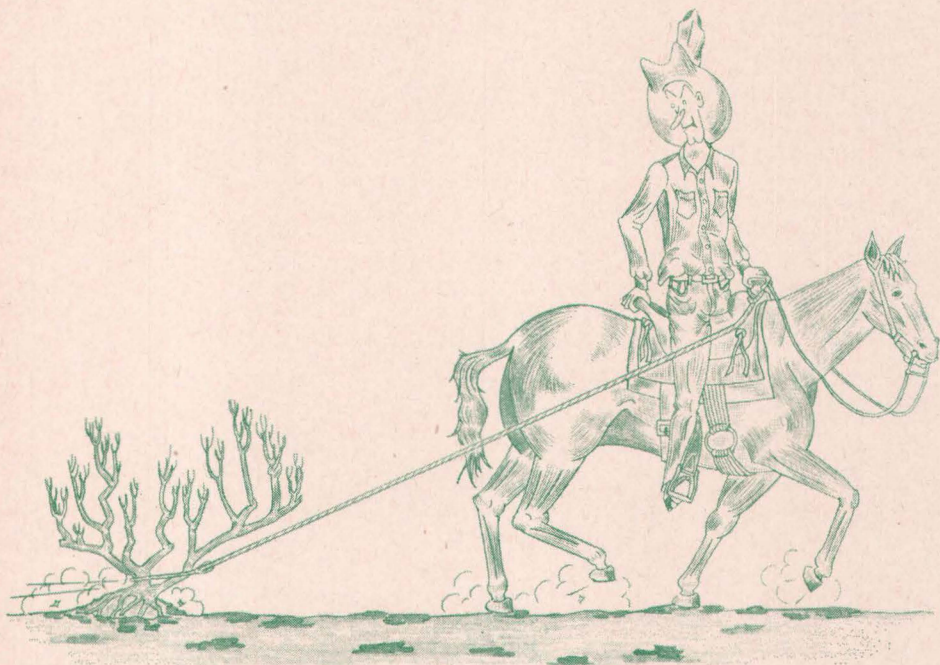


RANGE ROBBERS

---Undesirable Range Plants



FEDERAL COOPERATIVE EXTENSION SERVICE / OREGON STATE COLLEGE / CORVALLIS

Cooperative Extension work in Agriculture and Home Economics, F. E. Price, director.
Oregon State College and the United States Department of Agriculture cooperating.
Printed and distributed in furtherance of Acts of Congress of May 8 and June 30, 1914.

Extension Bulletin 780

December 1958

THIS IS THE THIRD in a series of Oregon Extension bulletins on ranges and range management. The first was Extension Bulletin 770, "Grass is the Wealth." It covered principles of grass growth. The second was "Extension Bulletin 772, "Ranchers, Ranges and Cows." It concerned livestock in relation to range feed. The principles listed applied to sheep as well as cattle. This bulletin, "Range Robbers," tells of the effects of sagebrush and other range weeds that steal moisture and plant food from useful range plants.

Contents

| | Page |
|---|------|
| The Losses From Weeds..... | 5 |
| In former years the cattle thief was the villain of the range; today weeds are stealing profit from the ranchers. | |
| I've Been Robbed..... | 6 |
| The rancher can organize his own system to get rid of the thieving weeds. | |
| What Tools Do the Robbers Use?..... | 6 |
| Weeds are encouraged and spread in many ways. | |
| Who Is Guilty?..... | 7 |
| Ranch owners may be innocent accomplices of thieving weeds. | |
| Make the Punishment Fit the Crime..... | 8 |
| Corrective measures vary for different weeds. | |
| Criminals Are Hard to Manage..... | 10 |
| Keeping livestock off the range helps the situation, but other methods can speed up the improvement program. | |
| Rebuild Without Heavy Investment..... | 10 |
| Seven suggestions are given for range rebuilding. | |
| Rebuild With Heavy Investment..... | 12 |
| Reseeding and spraying are suggested for some ranges. | |
| How to Decide..... | 13 |
| Spraying, burning, plowing, or seeding should be done only under certain conditions. | |
| Summary | 14 |

This bulletin was prepared by the following: W. A. Sawyer, Superintendent, Squaw Butte-Harney Experiment Station, Burns, Oregon; Elgin Cornett, County Extension Agent, Enterprise, Oregon; Don Hedrick, Associate Professor of Range Management, Oregon State College; David F. Costello, USDA Forest Service, Portland, Oregon; E. R. Jackmon, Extension Specialist in Farm Crops, Oregon State College; William R. Furtick, Associate Professor of Farm Crops, Oregon State College; Barry N. Freeman, Extension Specialist in Range Management, Oregon State College. Illustrations are by Barry Freeman.

