

Deferred, Rotation Grazing Not New

(Editor's note: This is an article prepared and presented by E. J. Dyksterhuis, Regional Range Specialist for the U.S. Soil Conservation Service, Lincoln.)

There is an old book called "Grasses and Forage Plants" by Flint that was already in its fourth edition in 1859. It doesn't contain the terms "deferred" and "rotation" grazing but the need was recognized even then. Here is a quotation: "The fall growth collects the elements of a thrifty growth in the following spring. These are stored up in the roots over winter for the early use of the plant. If it is closely fed, the spring growth must be proportionally later and feebler."

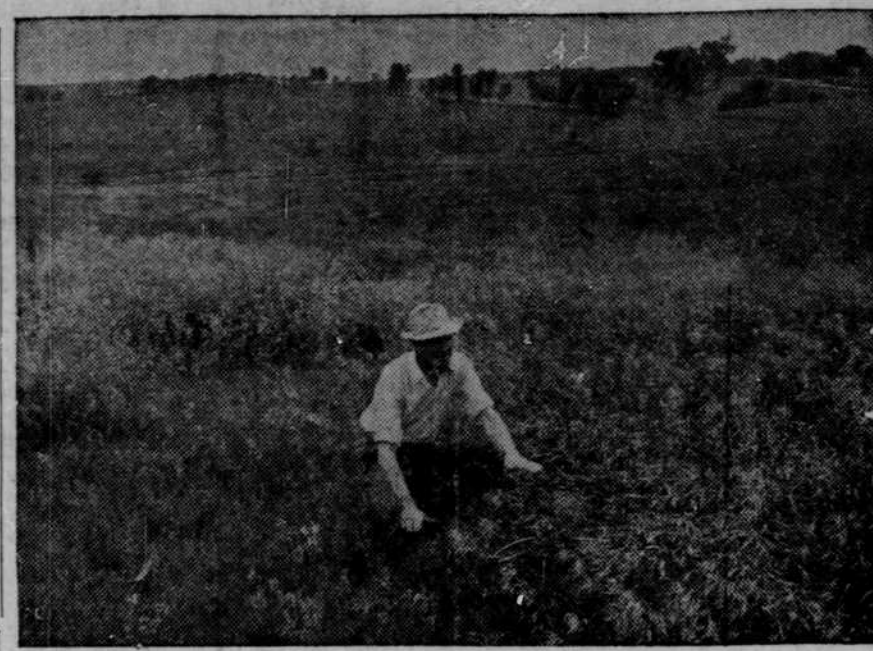
Will C. Barnes, an early range conservationist, used the term "rotation system" in his book in 1913. He recommended resting one-fifth of the range each year. In describing the virgin range Barnes stated: "The spring snows

lay under the folds of the old grass, weeds or brush that covered the ground. Let the wind blow as it pleased, it could not blow the snow entirely off the ground. A certain amount of it was allowed to remain to melt and soak into the ground, thus bringing the green sprouts out early in the spring, and it took a long dry spell to make any great impression on the soil."

There are several systems of grazing that provide rests for one or more pastures each year. If all the livestock are taken out of one pasture for certain months, the practice is called "deferred grazing."

It is called "rotation" grazing if in a year one herd of livestock is moved from pasture to pasture so that more than one pasture receives a rest or several rests all in the same year. If only two pastures are involved, this may be called alternative grazing. The most complicated system to plan is "rotational deferment." This system takes more than one year. Under it different pastures are rested in successive years.

If we keep all livestock out of a tame pasture; that is, a pasture of introduced or domesticated plants and do not mow weeds, the tame pasture will finally be



Brome Differences Noted

Difference between bromegrass growth in grassed waterway (above). On right, fertilized with ammonium nitrate; on left, not fertilized.—Photo by Soil Conservation Service.

ruined by changes in the kinds of plants. Just the opposite is true of native range. Any land which was originally good range, such as the prairies and plains, will benefit from complete rests. "Weeds" may become quite numerous at first but this is often a good sign on range land. It may mean that nature is getting the land ready for the grasses. The grasses that were there when the white man came will finally push the weeds out. But if too few good grasses are left in the pasture for natural re-seeding of the area in a reasonable time, it may pay to bring them in with seed-hay or seeding.

There is nothing more certain in range management than that complete rests improve poor ranges. Nature is constantly trying to reestablish the kind of vegetation each soil had originally. This is operation of the natural law of plant succession and the end product—the original grasses—is called climax. Several long rests usually result in better kinds of range plants. Short rests usually result only in better growth of kinds already there.

