



# Problem Introduced Forages on Prairie & Parkland Reclamation Sites

## Guidance for Non-Cultivated Land

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**The use of introduced perennial forages can cause negative economic impacts and their use is being restricted in many jurisdictions**

The use of introduced perennial forage species for reclamation is disallowed on many native landscapes due to their negative economic and ecological effects.

Different jurisdictions are using different construction "cut-off" dates after which the use of these species on prairie and parkland areas is no longer acceptable.

This Fact Sheet gives direction for redisturbed areas and Best Management Practices for controlling the spread of problem forage species.

### DEFINITIONS

Native plants are those that were in a particular area prior to Euro-American settlement.

Problem introduced forages were introduced purposefully by humans for crop/forage production purposes and either invade or persist in native plant communities.

Introduced forage plants that have been identified as invasive or persistent in the southeastern mixed grass prairie areas of Alberta include crested wheatgrass and sweetclover. In the moister central parkland and in the foothills, timothy, smooth brome and reed canarygrass have been identified as problem plants.

### BACKGROUND

Problem introduced forages have been planted on wellsites, pipelines, roadways and access roads from the mid-1930s to the early-to mid-1990s. Various jurisdictions have used different dates for discontinuing the use of these plants on reclamation sites and using native plants instead.

Planting these forages on reclamation sites may have negative ecological and/or economic effects.

Ecological impacts may include reduced diversity of plant and animal communities and in some cases, reduced soil quality.

Economic impacts include special haying of earlier maturing introduced forages and reseeding. In particular, the presence of patches of early maturing forages in the middle of native pastures (grazed later in the year) prevents these reclamation sites from being effectively grazed.

### RESPONSE

A meeting was held in January 2001 with oil and gas industry representatives to discuss the issue and come to an agreement about how to address problems associated with introduced forages on reclamation sites. This was followed by a field tour in June 2001.

There are two main areas of concern arising from this issue that require resolution.

#### Cut-Off Date (New Construction)

Different jurisdictions are using different construction "cut-off" dates after which the use of problem introduced forage species on prairie (including prairie within parkland areas) is no longer acceptable.

*EUB IL92-12, Minimum Disturbance Guidelines for Native Prairie*, issued September 1, 1992, stated that seed mixes that allow re-establishment of native species should be used.

In April, 1993 the draft *Reclamation Criteria for Wellsites and Associated Facilities* stated that species composition on reclaimed wellsites should be compatible with original or adjacent vegetation.

**This Fact Sheet, effectively immediately, replaces *Problem Forages on Prairie and Parkland Reclamation Sites (Non-cultivated Land)* C&R/IL/01-6.**

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Elimination of problem introduced species is required if non-native species were seeded on native prairie or parkland sites constructed after January 1, 1993.

Exceptions include:

- ❑ The landowner/land manager approved or specified the seeding
- ❑ Problem plants were introduced on the site by another party (requires documentation)

If non-native species were seeded on identified abandoned cultivation (mostly in Special Areas), the amount of non-native forages on the reclaimed area should be less than or equal to the amount of non-native grass found in surrounding control areas.

On public land, the conditions on the disposition have to be met. In some cases, conditions requiring the use of native species for revegetation were placed prior to 1993. These take precedence over this Fact Sheet.

**Residual Plants** (*pre-January 1, 1993 construction; post-January 1, 1993 final reclamation*)

Most sites constructed before 1993 were seeded with introduced forages. Usually these sites are partially disturbed again at final cleanup. When re-disturbance takes place post-January 1, 1993, companies must seed the newly disturbed area to appropriate native species.

It is recognized that a considerable amount of seed of the problem introduced forages will still be in the soil. The following will apply to redisturbed areas:

- ❑ Construction before January 1, 1993 Post-Abandonment Reclamation (seeding) before 2001 IL - Sites will be certified with whatever problem species come up from the seed bank following seeding of redisturbed areas to native species.

- ❑ Construction before January 1, 1993 Post-Abandonment Reclamation (seeding) after 2001 IL - Sites will be certified with the percentage of the problem species remaining after a reasonable and documented effort on the part of the operator to control them (see best management practices) or with landowner/land manager consent.

### Best Management Practices

Best management practices include, but are not limited to:

- ❑ Avoid disturbance to any existing re-encroached native plant community where possible
- ❑ Use clean native seed for revegetation (check seed certificates for undesirable species)
- ❑ Use clean straw for crimping (testing is now available) and make sure that any amendments brought in are clean
- ❑ Avoid re-disturbing highly erodible soils
- ❑ Apply herbicides using qualified personnel at the appropriate time to achieve best results
- ❑ Timing is critical to ensure control of the plant crowns or rhizomes as well as top growth
- ❑ Apply a wiping treatment where there is an adequate height differential and/or spot spraying treatments when there are localized occurrences of the problem plants
- ❑ Re-evaluate in early July (depending on the phenology of the problem plant) and mow if necessary to prevent seed ripening
- ❑ If herbicide treatments prove to be inadequate, consider cultivation of the area in the fall
- ❑ Apply a second herbicide treatment in year two (i.e., spring broad application followed by wiping and/or spot spraying treatments)
- ❑ Re-evaluate in the spring of year three

Where public lands conditions required the use of native species and introduced species were seeded in error, companies will be required to continue treatment to provide elimination of the problem species (to the reasonable satisfaction of the land manager)

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### QUESTIONS

***What if landowners want the problem introduced forage planted on the lease or find it acceptable on reworked old sites?***

Landowner written sign-off indicating acceptance of the vegetation on the lease is required.

***What if public land leaseholders want a problem introduced forage used or left on the lease?***

The land manager should always be consulted for input. A written sign-off from the land manager is required when the controls do not contain the problem introduced forage.

***What if there is a road or field nearby seeded to the problem introduced forage or the plants came from non-operator activities (e.g., cattle bedding)?***

The operator should document this on the application for certification. If it is judged that the problem plants onsite came from other sources, then the site will be certified.

Operators should note that straw used for crimping or other amendments may be contaminated with problem species. Operators are responsible to control unwanted vegetation introduced by their activities to a site.

Native mixes are now being used on new primary and secondary roads. Some municipalities are also switching to the use of native mixes on roadsides.

***What about potential erosion on sites being reworked in very dry areas?***

Sites should be sprayed and not cultivated during the growing season. The dead vegetation will serve as a barrier to wind erosion. Reworking to stimulate germination of seeds in the soil should be done in the late fall. An annual crop can also be seeded on sites to give additional erosion control.

***If a lease was seeded to problem introduced species prior to January 1, 1993 and at abandonment only a portion of the lease will be redisturbed, should native species still be seeded?***

Yes, unless the landowner/land manager wants the disturbed portion reseeded to the problem introduced species. A written sign-off should be obtained. Some companies are voluntarily disturbing the whole lease and reseeding more appropriate native species.

### CONTACTS

#### **For public lands (outside Special Areas):**

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#### **For public lands in Special Areas:**

Alberta Municipal Affairs  
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#### **For all other lands:**

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