RANGE ROBBERS

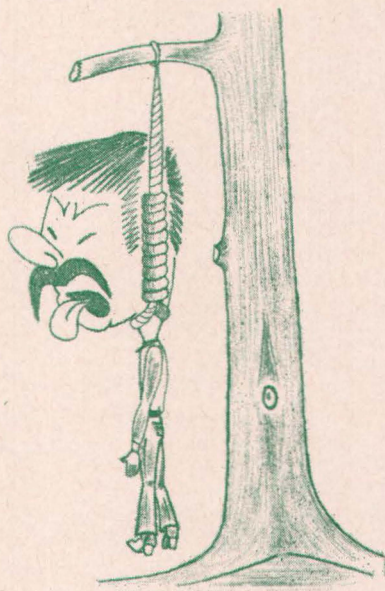
---Undesirable Range Plants

The Losses From Weeds

Most western livestock organizations, county and state, were formed along about 1870 to combat range thievery. Some were outright vigilante organizations, intent upon putting some air between the robbers' feet and the ground; others offered cash rewards, paid fees of special prosecutors, and the like. The stolen goods were mainly cattle or horses. The breakneck gallop after the thieves, attempting to "cut 'em off at the gap" is familiar to every TV addict.

Now ranchers are suffering even graver losses from a new class of range robbers—the weeds, or unusable range vegetation. Where a tough outlaw gang once stole a handful of cattle, weeds steal whole ranges. A range 90% sagebrush is a range 90% stolen, because 90% of the cattle it *could* carry, aren't there. The greedy weeds elbow in and steal the moisture and plant food. When you steal a man's canteen on the desert, you sentence him to die, so when the weeds steal moisture, the good plants can't live.

Pioneers found waving grass and assumed that this asset was safe. But today, on many ranges, brush, weeds,



Quoth the bold range robber
As he dangled from a tree,
"I wish they'd get this over,
This suspense is killing me."

(Author unknown)

and annual grasses have moved in and replaced the original grass stands. This has been going on for years. Usually three generations of range owners use the land before the weeds complete their theft. Each new owner does not know how the range looked in 1870 or 1900. He takes its present condition for granted, unaware that a crime has been committed, and often unaware that the thieves are still at work. If the previous owner, for example, always kept 100 cows on that range, he may try to do the same with only half the feed present, and results to the range are disastrous.

I've Been Robbed!

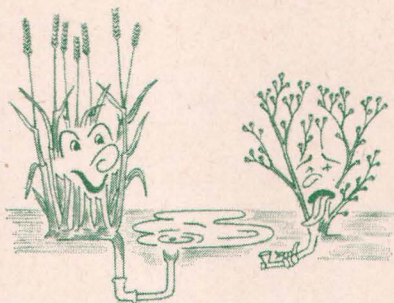
Thus, a livestock owner, drawing his paycheck from grass, may be robbed daily and never know it. If he does notice it, he must organize his own police system; he must be a one-man vigilante crew. He alone can protect his grass bank. But he *can* become expert in forage book-keeping so that he can figure the extent of losses at a glance. And he *can*, as a citizen, make a "citizen's arrest" of the wrongdoers. In the early days, it was called a "Winchester warrant."



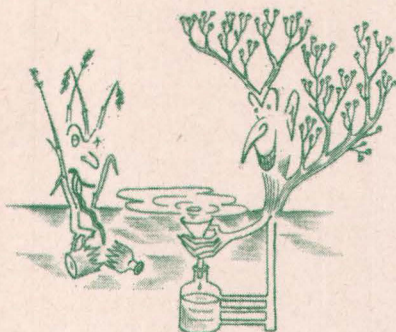
You can insure against theft of money; you can't insure against theft of moisture and nitrogen.

What Tools Do the Robbers Use?

