

MOW TO IMPROVE RANGE IS TOLD

"All Flesh is Grass," Saying Which Decides Between Profit and Loss in beef, milk, mutton products

(By A. W. Sampson, Associated Professor of Forestry)

The old proverb "all flesh is grass" is a truism which decides for the stockman the difference between profits and loss in beef, milk and mutton production. Today only animals in good flesh can be sold to advantage. Their marketability and the price which they command are determined directly by the condition of the range "bread basket"—the abundance of good feed available the year through.

Heretofore the stockman, naturally enough, has simply taken what nature offered him. In many localities the range is producing less than half as much forage as formerly. Sometimes the remaining half consists mainly of weeds and poverty grass. Nowhere is the yield of a pasture maintained where leafage is kept eaten down as soon as it affords a good bite. Grazing to the limits of the forage growth year after year can produce only one result—a sharp decline in the grazing capacity. The most successful cattle and sheep growers of today are so grazing their holdings that a little of the best forage remains uncropped at the end of the running season. The financial loss resulting from overgrazing and cropping at the wrong time in the season is so great that it cannot be even approximately estimated. Ordinarily conservative grazing, especially if the grazing plan fits in with the seed development requirements of the better forage plants, greatly increases the profits and stabilizes the live stock market.

Among the range investigations planned, those of first importance are concerned with the reseeding of the native forage plants. Extensive reseeding trials conducted in various parts of the West have shown that seeding to cultivated plants is limited essentially to moist meadows and localities where the annual precipitation is comparatively heavy. Natural reseeding, on the other hand, is applicable everywhere. This is to be expected because the native plants are the "survival of the fittest" for their region; they are well suited to the soil, and the development of seed is accomplished in a normal growing season. The native plants have fought for their lives and won because they were the only ones best able to adjust themselves to the conditions under which they live. On the range, certain natural laws determine the character of the plant cover. It is only when grazing interferes with the requirements of growth and reproduction that the native plants disappear from the lands.

The chief object of the natural reseeding study is to determine the best methods of increasing the forage crop over the State as a whole, with as little interference as possible in the present plans of livestock handling. The State varies widely in elevation, climate, character of soil, amount of precipitation, and degrees of aridity. The vegetation of the lower lands is composed of a much different lot of things from those that occupy the summer ranges. Therefore, the reseeding plans varies somewhat. Because the seed of plants growing at the various elevations ripen at different times in the season, it is important that the period required for seed production be determined for all of the important grazing types.

Any marked improvement in the range forage is dependent upon vigorous healthy plants, for otherwise little or no good seed is produced. But how is a seed crop to be developed if the pasture is cropped each year? Obviously, the stockman cannot afford to rest the range for two or three years during the reseeding period. Such a plan is neither practical nor necessary.

Reseeding High Summer Ranges

The system known as "deferred grazing," which taken into account the growth requirements of the vegetation from the time that the seed is developed to the establishment of the young seedling plants, has given conspicuous results wherever applied. On the high summer ranges the essential principles of deferred grazing are: (1) An overgrazed area sufficiently large to supply the forage from time of seed maturity until the end of the growing season, is protected from stock until the seed crop has matured; (2) upon maturity of seed the forage is grazed closely during the first season; (3) the same area is protected to about the same date in the second season, in order that the new plants may become thoroughly established; (4) when the area selected has been reseeded it is grazed early in the season and a second area of sufficient size to take care of the stock to the end of the grazing period, is protected until the seed has matured; (5)

alternating the grazing after seed maturity from one area to the other is continued, not only during the period required for the reseeding of each selected area, but even after the deferred portions have been fully re-vegetated.

The rotation grazing plan not only keeps the vegetation vigorous at all times but results in the formation of an occasional seed crop on each part of the range. The use of this grazing plan has resulted in increasing the forage as much as 300 per cent in a relatively short time.

Reseeding Foothill Ranges

The foothill lands are of special interest to the stockmen, (1) because they are the most seriously depleted of any of the more important units, and (2) because of their growth of "winter annuals"—plants like wild oats, alfalfa, and bur clover—which are relied upon to carry the stock through the winter. Generally, the cropping of these lands begin in the fall when the growth has started, and continues until the herbage dries up in the spring. Where this plan is followed to the maximum grazing capacity year after year the lands are badly run down, chiefly because no seed of the more palatable plants are produced.

Actual grazing tests have shown clearly that a good seed crop and increased feed may be protected, even where the herbage is grazed closely, if the animals are moved from a portion of the range by about the middle of March. The plan of deferring the grazing from about March 15 to June 1 has resulted in increasing the forage several hundred per cent in a few years. The application of the plan is determined largely by the possibilities (1) of reserving for the animals a small amount of range in the spring in order to protect from cropping a portion of the range for reseeding, or (2) of for the stock during the period needed for the range plants to develop seed.

The deferred grazing plan, when applied on the foothills, has given excellent results if the area is grazed up to about March 15, but protected thereafter until June 1. Moreover, there is practically no loss of forage even the first year. The additional feed originating from the seed produced following the first year's production soon increases appreciable the grazing capacity of the lands, thereby more than offsetting any disadvantage encountered in providing the necessary protection. When one spring protection plan should be applied to another part, and the rotation continued indefinitely, as described in applying the deferred grazing system on the high summer ranges.

