some regrowth, resprouting, or reoccurrence of brush should be expected. Plans should include recommendations for periodic inspections, and for spot treatment of individual plants or areas, as needed.

SUPPORTING DATA AND DOCUMENTATION

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

1. Extent of planting in acres, field number where the practice located, and the location of the practice marked on the conservation plan map.

2. Assistance notes.

REFERENCES

1. Delaware Department of Agriculture. State of Delaware Generic Pesticides Monitoring Plan for the Protection of Groundwater.

2. USDA, Natural Resources Conservation Service. Conservation Practice Standard for Conservation Cover, Code 327. Delaware Field Office Technical Guide.

3. USDA, Natural Resources Conservation Service. Conservation Practice Standard for Pest Management, Code 595. Delaware Field Office Technical Guide.