Plant life on the range includes grasses, brush, and broad-leaved plants, growing together for stock to pick and choose from—cafeteria style. These plants occur in families and communities, sharing the available wealth of soil and water. But in nature, it's not a friendly family. A fierce



A healthy grass plant will starve a weed.



A healthy weed will starve a weak grass plant.

struggle for this wealth is constantly going on between all growing plants on any location. This is free enterprise gone wild. It is like a battle royal. The best adapted plants survive. Those unable to defend themselves die. This is all to the good under natural conditions, because this cut-throat competition produced, for every location, plants of the greatest value, such as our bunchgrasses, our bitterbrush, our saltgrass for alkali land, and our moisture tolerant meadow foxtail for marshy places. These plants are all good citizens, and in the beginning they kept the bad citizens under control.

But when we introduced cattle, sheep, and horses into these plant communities, we gave an assist to the wrong plants and kicked the good ones in the face. So the unwanted plants stole back in, here and there, slyly taking a little moisture. Where a horse pawed away a grass clump, a sagebrush came. Where a cowboy made a fire to heat a branding iron, a rabbitbrush grew. Grasshoppers or fire killed grass on a whole hillside. Cattle had eaten it down so it could produce no seed, but they had left the sagebrush, untouched, to produce millions of seeds—plenty to cover the hillside. So gradually that hillside changed from grass to sagebrush.

Who Is Guilty?

In the Old West, sometimes a wicked ranch owner, bent on getting more land, was an accomplice. Many ranch owners now are unknowing accomplices, helping the weeds. The

act may be the taking of a fast dollar by grazing to the ground or grazing too early in the spring. Drought, fire, rodents, overload of wildlife, and insects also may be accused of collusion, since they aid and abet the robbers.

A fair jury trial to hear evidence against range robbers will prove common sagebrush to be the biggest criminal, cheatgrass next, and rabbitbrush third on open range country in Oregon. Evidence points to many other plants with shorter criminal records. Some other offenders caught in Oregon hideouts are Larkspur, Medusa head

rye, goatweed, and Mediterranean sage. Some of these have come on invitation of the ranchers; that is—on abused rangeland. When good grasses die, the others move in.



The weeds are the criminals, but sometimes the land owner is an accomplice.

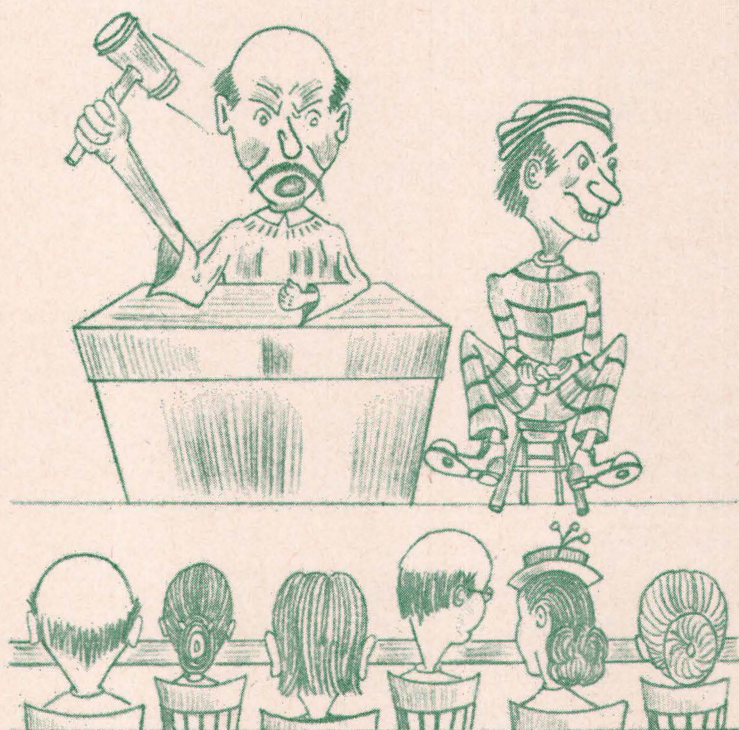
Make the Punishment Fit the Crime

Loss of life was the old penalty for robbers on the range. Chemical spray, brush beating, fire, water spreading, or any trick to do violence to unwanted brush will throw moisture balance in favor of the grass. Spraying may be best in one place, fire in another, while another location may need plowing and seeding. These methods are discussed in more detail on page 11.

