



Controlling Non-native Cool Season Grasses

PURPOSE:

Smooth brome and fescue are non-native perennial grasses which aggressively spread due to their early season growth and ability to out-compete many of our native warm season grasses, legumes, and forbs.

Their sod-forming growth form inhibits the emergence and growth of many of our native plants by competing for light, water, and nutrients (*Figure 1*). Native warm season bunch grasses and forbs provide the necessary nesting cover, brood-rearing cover, and food requirements for native grassland dependent birds such as bobwhite quail and prairie chicken. Thus, it is desirable to eliminate smooth brome and fescue found growing in pastures, old fields, odd areas, ditches, and under shrubs. In some instances, landowners may wish to convert existing cool season grass stands to native warm season grasses and forbs. This can be done by inter-seeding the native grasses and forbs into previously sprayed areas.



Figure 1. A road ditch and pasture dominated by smooth brome.

Control of smooth brome and fescue is most effective in the fall when the plants are at their most vulnerable state. A properly timed fall herbicide application will kill these cool season grasses effectively releasing suppressed annual and perennial native plants from competition. In addition, a fall herbicide application will not harm established native warm season grasses and forbs since they will be dormant (*Figure 2*).



Figure 2. Left to right: Burning to remove dead vegetation; Herbicide application; Vegetation response.

SPECIFICATIONS:

- Hay or burn to remove excess vegetative material which will hinder herbicide from contacting actively growing smooth brome and fescue. Time haying or burning so that there will be adequate time for cool season grasses to regrow to a height of at least 6" before spraying.

SPECIFICATIONS:

- Wait approximately 7 days after the first killing freeze of the fall or until you see that the native warm season grasses are dormant. After dormancy glyphosate, a contact herbicide, will not harm native warm season plants but will kill these actively growing cool season grasses.
- Spray with glyphosate on a sunny to mostly sunny day with a high temperature of at least 55 degrees Fahrenheit. Do not spray at or near dark as this will hinder herbicide uptake by the plant. With these conditions, both brome and fescue are actively trans-locating much of their reserves to the root system in preparation for winter dormancy. During this time glyphosate is most effective. The following spring, areas missed during the initial fall application should be sprayed again. Rates listed below have been used successfully.
- Reseed, if needed, to a mixture of native warm season grasses and forbs the following year between December 1 and May 15.

Broadcast Spraying Mix:

Glyphosate ----- 2 quarts per acre

Dry Ammonium Sulfate (AMS) -----17 pounds per 100 gallons of water

Nonionic Surfactant ----- 1.5 quarts per 100 gallons of spray solution

Note: Apply at a rate of 15-20 gallons of solution per acre for best results.

Spot Spraying Mix:

Glyphosate ----- 3 ounces per gallon of water = 2% solution

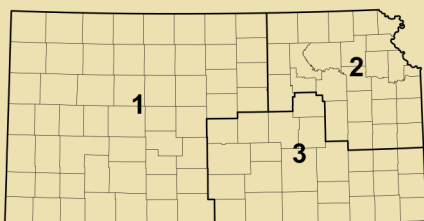
Dry Ammonium Sulfate (AMS) ----- 0.17 pound per 1 gallon of water

Nonionic surfactant ----- 0.5 ounce per gallon of spray solution

MAINTENANCE:

- Use appropriate herbicides to control noxious weeds.
- Utilize additional glyphosate applications as needed the following falls to treat regrowth of any cool season grasses which may have sprouted from existing seed source.
- Use prescribed burning to help maintain the vitality of the grassland.

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