United States Department of Agriculture
Natural Resources Conservation Service

2010 Ranking Period

Water Quality Enhancement Activity – WQL01 – Biological suppression and other non-chemical techniques to manage brush, herbaceous weeds and invasive species

Enhancement Description
This enhancement is for the reduction of woody brush, herbaceous weeds and invasive plants using non-chemical methods. Physical methods include pulling, hoeing, mowing, mulching or other similar techniques. Biological methods include use of natural enemies either introduced or augmented. Use of chemicals is prohibited with this enhancement.

Land Use Applicability
Pastureland and rangeland.

Benefits
Environmental benefits will be site specific. Benefits may include but are not limited to improved water quality achieved through eliminating the use of synthetic pesticides resulting in no chemicals in surface runoff or leaching into the soil profile. Air quality will see similar impacts by eliminating chemical drift and volatilization. Controlling invasive species, brush and weeds will allow native plant communities to return and improve wildlife habitat.

Criteria
1. Develop a plan for managing invasive plants, brush and/or weeds that includes:
    a. Assessment of existing conditions
    b. Identify strategies for control
    c. Control methods selected
    d. Monitoring and evaluation process
    e. Operation and maintenance follow up activities
2. Implementation of this enhancement requires the use of biological and/or physical pest suppression techniques instead of pesticides. These techniques, used individually or in combination, can include activities such as:
    a. Grazing animals (primarily through the use of goats) to target undesirable vegetation.
    b. Introduction of beneficial insects to attack undesirable vegetation.
    c. Introduction of beneficial micro-organisms to attack undesirable vegetation.
    d. Hand removal or cultivation
    e. Mowing or cutting
    f. Use of heavy equipment in areas with well established, dense brush cover
3. Biological suppression techniques should be based on techniques recommended by the local Land Grant University.

4. Biological suppression must be preceded by an analysis to ensure the proposed biological agent is compatible with the agronomic, ecological and social objectives of the operation.
5. Operation and maintenance activities must be followed to ensure regrowth or resprouting is controlled. Additional treatment of individual plants or areas needing retreatment should be completed as required to effectively controlling the targeted species.

Documentation Requirements

Written documentation for each treatment area and year of this enhancement including:

1. A full description of all biological and/or physical suppression techniques utilized include:
    a. Method (s) of control used
    b. Area (s) on farm control methods were applied
    c. Number of animals or insect colonies distributed and the planned time frame of the treatment.
    d. Photograph (s) of treatment applied
2. A map showing where the activities were applied including treatment acreage

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Document the target species, method of suppression, and timing and location of treatments.

Criteria 2a, 2b, 2c (if selected) must be evaluated and approved by the NRCS Area Resource Conservationist prior to implementation. Federal and/or state permits may also be required for Criteria 2b and 2c.