Punishing the criminals, cheatgrass and rabbitbrush, is more difficult than controlling sagebrush. Cheatgrass moves in after perennial grass dies. The reverse cycle for natural range improvement is very slow and almost impossible if bunchgrass has been crowded out. Rabbitbrush is the most hardened criminal. It is present, almost unnoticed, on many so-called sagebrush ranges, but the sage tends to depress it, as a big bully criminal might overshadow a smaller

man. Remove the sage, though, by fire or railing, and the rabbitbrush may take over. Spray will get rabbitbrush, but it costs more than it does to lick sagebrush. Spraying at exactly the right time will kill both the rabbitbrush and the sage.*

Corrective measures are not so severe as *capital punishment*, but a wise judge will use them liberally after all evidence is presented. Range management to help grass will be more expedient than extermination of the criminals if they have not made off with most of the treasure. A few wrongdoers in a community do little damage if the good citizens know about them and keep them in check. So if the range is still in good shape, just manage it to keep it that way.



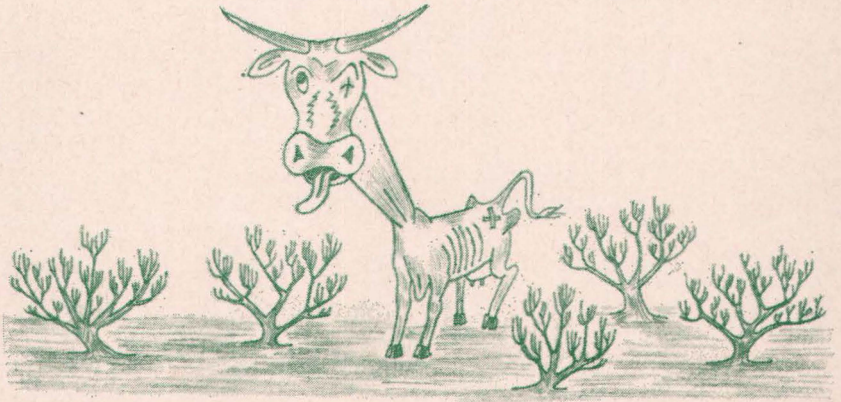
Sagebrush and rabbitbrush are the worst range criminals—give 'em the death sentence.

* See: *Spray to Control Big Sagebrush*, OSC Station Bulletin 538 by Don Hyder.
Controlling Sagebrush on Range Lands, USDA Farmers Bulletin 2072.
How to Spray the Aircraft Way, USDA Farmers Bulletin 2062.

Criminals Are Hard to Manage

Even though grazing is the means by which the rancher cashes in on his grass crop, it is a handicap to palatable plants in their struggle to divide up the available water and nutrients. Unpalatable plants have the advantage because livestock avoid them. Constant early use is the *principal ally* of these range robbers. The embezzlement thus encouraged, is hard to stop. Management can reduce the extent of the loss, but complete recovery of the stolen grass production takes a long time by management alone. At the Squaw Butte Experiment Station, complete nonuse of a sagebrush range for 20 years has not helped it much. In such cases, clear out the wrongdoers first, then rebuild the grass community.

Rebuild Without Heavy Investment



Management of grass doesn't help it much if there isn't any grass.

The first step in stopping range robbers is simply to give the grass a chance. As grass grows, its root strength is borrowed to build the early leaves in the spring. Leaves repay this loan through using sunlight and air to store food again in the roots. But if all the leaves are eaten, the loan

goes unpaid and the roots go bankrupt. Early grazing cuts off grass leaves before they have time to do their work. Competing plants are quick to take up the slack. Alternate grazing, to allow the grass a chance to grow up every other year, will enable it to hold its own.

Here are some methods for protection against range robbers. Perhaps one rancher can adopt only one of the seven, while another man can get lucky with the magic number "7" and use all of them.

1. Provide hay or seeded pasture so grazing can be delayed until the grass is 8 or 10 inches high.

2. Make sure forage is ample for number of livestock every day of the grazing season (both cows and grass must have a full feed each day).

