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Range Seedings--Success or Failure

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Seeding to adapted forage species is a desirable practice on extensive rangeland areas in Oregon. Range seedings may be used to improve forage production, lengthen the grazing season, change the season of use, improve livestock distribution, control noxious weeds, give needed relief to unseeded portions of rangeland, or to improve the nutritional level of range forage.

Even under the best of conditions, range seedings can be a costly operation. However, range seeding which is located on the right sites, properly done, and well managed offers an opportunity for many ranchers to significantly increase forage production and net income.

To help assure seeding success, there are several points which should be carefully considered. "Mother Nature" being what she is, there is an element of risk in all range seeding. The risk can be greatly reduced by giving careful attention to the points discussed in this fact sheet.

Site selection

The site to be seeded should have sufficient potential to insure reasonable chances of success. That is, there should be enough soil for adequate root development and water storage. Expected precipitation must be sufficient to support the grass species to be seeded. The soil should be sufficiently free from rocks to allow proper seedbed preparation. Soil also should be reasonably free of toxic material such as alkali, unless specially adapted species are used. The seeded site must lie in an area that can be easily incorporated into over-all management of the ranch. The site also must be located in an area that is accessible to present-day range seeding equipment.

Current vegetation, even on a badly deteriorated range, may furnish good guidelines to the suitability of a site for range seeding.

Seedbed preparation

Proper seedbed preparation accomplishes many things, all of which are important to grass seedling emergence and stand establishment. Seedbed preparation reduces or removes competition from undesirable vegetation. It improves moisture penetration into the soil, protects the soil from erosion, and provides a firm seedbed in which to plant the seed. Satisfactory seedbeds may be prepared in one of several ways.

Mechanical. The brushland plow has been the most successful tool for preparation of rangeland soils. This plow is especially well adapted to rough, rocky, brushy rangelands.

Moldboard, Towner, and other disc plows may also be used successfully on selected better sites.

Chemical. Successful range seedings have been made as a result of chemical seedbed preparation. The most successful of these has been chemical control of big sagebrush and/or rabbitbrush followed by drilling directly into the standing dead brush. This practice should be limited to sites where most of the competing vegetation is controlled by application of a herbicide. The practice will not be successful in sites supporting a heavy stand of Sandberg bluegrass, which is unaffected by many herbicides such as 2,4-D and will provide serious competition to desirable grass seedlings.

Burning. Successful range seedings have been made following burning (accidental or otherwise) to remove competing vegetation. Often thought to be a low cost method of seedbed preparation, burning is frequently quite expensive when costs of fireguards, permits, and other fire protection factors are considered. In addition, it may be difficult to get a "clean" burn due to the patchy nature of some vegetation or unpredictable wind currents.

A good burn may provide an adequate seedbed but is generally not reliable.

Selection of forage species

Kinds of grass to be seeded will depend primarily upon the intended use of the seeding and the characteristics of the site selected. Maximum production is accomplished with the correct blending of species, site, and use. Depending upon site characteristics, grasses commonly used for spring or spring-fall use include crested wheatgrass, Siberian wheatgrass, and big bluegrass. Grasses for summer use include beardless wheatgrass, intermediate wheatgrass, and pubescent wheatgrass.

Method of seeding

To insure chances of success, grass seed must be planted on a firm seedbed reasonably free of competing plants, placed in good contact with the soil, and covered to the correct depth. For these reasons, drilling is gen-

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erally recommended for range seedings. The rangeland drill is especially well adapted to seeding on rough, rocky, brushy terrain. Common grain drills may also be used on favorable sites.

Broadcast seedings can be made on areas rough or otherwise unaccessible to drilling equipment. However, broadcast seedings are seldom successful unless the seed is covered properly. Broadcast seedings generally have been successful only in deep ashes immediately following a burn and in aspen areas just prior to leaf fall.

The seeding operation is a major cost in a revegetation program. Extreme care should be exercised during the operation to insure success.

Season of seeding

Soil moisture conditions are of primary importance in deciding when to seed. Good results have been obtained from both spring and fall seedings. Failures have also occurred from seedings made at these times. If soil moisture conditions are suitable, fall seedings are generally most satisfactory. Seeds are well covered and in good contact with the soil when conditions become suitable for growth in the spring. Fall seedings may allow grass seedlings to get an earlier start and thus be in better condition to withstand summer drought.

Grass should not be planted so early in the fall that fall germination takes place. Grass seedlings germinating in the fall are susceptible to killing from low winter temperatures and frost heaving.

Where fall moisture conditions are not satisfactory, spring seeding may be more successful. Spring seedings should generally be made as soon as possible after the ground is free of frost. This will allow germinating seedlings maximum time for establishment prior to summer drought.

Protection of seeding during establishment

Range seeding is a waste of time, materials, and money unless the seeded area is properly protected from grazing until the grasses are established. A good rule of thumb is to not graze until the seeded grasses have matured a crop of seed. Judicious grazing during the first fall following seed maturity may actually be of value to the seeded grass.

Costs of fencing, if needed for protection of seedings, should be an accepted part of range-seeding budgets.

Management following seeding

Poor past management is indicated by the necessity to seed rangeland. Unless the need for changes in management are recognized, the seeding operation will result in little good over the long run.

Range seedings take land out of production for two to five years. Provisions must be made to care for the livestock adequately during that period.

Seeded areas should be fenced or situated so they can be managed as separate units. This is necessary because of differential palatability of the seeded and native range grasses. Livestock will tend to "camp" on seeded range during some periods of the grazing season if they have free access to it along with native range.

Increased productivity from properly managed seeded areas will often take the pressure off of other parts of the range, allowing for over-all range improvement.