

UNIVERSITY OF IDAHO

COLLEGE OF AGRICULTURE

Extension Division

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Regrassing Southern Idaho Range Lands

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OF THE STATE OF IDAHO UNIVERSITY OF IDAHO EXTENSION DIVISION
AND UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

Printed and distributed in furtherance of the purposes of the Cooperative Agricultural
Extension Service provided for in Act of Congress, May 8, 1914.

Regrassing Southern Idaho Range Lands

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SOUTHERN Idaho has thousands of acres of potentially productive range lands which now support species of plants that are low in forage value. Reseeding these depleted ranges to good perennial grasses will benefit the range livestock industry by helping supply the additional low-cost forage needed to meet wartime demands for additional livestock products. Plantings by livestock men and public agencies show that successful, economical stands of good forage species can be obtained if proper attention is given to choice of species, site selection, and season and methods of planting.

The major range problem areas of southern Idaho in need of reseeding are: land supporting Russian thistle, mustard, and similar weedy annuals; lands covered with dense cheatgrass stands; lands which support dense stands of sagebrush and mountain brush with almost no understory of palatable grasses and weeds; and mountain valleys where sagebrush or other low-value plants have replaced the grassland meadows.

Where to Reseed

Of utmost importance in successful and profitable range reseeding is the careful selection of sites. The better land should be seeded first because it is here that sizable and lasting increases in forage production are more likely to be secured. A dense, vigorous stand of sagebrush or other low value vegetation occupying an area marks the site as productive and generally favorable for reseeding.

Range improvement needed. Earliest consideration should be given those ranges which are capable of good forage production but from which all or most of the good forage plants have disappeared. If enough good forage plants are still present so that only better grazing management is needed to bring about natural recovery of the native forage, seeding is seldom justified.

Seasonal shortages of forage. Reseeding can be especially valuable to the livestock industry of southern Idaho by providing much needed early spring and early summer forage and thereby reducing grazing on ranges that have suffered from improper season or intensity of use. Reseeding of spring-fall ranges with early growing grasses such as crested wheatgrass not only will supply early spring forage but will shorten the period of winter feeding.

Suitable moisture, soil, and topography. Ranges with level topography, favorable moisture, and deep, fertile, productive soils yield

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The manuscript for this publication was prepared by A. C. Hull, Jr., of the Intermountain Forest and Range Experiment Station and was reviewed and approved for publication by the University of Idaho College of Agriculture. The printing and distribution is by the Extension Service of the College as a contribution to available information on methods of regrassing range lands in southern Idaho.

best returns and should be given first consideration. Slopes too steep for the operation of ordinary machinery are costly to seed and warrant seeding only where erosion control is desired for watershed protection.

Correct grazing management after planting necessary. Where reseeding is needed the original causes of range depletion should be corrected and proper management applied. Reseeding is not a "cure-all" and reseeded stands will be as damaged by improper intensity of grazing or wrong season of use as were the original stands.

What to Reseed

Adapted species. Species must be adapted to the site and be able to maintain themselves and produce a good volume of forage under proper grazing. Many seedings have failed because unadapted species were used. The operator should learn the growth requirements of the suggested species and the growing conditions on the area to be seeded before a planting is made. Species, mixtures, and rates of seeding per acre for the major problem areas of southern Idaho are shown in Table 1.

Table 1

Species*	Poor to average soils of the sagebrush zone. Annual precipitation usually from 8 to 14 inches.	Good soils of the sagebrush zone. Dry sites of the mt. brush zone. Annual precipitation usually from 15 to 17 inches.	Average soil and moisture of mt. brush zone. Moist sites of the sagebrush zone. Annual precipitation about 20 inches.	Good soils and moisture of the mt. brush zone. Dry to average sites in mountain valleys. Summers often dry.	Moist sites, good soils, good rainfall for summer growing season. Annual precipitation usually above 25 inches.
	(pounds per acre)	(pounds per acre)	(pounds per acre)	(pounds per acre)	(pounds per acre)
Bulbous bluegrass ^o	3	2	2		
Crested wheatgrass	4	4	3	2	
Big bluegrass		1	1		
Mountain brome or tall oatgrass		3	3	4	4
Smooth brome			2	3	4
Orchardgrass				1	2
Slender wheatgrass				2	2
Timothy					2
Total	7	10	11	12	14

Mixtures are preferable. Different species feed at different soil levels and have different seasons of growth. Accordingly mixtures provide not only more but a better variety of forage and a longer grazing season than do single species. Grazing of new stands can be started sooner if fast-growing species such as mountain brome or tall oatgrass are in the mixture. Where species of different

* These mixtures are recommended for large areas and it may be necessary to adjust them to local soil and moisture conditions.

^o Not recommended for southeastern Idaho.

habits, such as sodformers and bunchgrasses, or species with different rates or periods of growth are used in the same mixture they may be seeded in alternate drill rows.

Good seed is essential. Before purchase the buyer should determine the germination and purity of the seed and should examine it to be sure it is of a bright, clean color. Seed grown locally or under climatic conditions similar to the range to be seeded should be used whenever available. Seed from species that are not acclimated to the area may produce stands that are low in productivity, start growth late in the spring, and are more subject to drought or winter-kill than stands grown from adapted seed. Awned or chaffy species such as tall oatgrass may be de-awned in a hammer mill by companies specializing in grass seed. Saving in time, uniformity in drilling, elimination of poor seed, and ease of handling are well worth the slight cost of de-awning.