3. Plan season of use to help nature (alternate fields).

4. Keep livestock distributed to use the feed evenly.

5. Seed desert wheatgrass (formerly called crested wheatgrass) for spring use.

6. Spray sagebrush or rabbitbrush.

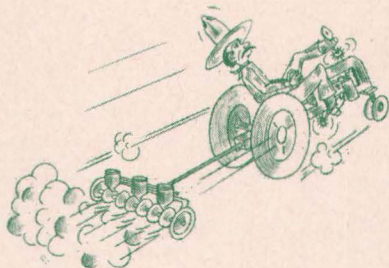
7. Don't try to harvest all the feed—leave plenty on the ground.



Hold the weeds in check while the good grasses improve.

Protection methods are different on every range because new tricks are used every day to gain results. Some of the tricks are: Pasture crop fields for extra feed, get stock water on every part of the range (haul if necessary), fence or herd to control livestock, ride to distribute stock, hold one pasture unused for next spring, and control rodents.

Rebuild With New Capital Investment

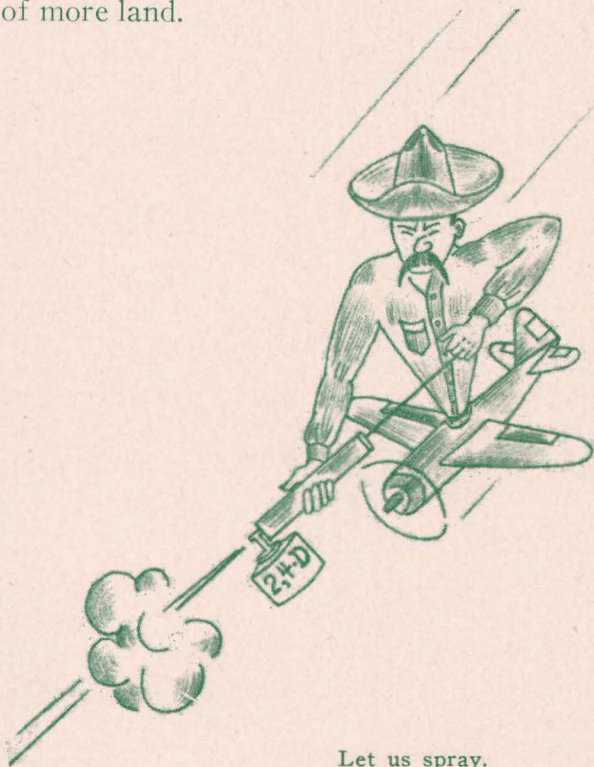


Spur the tractor into gear and seed.

Reseed Range

Range reseeding helps to arrest and control undesirable plants.* First, reseeded areas make possible complete elimination of unwanted plants and give the owner a new start on grass wealth. This job will be more important as land becomes harder to buy.

A ranch owner can now buy more feed with a dollar invested in seeding grass-alfalfa than he can buy through purchase of more land.



Let us spray.

* See: *Seeding Summer Ranges in Eastern Oregon and Washington*, USDA Farmers Bulletin 2091.
Grass is the Wealth, OSC Extension Bulletin 770.

Spray Range

No capital investment pays higher returns or has lower risk than spraying to kill sagebrush. Removing this range robber where a good stand of grass is hiding underneath it will triple the grass yield. This can be done at a cost of less than \$3 per acre, and when followed by good management won't have to be repeated for 20 years. That's only about 10 cents per acre per year for good grass.

Spray will kill rabbitbrush, larkspur, Mediterranean sage, and other range robbers. It is also cheaper to get grass that way than to try to buy it.*

How to Decide

Spray

A. When the sage or rabbitbrush covers more than 25% of the ground surface.

B. When there is a good start of desirable grasses underneath.

C. When erosion might be serious if the area were plowed or burned.

Burn**

A. Only after a fire permit is obtained.

B. When the site is such that erosion will not follow.

C. When the site has been prepared the previous spring by wide fire guards.

D. Where there is no danger of the fire getting away.

E. When a large crew and good equipment are available.

F. When someone with plenty of experience is in charge.

G. When, by fencing or other means, the stock can be held off for two years.

* See: *Spray to Control Big Sagebrush*, OSC Experiment Station Bulletin 538.

