

Range Reseeding in Southern Utah and Northern Arizona

VARD H. HEATON, Alton, Utah

If you are one of the very few and very fortunate livestock operators whose land still supports a good stand of native grass, this article may not interest you. If the grass is gone from your ranges, and you are wondering how you are going to feed your livestock, the experience my three brothers and I have had seeding abandoned cropland and depleted ranges may help you to build up the soil and stop erosion on your ranges, and also provide feed at a time when it is most needed.

Our ranching operation is not a large one. During the driest years, we figure we can run 2,000 ewes and 120 head of cows, our breeding stock, without damaging the range. In average years, we run an additional 200 yearling steers. The steers are bought as calves in the fall, and the number purchased depends upon range and weather conditions. We try to keep our operation flexible so that the steers can be sold or moved to rented pastures in the event that adverse weather prevents the growth of feed on our ranges. We watch the feed and not the livestock in making adjustments in our operations.

Grazing Management

Our spring and summer range is in southern Utah, near the town of Alton. Here, we have approximately 100 acres of irrigated hay and meadow land, 1,000 acres of non-irrigated land that has been seeded to adapted grasses, and 8,000 acres of mountain range which has browse on the ridges and dry meadows and sagebrush flats in the valleys. From the first of July to the first of October about half of the stock are run on the Dixie National Forest. The elevation of this range is between 7,000 and 11,000 feet. According to the weatherman, we get from 12 to 20 inches

of rainfall . . . According to the stockman, we get much less than this.

Winters are spent about 100 miles to the southwest, on Federal Range on what is known locally as the "Arizona Strip". (The land lies between the Colorado River and the Utah-Arizona line.) Here, the elevation is about 5,500 feet, and the annual rainfall between 8 and 10 inches. Most of it comes in the summer, however, when the stock are on the higher ranges, so there is a good stand of grass on this land. In most places, however, this grass has to compete with a rather dense stand of sagebrush. To date, we have gone over between 5,000 and 6,000 acres with a chain or rail to eliminate this competition. Where this has been done, we have been able to more than double the yield of native grasses.

Vard H. Heaton and his brothers, Ross, Gail and Lloyd, operate a sheep and cattle operation in southern Utah and northern Arizona. Headquarters are near Alton, Utah on their spring and summer range where they have been engaged in ranching all their lives.

Vard is a member of the Utah Wool Growers Association, the National Wool Growers Association and is the sheep representative on the District, Arizona State and National Advisory Board Council of the Bureau of Land Management. The brothers are active in civic and church affairs in southern Utah and northern Arizona.

Our spring and summer range is a different proposition. The early settlers, in an effort to provide the best of everything for their families, turned out too many stock too early in the spring. Before they realized, many of the native grasses

and good browse plants were a thing of the past. They had been replaced by undesirable plants such as sagebrush, rabbitbrush, juniper and scrub pine. The topsoil moved off, and gullies appeared and drained the meadow land along the creeks.

Seeding for Added Forage

The problem that confronts the present generation of stockmen is how to get these depleted lands back into productivity. Necessity is the instigator of many things. In our case, the dire need for feed during those critical spring months started us thinking about seeding.

The first seeding was done by scattering the seed among the sagebrush and oak from horseback. It was a complete failure. Since then, we have kept trying, and have learned a few things about seeding in our area. We have also found out that we have a lot yet to learn. To make a set of rules that would fit every rancher's needs would be like a dressmaker trying to make a dress that would fit every woman's taste, torso and pocketbook. There are, however, a few general rules that will help anyone planning a seeding program.

Defer Grazing Until Establishment

The first is, before you seed, make up your mind to give the area total protection until the grasses are well established. This can be done by herding or fencing. In our case, fencing has proven most successful. We try to locate these fences so that they will help us manage our range, and work out grazing rotations after the seeding is ready to be grazed. It is surprising how tender and delicate those grass plants are, and the first year we figure they will not stand any grazing at all. We have grazed most of our plantings after the seed has matured the second summer. If the grass has been a little slow, we have waited until the third summer. In any event these first grazings are very light.

Make a Good Seed Bed

Preparing the seed bed is important. It varies with the soil and the



Before seeding and two years after seeding to a mixture of smooth brome, intermediate wheatgrass and yellow sweet clover.

cover on the ground. Land that has been farmed can be handled just as you would for planting small grain. That is, keep it free of weeds during the summer, but give the soil a chance to become good and firm before the grass is planted in the fall. For some reason, we have found it harder to get a good stand of grass on land that has been farmed. Perhaps the plant food has been used up, or it might be that there are more weeds to compete with the grass for moisture.

We have had little trouble getting grass started on newly cleared land. Land that is covered with trees is cleared with a bulldozer or a chain, and then plowed. Sometimes it is necessary to plow sagebrush and rabbitbrush a couple of times, but we make sure the brush is dead before the grass is planted.

Wherever possible, we use a drill to plant the grass, because it spreads the seed evenly over the ground, covers it, and gives a better stand of grass per pound of seed. If the ground is too rough, or too covered with litter to drill, the seed is broadcast and covered with a harrow or brush drag.

Select Good Seed

The selection of seed is essential. Grass seeding is expensive, be sure you plant grass . . . not more weeds. The best way to do this is to use certified seed. Since we started, we have planted several different species of grass, but to recommend one above all the rest would be like recommending one brand of cattle to fit all range conditions and the personal preferences of all ranchers. For instance, I think you can't

beat Herefords for range cattle. Yet I know of places where Brahma and Brahma-Hereford crosses will do well where a Hereford would starve to death. It is the same with grasses, one species will thrive where another will not even grow.

