

Seeding of Pasture Grasses

A frequent question at the Extension office this time of year has to do with establishing irrigated or dryland pastures. The most common reference we use in responding to these questions is the *Intermountain Planting Guide*. Published by the USDA-ARS Forage and Range Research Lab, in conjunction with USU Extension, this publication is a must for serious growers. Another excellent booklet is the *Small Pasture Management Guide*. Both publications are available for purchase at the Extension office.

Most individuals want to know the ideal time for planting forage grasses. Irrigated plantings have more options than non-irrigated. Plantings can be made most anytime during the growing season if sufficient irrigation water is available. Water must be applied often enough to allow the soil surface to remain moist and favorable for seed germination and seedling emergence. Small seeded varieties of grass are sensitive to crusting soils that often inhibit their ability to emerge. Frequent irrigations will keep the surface moist, allowing seedlings to emerge.

Spring is the optimum season to establish irrigated seedings. High humidity, lower temperatures, and abundant soil moisture provide excellent conditions for germination and root development. There is also a reduced risk of soil crusting from wind and high temperatures. Sometimes too much spring moisture is a problem as the soil is too wet to permit tillage and seeding. As such, seedling emergence is delayed until hotter, drier portions of late spring or early summer. By then, frequent irrigations will be required.

Fall plantings are most successful from late August to mid September. We have had good success in Cache Valley by planting until the end of September. Cooling temperatures, less wind, and increasing humidity enhance the opportunity for good plant establishment. Ideally, new plants should be 2 to 3 inches in height prior to the onset of cold winter temperatures. Seedlings that are younger risk winter kill because of poorly developed root systems. Most small grasses require roughly 6 weeks of active growth prior to cold weather to assure seedling establishment. One never knows how our seasons will be. Success one year may be failure the next year, but these guidelines are helpful.

“Dormant seedings”, or late fall plantings, are recommended for dryland pastures and rangeland, and can even work well for irrigated acreage. Such plantings are made late enough in the season to delay germination until the following spring when young seedlings can take advantage of cooler temperatures and moisture from winter snowfall. We have had success planting as late as December if the ground is not frozen. Most grasses will survive the winter and benefit from favorable moisture conditions the following spring. Early fall seedings on drylands are risky since germination often does not occur soon enough to allow moderate root development prior to winter.

Seed can be broadcast or drilled (.25 to .50 inches deep) if a proper seedbed has been prepared. An optimum seedbed is firm, but not hard, fine but not powdered, moist but not wet and free of competitive weeds. Firmness is usually accomplished by using a cultipacker or roller harrow. Such preparation helps retain soil moisture and reduce soil air space. It is essential to have good seed/soil contact so that the germinating seed is in contact with soil and moisture. Successful growers have

learned that the seedbed is ideal if they can walk across the field and leave a footprint approximately one quarter inch deep.

Access to irrigation is the primary concern in determining which grass species to plant. Drought tolerant species are usually not as palatable or productive, but are often the only realistic option. Tolerance to salinity and standing water are additional considerations. Legumes such as alfalfa or clover may also be included in pasture mixes to increase forage protein and provide organic nitrogen. A combination of grasses and broadleaf legumes significantly limit potential herbicide treatments for weed control.

Tall Fescue, Orchardgrass, Creeping Meadow Foxtail, Meadow Brome, Smooth Brome, Perennial Ryegrass and Timothy are common species for irrigated pastures. Crested Wheatgrass, Intermediate Wheatgrass and Russian Wildrye do well on non-irrigated sites. The choice of varieties within each species is often quite extensive and a mixture of grass species is often desirable since each species has unique characteristics.

Mixtures that contain a large number of varieties tend to lose their more palatable species, however, because animals preferentially graze them. Many of these pastures end up being dominated by the least palatable species since the appetizing types receive all the grazing pressure.

New seedlings should be protected from grazing and trampling until plants are sufficiently established and resist being uprooted by grazing animals. This can be accomplished by taking at least one cutting of hay before allowing animals to graze. Non-irrigated pastures may require two summers without grazing.