** See: *Sagebrush Burning, Good and Bad*, USDA Farmers Bulletin 1945.

Plow

- A. Only where erosion will not follow.
- B. Where there are few or no rocks.
- C. Where a crop of range hay or pasture may be seeded to pay for costs of plowing.
- D. Where the field can be fenced.
- E. Where water is available.
- F. Where the owner is able and willing to seed the land to grass-alfalfa.

In general, plow only the best sites that can be expected to yield 1,000 pounds or more usable forage to the acre.

Seed

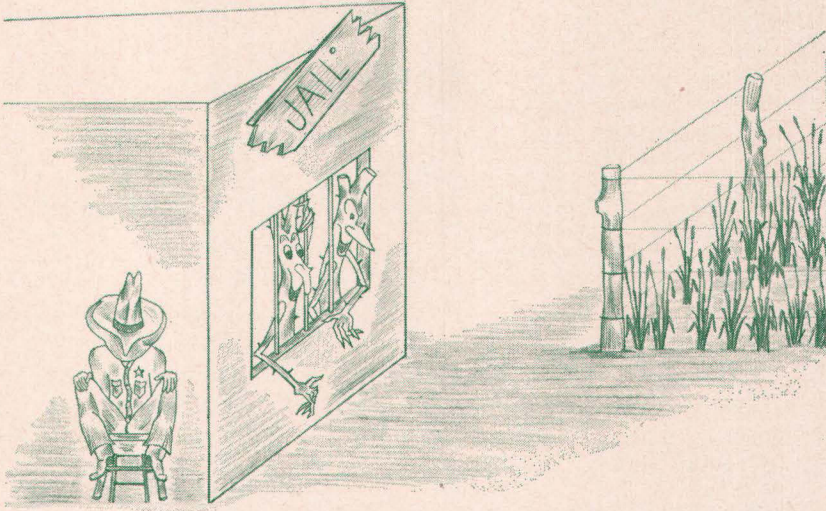
After burns, if necessary, and always after plowing. Use one pound of grazing alfalfa and 5 or 6 pounds of the appropriate grass. Do not try to seed by plane except on forest burns where there are ashes to cover the seed. Use a drill and get the seed covered.

Summary

1. Grass is wealth and useless plants become robbers when allowed to increase on the range, thereby displacing grass. Pioneers reported grass stands that have largely disappeared through the slow but unnoticed process of range robbery.

2. Grazed range plants have difficulty competing with unmolested ones. Available water and plant food will allow only so much plant growth per acre. A constant struggle is always going on between the good and the bad plants.

3. Early grazing is one important ally of range robbers. Early grass borrows root reserves, but sunlight and time rebuild roots only with the aid of abundant grass leaves.



Remove the woody plants and the good ones will thrive.

4. Alternate grazing and other management tricks can slow up or stop robbery, but destruction of competitive plants is necessary to rebuild with speed. Spraying, burning, reseeding, and other methods are useful, providing management thereafter is such as to hold the gains.

5. Range reseeding gives opportunity to graze livestock in early spring and relieve native range. This is the biggest single opportunity to improve management, by lowering the grazing pressure on the native grasses.

6. Spraying to kill brush pays highest returns on the investment if many of the robbing weeds are present. It's a lot cheaper to improve what you have than to buy more.



Helping You Help Yourself

This bulletin is one of the free services of the Federal Cooperative Extension Service of Oregon State College.

The Extension Service is cooperatively financed by your County Court and the State and Federal governments. It is an educational agency dedicated to helping people help themselves. As a part of Oregon State College and the U. S. Department of Agriculture, it takes the latest research findings to you through its staff of specialists and County Extension agents.

- Nearly every farmer in Oregon is now using an improved grass, legume, or following an improved farming method introduced by the Extension Service.
- Oregon farms bring over a half-billion dollars purchasing power to the State. This comes from producing and processing horticultural and field crops, meat animals, dairy products and poultry—all major fields aided by Extension specialists.
- About 30,000 Oregon boys and girls are enrolled in 4-H study projects, aided by nearly 5,000 volunteer adult leaders. 4-H Club work is organized and supported by the County Extension offices.
- Nearly 18,000 Oregon housewives are enrolled in home demonstration study groups. The units are guided by 1,300 volunteer leaders trained by Extension specialists and agents.

Your County Extension agent will be glad to discuss specific problems, and can give recommendations based on research, local conditions, and experience.