In our plantings, we have found that crested wheatgrass is hardy and comes early in the spring, but that stock will not eat it after the seed forms. Tall wheatgrass does well, even on ground that tends to be alkaline. It sometimes gets to be five feet tall, and probably out-produces most other grasses, but stock have to be forced to eat it. Western wheatgrass is a native on our ranges. In our first seedings we planted a lot of this grass, but found that after a few years it tends to become sod-bound and doesn't produce much feed. Smooth brome is good feed any time. We would like to raise this grass, but it needs a little more moisture than we generally get. Intermediate wheatgrass, with many of the good qualities of brome, gets along on a little less moisture and we favor this grass for our area.

Grass-Legume Mixture Used

On most of our seedings, we have mixed grass with yellow-blossom sweet clover or alfalfa. Stock prefer this mixture, and both the grass and the legume seem to do better than when planted alone. The legume, however, sometimes presents a bloat problem. For example, the spring of 1953 was late. The sheep came up from the desert hungry for green feed. As the ewes dropped



The mixture of smooth brome, intermediate wheatgrass and yellow sweet clover seeded two years previously produced 2,250 lbs. of grass and legumes per acre as compared to 500 lbs. of sagebrush on the other side of the fence.

their lambs, they were put in a grass and clover pasture. The grass had made a good growth, but the clover, held back by the cold, was only a few inches high. For awhile, all went well, then the ewes became choosy and began to eat the tender leaves of the clover. Before we realized, several had bloated and died. The bloating continued until the clover began to bloom and then stopped. Deferring grazing until the legume begins to bloom would help eliminate bloat, but sometimes it is impossible to do this. Planting less clover in the mixture isn't a permanent answer, because it comes from seed every two years, and one year there may be very little, and the next year there will be a bumper crop. It is a little more difficult to get alfalfa started, but it may be the answer to the bloat problem.

To date, we have used a mixture of grasses in the most of our plantings. The grass has stopped a lot of erosion and is doing a good job of holding the soil in place, but our stock overgraze the more palatable species before they take the less desirable ones. Because of this fact, we plan to use a single grass with a small amount of legume in our future plantings.

Fall Seedings Best

Our best plantings have been made late in the fall, so that the seed is there to sprout as soon as it warms up the following spring. During the winter, we generally get enough moisture to give the plants a good start. Seedings can be made in the spring, but for most ranchers, it is a busy time. Then too, some moisture is lost before the ground is dry enough to get on, and working the land results in an

additional loss of the much-needed moisture.

Once a seeding has been made, and you have done everything to the best of your ability, the surest way of getting a stand of grass is to have the weatherman produce a little moisture. The amount of rain, and the time you get it can make a seeding a success or a failure. Don't be in too big of a hurry, however, to decide that a seeding has failed. The first seeding we made looked like a pure stand of weeds the following summer. We were anxious to get something growing, so a part of it was plowed up and reseeded. The second summer, the part that was left looked pretty good, and by the third summer, the grass had taken over and there was hardly a weed left.

When the seeding is well established, and can be grazed, don't figure your problems are over . . . They have just started. You have got to take care of the grass if it is to produce what it should and if it is not crowded out by weeds or brush. We once had a shepherd who would say as he passed the meat to whoever was eating with him, "Take some and leave some." That is what we try to do with the grass on our ranges. It isn't always possible, but we try to wait until the seed heads appear before stock are turned in. They are taken out when they have eaten about half of the grass produced. We believe that the old rancher hit the nail on the head when he replied, when asked why he let all that grass go to waste: "I've lived a long time, and have learned that if I never let any grass go to waste, it isn't long before I never have any grass." Grass left on the ground isn't wasted. It holds the snow on the ground through the winter and

protects the young shoots that start in the spring. It also gives the plant a chance to store food in the roots that will be used in sending up new growth the following spring.

Cost of Seedings

It is hard to say how much we have received, in dollars and cents, from our range seedings. They have cost us from eight to thirty dollars an acre, but have increased the carrying capacity of sagebrush land from practically nothing to one and a half cow months per acre. They have given us a dependable source of feed in the early spring, when it is most needed, and we are using land that we merely trailed through in the past. A Soil Conservation Service technician and my brother, Lloyd, made clippings on seeded and native ranges. A seeded range, just after seed maturity the second year after being planted, was producing 2,250 lbs. of grass and clover per acre. Just over the fence, on identical soil, native range was producing less than 500 pounds of sagebrush per acre. Clippings made on a four-year-old planting that we considered plowing up the first year, showed that it was producing 3,000 pounds of good feed per acre.

We have spent a lot of time, hard work, and some money in seeding our ranges. We have had some excellent seedings, and we have had some failures. We think seeding pays, and plan to continue until all of our land that can be seeded is seeded, or until someone shows us something better.

Assistance in the preparation of this article was given by Earl Spendlove, Work Unit Conservationist, SCS, Kanab, Utah.



The CURRENT LITERATURE section, a regular feature of the Journal, has been omitted from this issue to provide additional space for the inclusion of the Bylaws of the Society. The January entry of CURRENT LITERATURE will be the final contribution prepared by Arnold M. Schultz of the School of Forestry of the University of California at Berkeley; editorship of this section will be taken over by G. W. Tomanek, Fort Hays State College, Hays, Kansas.