

Dryland Seeding, Upper County

There are numerous reasons why a landowner considers seeding, but a primary consideration before spending any money should be whether conditions/practices that led to degradation have been addressed. Often, the conditions that prompt consideration of artificial regeneration (seeding) are merely a symptom of a more serious management problem. If you once had good pasture and now don't, or you recently purchased rangeland property that is in poor condition, consider what has happened on that ground in the last several years. Newly established vegetation won't last unless the conditions that led to deterioration are addressed, such as continuous use by livestock or heavy off-road-vehicle use. If there is a remnant population of desirable plants simply altering management practices may be sufficient for recovery. Bunchgrass ecosystems are more susceptible to grazing damage than most other types, and graziers should strive to graze during the May-June critical period only 1 year in 3. Season-long livestock grazing has been the cause of much rangeland degradation. Livestock use can be beneficial for ecosystem health, but it must be managed toward that goal by observing appropriate stocking rates (leave at least half the plant), avoiding May-June use at least one year out of three (rotate the season of use), and grazing an individual pasture no more than half the growing season.

Goals

Goals for revegetation of degraded rangeland are diverse. High-quality forage for livestock, shrubs for sagebrush-obligate wildlife species, tall grass for ground-nesting birds, lots of forbs (wildflowers) for a beautiful spring view, or easily established, deep-rooting grasses for soil stabilization in disturbed areas are just some of the potential goals for managing a piece of property.



Figure 1. Poor condition rangeland (left); medium-high condition rangeland (right). Photos by Tip Hudson

Seeding methods

If you are considering establishing new vegetation on rangeland (non-irrigated sites) fall is a good time to plant. Fall seedings are typically more successful on non-irrigated acreage in the Intermountain West because seedlings are able to take advantage of fall and winter moisture, and soils dry out relatively quickly in the spring depending on unpredictable spring precipitation.

Seeds have several preferences toward the type of ground they are successful in. These recommendations are ideal conditions and cannot be met in all circumstances.

1. The soil beneath the seeding depth should be firm; fluffed soil from excessive tillage won't provide enough stability for the roots and is susceptible to wind and water erosion.
2. Topsoil (first ½-1") should be well-pulverized and mollified. This means loose, not cloddy, but not so powdery loose that crusting takes place. Crusting will prevent seedling emergence.
3. The seed site should be free of invasive plants. The presence of annual weeds or perennials that are competing for the same resources as the seedling is the most common and significant obstacle to establishment. This doesn't mean eliminating all live vegetation on the entire seeding area, as dryland areas typically have spaces between plants, but reseeding is usually done where all or part of the existing vegetation is unwanted and some

level and form of vegetation control is beneficial. This is most effectively accomplished using selective herbicides or controlled grazing on annual grasses.

4. The area should be free of the seed of competitive species. This typically means ensuring that the existing undesirable vegetation doesn't produce seed in the growing season prior to planting. If this is a concern, it may be beneficial to summer fallow the site: kill the undesirable vegetation in the fall and/or spring and give the site one full growing season to see what comes up. If you don't want it, kill it, and plant the following fall with a better chance of success.
5. There should be a moderate amount of mulch or plant residue on or in the soil surface. (Don't scrape a site clean with a tractor!) With a fall planting, there is generally a sufficient amount of dead plant material from this year's growing season that is incorporated through the winter. (Adapted from Kingery, 1997)

If seeding is for pasture forage, do not graze until following year, and then only if plants cannot be pulled by hand. If you can pull the grass plants out, roots and all, they are not ready for grazing!

There are two methods for seeding: broadcast and direct/drilled. Broadcast seeding is easier on rough terrain where there are rocks, slopes, uneven ground, other vegetation, but has a lower success rate than drilled seed. If broadcast seeding, consider dragging something like a harrow over the site to scarify the soil surface and provide opportunity for seeds to contact mineral soil. Grain drills generally do not work except in deeper, rock-free soils, but a rangeland drill is designed to work around these obstacles and dramatically increases the success rate (germination and establishment of seeds). Rangeland drills are not cheap or easy to come by, but the South Yakima Conservation district has one available to rent for a reasonable price (see inset).

Dryland grass species for Upper Kittitas County

- Basin wildrye – Very large native plant that once occupied much of the Yakima floodplain; highly salt-tolerant and has an excellent root system; good for wildlife cover as well as livestock
- **Crested wheatgrass (Hycrest or Nordan)– easy to establish, short-lived if not grazed
- **Hard fescue – used in roadcuts to stabilize soil; easy to establish and tremendous root system
- Idaho fescue (\$) – excellent native grass in areas of 12+” precip; good choice in Upper County; livestock will target this grass, so take care to avoid overuse
- **Intermediate wheatgrass – a good introduced grass for alkaline soils; relatively unpalatable
- Mountain brome – A palatable native grass found in the transition zone between ponderosa pine and wetter forest types
- Orchardgrass – high-yielding perennial grass commonly used for both pasture and hay. Not as resistant to grazing as some other choices, but very high quality forage
- Russian wildrye – prefers higher rainfall areas and makes a decent pasture grass
- **Tall fescue – Durable perennial sod-forming grass that dominates pastures across the country
- Sherman big bluegrass – very good pasture grass; prefers 12-18” precip.
- Siberian wheatgrass (Vavilov) – introduced, short bunchgrass that does well above 7” rainfall zones
- **Smooth brome – Grazing-tolerant, introduced, sod-forming perennial that makes very good pasture

Seed sources

Grassland West (Old Mill Country Store): (509) 925-5397
Midstate Coop (Tom Henderson): (509) 925-3378
BFI Native Seed (Jerry Benson): (509) 765-6348
Rainier Seeds (Harold Wood): (800) 828-8873
Derby Canyon Natives (Ted Alway): (509) 548-9404

**Good choice for value and ease of establishment
\$ Expensive seed

No-till pasture drill available for rent

The South Yakima Conservation District has a no-till pasture drill available at a rate of \$2/acre with a \$100 refundable deposit. It is a 7' rancher model with a hitch assembly – no trailer required – and requires a ~50-horse tractor. The drill uses a sponge metering system and has one seed bin. Interested customers can contact the SYCD at (509) 837-7911 to schedule usage. Yakima County residents have first priority, so call well in advance of anticipated use. Late summer/early fall are good times to interseed existing grass stands or to establish a new stand in dead turf (irrigated pastures). The drill will also work on rangeland areas that are not too rocky. Dryland seedings should be done after plants are dormant, usually after October 15.