Rate per acre. The correct amount of seed to sow is dependent upon the efficiency of the method of planting and the purity, germination, and size of the seed used. Recommended seeding rates are based upon efficient methods of planting such as drilling. Thus when seed is of poor quality or seed is not uniformly distributed and covered, the rate of seeding should be increased. The use of excessive amounts of seed is not only wasteful but also may cause undue competition for moisture among the seedlings.

When to Reseed

On southern Idaho range lands the best season for seeding is the fall of the year. Seedlings that germinate just after permanent fall moisture is assured, grow during both the fall and spring seasons and are better able to withstand the summer drought than are spring-seeded species, which usually have a less well-developed root system. Although spring planting on well-prepared, firm seedbeds has given good results, the difficulty of doing work on range lands early in the spring, combined with a short planting season and undependable moisture make large-scale spring seedings undesirable.

On high mountain lands with considerable early fall moisture planting may begin in September. At lower elevations where fall rains can be depended upon, planting in October is recommended. Where fall rains are uncertain planting should be delayed until late fall. If at any time rains have been sufficient to assure germination and seedling growth up to the time winter sets in seeding can be done safely.

How to Reseed

Planting methods, to give most promise of success, must provide conditions favorable for germination and growth of young seedlings. Accordingly, dense stands of sagebrush, cheatgrass,¹ and other species which use much of the available moisture should

¹ Cheatgrass (*Bromus tectorum*) is also referred to as cheatgrass brome, broncgrass, and junegrass.

be reduced before planting and uniform distribution and covering of seed should be provided.

Drilling wherever possible is recommended because it provides controlled, uniform covering and distribution of seed. Where steeper slopes need seeding, a sidehill drill with outrigger wheels has been used successfully. Where drilling is not practical seed may be broadcast and covered with a disk or spiketooth harrow. Soil sloughing on newly plowed ground will generally provide adequate seed covering as will heavy ashes on timber burns.

Correct depth of seed covering is roughly proportional to the size of the seed. Seed of crested wheatgrass and most species used in range reseeding should be covered $\frac{1}{2}$ inch deep. Small seeded species should not be covered more than $\frac{1}{4}$ inch deep. Deeper covering is desirable on light, sandy, or dry soil and shallower covering on heavy clays.

Lands covered with annual weeds such as Russian thistle or mustard require no seedbed preparation and seed is best drilled right among the weeds. These summer growing annual weeds do not compete with the reseeded species for moisture and are often beneficial in protecting the young plants.

Dense cheatgrass stands utilize practically all of the available moisture and need to be reduced in density or vigor before seeding. Plowing in the spring before cheatgrass sets seed, although expensive, is the most effective method of cheatgrass elimination. A more practical but less effective time for plowing is after fall germination of cheatgrass and just before planting. If plowing is determined to be too expensive the use of deep furrow seeding should be considered. Both shovel and single disk deep furrow drills may be used to kill the cheatgrass in a narrow strip and at the same operation sow the seed in the bottom of the furrow 2 to 3 inches deep and cover it lightly with soil. Seedings made in this fashion have been successful at Dubois, Idaho, during each of the last 4 years. Reduction of cheatgrass by exceptionally hot burns or by burning early in the summer season is sometimes great enough to permit successful reseeding. Since, however, this method is not reliable as a general practice it cannot be recommended.

Dense stands of brush on sagebrush and mountain-brush ranges must be reduced because the brush not only hinders planting but competes with the reseeded species for moisture. Sagebrush can be destroyed successfully or removed by planned burning, plowing with a Wheatland plow, or dragging with rail drags.

Seed may be broadcast ahead of the sagebrush railing outfits and fair coverage secured. Where the brush is destroyed with a Wheatland plow, seed broadcast on the rough plowed surface will usually be covered by soil sloughing.

Sagebrush and mountain brush areas recently burned over usually provide a good seedbed which may be drilled without further preparation. Planned burning, in many cases, will prove a good way to remove sagebrush. This, however, should not be done with-

out the help and guidance of public agencies, such as Forest Service, Grazing Service, Soil Conservation Service, and the State Extension Service, who are acquainted with the plans and procedures to be followed to assure success.

Many accidental burns can be seeded successfully and easily. It is advisable to seed burned lands the same year that burning takes place. On burned timber lands no soil treatment is needed and seed may be broadcast in the deep ashes with no further covering.

The complete removal of the brush cover by burning is undesirable on some sites as it exposes the seedlings to damage by wind and high temperature. In any case planned burning should not be used where wind or water erosion might be serious or where adequate fire control is not possible.

Mountain valleys are not extensive in area but because of their high productivity they yield big returns from reseeding. Depending upon the type of low-value plants present they can be treated the same as annual weed or sagebrush lands.

How to Graze After Reseeding

Seedlings should be grazed lightly or not at all until after the first seed crop is produced. Because heavy grazing retards plant development, plants that are continually eaten off do not reach maximum forage production as quickly as plants that are lightly used or completely protected until after the first seed crop. Thus, forage taken during the early life of a reseeded stand is usually obtained at the expense of a good stand or of total forage production in later years. Early protection and light grazing of reseeded stands on steep slopes or loose soil is very important as not only young but old plants may be loosened by grazing animals. After the plants are established the reseeded area should be managed in such a manner as to prevent depletion of the forage or the soil.

