Smooth Brome Management

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Smooth brome (*Bromus inermis*) is one of the most widespread challenges in habitat management. Introduced as a forage plant from Eurasia over 130 years ago, its drought tolerance fast-tracked its popularity after the Dust Bowl era. It establishes easily and rapidly, which has maintained its demand as a method for stabilizing areas prone to erosion.

Consequently, smooth brome is now prevalent on the landscape. It spreads aggressively through both seed and rhizomes. Smooth Brome creates a dense mat successfully crowding out desirable native plant species. This eliminates vegetative diversity and structural characteristics which are beneficial to a host of wildlife species. Reducing smooth brome vigor can be a multi-step process and is an ongoing commitment.

Luckily there are ways to set back and remove smooth brome and allow for native grasses and wildflowers to gain back control. Well timed prescribed burning, high intensity short duration grazing, chemical use or a combination of these practices are the most effective way to eradicate the species. **Timing is Key!**

Prescribed Burning

A timely prescribed burn in late spring (April 15-May 15) can remove the initial smooth brome growth forcing the plant to pull energy from its root reserves. This weakens the plant, and creates root space and access to sunlight and moisture for your surrounding native warm season grasses, forbs and legumes. Prescribed burns require a burn plan, burn permit, and should avoid the primary nesting season. Work with your local biologist or NRCS office to comply with these and other prescribed fire requirements.

High Intensity Short Duration Grazing

High intensity short duration grazing (HISD) mimics the "mob grazing" concept. By running high stocking rates for short spans of time, cattle are forced to graze everything in the unit rather than selecting the most palatable forage. HISD can be accomplished on larger units by moving an electric fence to create temporary paddocks. For brome control, it's important to intensively graze the brome patch hard until May 15 or June 1. Then, allow rest to give the warm season grasses such as Indian grass and Big Bluestem a chance to emerge.

Smooth brome outcompetes native plant species which are beneficial to wildlife and creates a "monoculture."

A lack of structural integrity provides poor winter cover. The buildup of litter at ground level also renders it useless for brood rearing.

INTERESTING FACT

Haying and grazing on Conservation Reserve Program acres are subject to program regulations and a 25% payment reduction on those acres. Visit with your local Farm Service Agency before haying or grazing CRP fields.

HISD can then be completed on the same acres again when the brome begins to turn green in the fall (roughly September 15-October 15).

Chemical Application & Timing

Smooth brome is considered a cool season grass, meaning its active growing seasons are in the spring and fall (see graph below). Removal of cover should be timed so that regrowth occurs during an active growth period. Optimal effectiveness with chemical application occurs when timing can coincide with the first "hard freeze." When the temperature has reached 30° F for four hours it elicits a chemical response in the plant to begin putting energy reserves into the roots rather than foliar growth.

Nebraska fall temperatures fluctuate from day-to-day and even hour-to-hour, which is why it is important to diligently watch for the weather to warm up after fall's christening freeze. Wait for proper wind conditions and temperatures in the fifties or higher for two to three days consecutively to allow time for smooth brome to "wake up" from the freeze and start transferring foliar energy to the roots. Treatments in the fall or early spring allow time to evaluate effectiveness and return with follow-up treatments where needed. Glyphosate is the most common herbicide used to control smooth brome.

Removal of old growth is critical for an effective chemical application. This will ensure that the chemical comes into contact with actively growing vegetation rather than last year's plant residue. Below are the most common ways to remove the old growth for better chemical contact.

Prescribed Fire

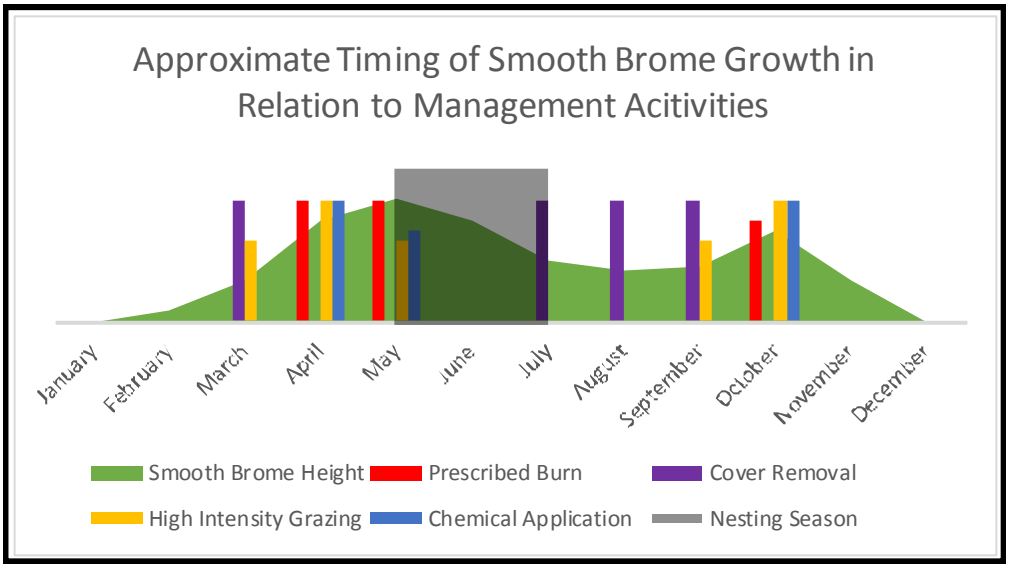
- If timing doesn't workout for a late spring burn, and a fire is conducted early in the spring, it's best to follow up with chemical after about 4" of regrowth.

Grazing

- If summer grazed, it's best to follow up with a chemical in the fall after at least 4" of regrowth.

Haying, Shredding, or Mowing

- Necessary to remove old litter. Haying and baling works best to get rid of the duff layer and allow for new growth.



A representation of annual average smooth brome growth in central Nebraska. Optimal timing of management activities are denoted by the colored vertical bars.

This field of smooth brome field that was hayed in August and chemically treated following the first hard freeze in October.

Purple prairie clover, coneflower, and foxtail are valuable to wildlife for the insects they attract and the seed they produce. These plants respond to open space created by haying and chemical application the previous fall.

FOR MORE INFORMATION

Through a partnership with Pheasants Forever and Quail Forever, Nebraska Game & Parks Commission and the Natural Resources Conservation Service, wildlife biologists are available to help provide wildlife habitat guidance, technical assistance on the available conservation programs and design seeding mixtures.

For further information visit NebraskaPF.com or call 844-733-3669.