If certain pastures are rested, the stocking rate will be heavier on the other pastures. For example, if a man runs 100 head on two 1,000-acre pastures with the gate open between them, the stocking rate is 20 acres per head. When he closes the gate and keeps them all in one pasture while the other pasture rests, the stocking rate is 10 acres per head on the stocked pasture.

Running twice as many on a pasture for half as long has advantages. It takes about half as much riding to look after the livestock. It gives part of the range a complete rest. It results in more even grazing because the

livestock don't spend as much time traveling around hunting "ice cream" plants. Such plants are soon leveled and then livestock are forced to eat "meat and potatoes" too. Running twice as many for half as long has often eliminated patchy grazing and resulted in good use of far corners—whereas without the system livestock made a living by regrazing the areas they grazed down first the spring. This results in old growth accumulating year after year and becoming less attractive to livestock even though such areas are better able to carry them while the grazed portions of the pasture are severely overutilized and weeds enter.

If the whole ranch is much overstocked, however, it will be impossible to spare even one pasture for a few months without running into poor gains or losses in weight.

Commonly we rest the poorest pasture first. Actually it is usually better to rest the best pasture first. It will respond sooner and with greater increase in forage production. The best pasture in top condition can carry a heavy load during the long periods of rest needed on the poor pastures.

Often a pasture is rested except for a few livestock. They are left in the deferred pasture because it makes a handy place to keep some horses, heifers, sick cows or rams. This practice has two bad effects. The parts of the pasture that need the rest most do not get it. Just a few head will keep areas near water and along draws grazed down. Also the very best grasses, the kinds that need a rest the most, will be kept grazed down about as much with five head as with 50. Survivors of good grasses often are scattered over the pasture but if they were all put in one place they would not cover more than an acre or two in a section. A couple of livestock in a poor pasture make the rounds often enough to keep these most palatable grasses from increasing.

Tame pastures are often rotated at set intervals. For example,

with two pastures a six month season may be divided into four periods of six weeks each. In that way the livestock are in each pasture twice each year for six weeks and the pastures receive rests of six weeks twice during the year. This works quite well on tame pastures but has little value on range pastures. On ranges the periods of deferment must be aimed at increasing the amount of certain kinds of grasses. This means that the pasture must be rested during the months that certain key grasses make their growth and mature seeds, or during the months that they store food in their roots and rootstocks. The season of rest must be based on the needs of key grasses rather than on mathematical divisions of the grazing year on the calendar. Many of us have noticed cases where deferment of ranges for several months had little benefit in improving range condition. Sometimes no benefit resulted because the livestock were returned to the pasture before the seeds were mature and root storage completed on key species. In other cases there was little or no opportunity for key species to store food in their roots because they made little growth while the pasture was rested. Pastures with different key grasses require different seasons of rest for improvement.

Another common misunderstanding about rests is that they should show immediate benefits in greater livestock gains. Actually they seldom do on range land. There is a loss of protein and phosphorus whenever a green blade turns brown as on a deferred pasture. Yet that loss now is often necessary for greater production later.

The benefits in gains per acre usually show up after the better kinds of plants on the range have increased. The increase in good plants does not happen in the first year. Better grasses must first seed. Then their seedlings must become established and crowd out weeds. Also, established plants must show improvement in production principally in the second year.

On very poor pastures with crusted soil a rest may provide a mulch of weeds to let more rain enter the soil. In such cases many of the same kind of weeds grow much better and if palatable result in better livestock gains the next year. We have seen weeds like annual bromo grasses produce twice as much forage on one side of a fence as on the other. On one side there was a mulch from the previous year's growth and rain and snow soaked in. On the other side was the poor growth the pasture had been closely grazed the preceding year with the result that not much winter and spring moisture was stored in the ground to raise grass.

Some experiments have shown that rotating steers between native pastures at set intervals during the main grazing season resulted in poorer gains than staying on one pasture. This might be expected on pastures some growth can take place after the steers are shipped and that always receive a rest when

before they enter in the spring. Furthermore, there is some shrinkage each time a fattening steer must be herded to another pasture.

Experiments with year-around cow herds and long complete deferments have shown good results. A common and excellent practice with cow herds is to give one pasture a complete rest through the growing season until hard frosts. Then this deferred pasture can provide a supply of roughage for winter. Such roughage is usually low in protein and phosphorus. Cottonseed cake or a similar concentrate will have to be hauled during the winter but this is usually necessary anyhow. With plenty of roughage on the winter pasture it won't be necessary to haul hay all winter, too.

Herman Meyers and sons of Atkinson called in the Marvin Anderson home on Saturday.

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LYNCH—Boyd Assessor Loris H. Anderson appointed the following assistant assessors in their respective townships to begin work at once.

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Sale Starts at 1:30 P.M.

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