Stockmen are agreed (1) that their range lands are not supporting in good condition the number of animals they did formerly, and (2) that more and better forage is essential to successful livestock production.

The Stockman's Part

A hit-or-miss plan of range improvement will not accomplish the end desired. Only reliable information will have any value. To obtain the facts needed two sets of experiments are necessary. (1) the use, first of all, of a large number of so-called "sample" plots, and (2) de-

ferred grazing demonstrations and tests.

The fenced plots should be constructed this winter and spring. This can best be done by the various stockmen's associations, or by the stockmen themselves. The plots need not be large, 20 to 30 feet on a side being ample. In each county where grazing is important there should be from 20 to 35 substantially fenced sample plots. They may be built of panels, or of poles or woven wire. It is well, however, to use material that will shade the ground no more than necessary. The plots should be so located as to represent in the matter of soil and vegetation typical major range areas. The object of the use of the fenced plots is to determine (1) the ways and extent of reproduction of the different kind of pasture plants; (2) what plants are likely to come in first where the deferred grazing plan is adopted and the period of life of the undesirable kinds; (3) the maximum yielding power of the range as a whole and of the different pasture types; (4) the all-important matter of variation in the yield in good and bad years.

The deferred grazing tests should provide for the protection from grazing after about March 15 to June 1 of a portion of the range, be it ever so small an area in the beginning. If the animals cannot be taken off a portion of the pasture to permit the seed to develop, an enclosure could be constructed, which should be removed after the ripening of the seed.

How to Proceed

The first step in the development of the deferred grazing plan is to determine definitely the latest date that the range may be grazed in the spring to procure abundant seed of the best forage plants. Obviously, the later that the date of protection from grazing proves to be, the larger will be the area upon which grazing may be deferred each season. The latest date of the grazing period for seed production will vary somewhat in different parts of the State. In the southern interior counties, for example, the seed may ripen from 10 days to two weeks earlier than in the northern interior and coast counties, hence the protection of the range from spring grazing would be correspondingly earlier. To determine once and for all this important matter of the period of protection necessary, preferably four fenced plots or "corrals" should be established on each range type studied.

Size of Plot and Date of Fencing
The plots are usually square in shape and not less than 20 feet on a side, but they may be considerably larger if desired. An area typical of the range as a whole should be selected for the plots; and there should be sufficient ground for the location side by side of the four plots.

Often representative range is found along an established fence line. The existing fence then forms one side of the four plots, leaving only two sides to fence to inclose the three plots after the first corral is constructed. The date at which each plot is fenced should be recorded, preferably on a sign board, con-

spicuously placed on the plot.

Area for Deferred Grazing

The second step in the deferred grazing test is to set aside an area which will typify the benefits to be enjoyed from the practice of deferred grazing. While the acreage for this purpose need not be large in the beginning, it should embrace, if possible, the different slopes and plant combinations. Until the dates are definitely established for the State as a whole at which the spring grazing should close on the area to be reseeded, there should be no grazing between March 20 and June 1. Normal grazing, however, should be permitted during the usual periods after seed maturity, but in the following spring grazing should again be discontinued on the same area from March 15 to June 1, and the practice of spring protection of the unit continued until the forage yield has increased appreciably. The rate of the vegetation is of course determined by the number of seed plants present when the test begins and the amount of seed of good germination strength that is produced. After the first deferred grazing area is reseeded a second division of the pasture in need of reseeding is selected for deferred grazing. This plan is continued until the whole pasture is reseeded.

A LIST OF BILLS ALLOWED BY THE COUNTY COURT AT THE JUNE REGULAR TERM, 1924.

- General Fund**
Election Boards, \$396.30; Circuit Court Witness Fees \$278.00; Supplies: Lampshire Garage, \$17.25; Service Garage \$27.57; Burns Service Station \$37.84; Lunenburg Dalton & Co., \$5.50; Glass & Prudhomme Co., \$30.35; C. R. Liebig, \$10.82; Bushong & Co., \$11.28; I. S. Geer, \$1.40; Times-Herald, \$192.65; Election Supplies; W. A. Goodman, \$24.75; Board of Prisoners; Lee Kwong, \$3.65 Meals for Jurors; A. E. Goodman, \$48.40; A. E. Goodman, \$7.10; Sheriff Car Hire; W. A. Goodman, \$2.50; W. A. Goodman, \$75.76; W. A. Goodman \$11.50; Traveling Expense; W. A. Goodman, \$15.99; Mrs. E. F. Schwartz, \$16.95; Chas. A. King, \$225.50; County Poor W. F. Oltman, .50 Hauling; W. Y. King, \$25.00; Lee Clark, \$5.00; Florabel Smith, \$20.00 Assisting in Sheriff office; W. N. Monroe, \$8.50; Justice Fees; N. E. Pardee, \$235.00 Wood for Court House; Robt. Sinclair, \$100.00; Janitor; R. W. Heck, \$20.00; Advertising; Wm. M. Walker, \$24.00 Court Reporter; Irwin-Hodson Co., \$3.45; Repairs; Aubrey Hebenner, \$125.00; Assessing; I. C. Foley, \$120.00 Lloyd Shertburn, \$120.00 Watermaster; Chas. E. Lillman, \$12.25; Mary Griffin, \$5.30; Stamps; Cen. Ore. Tel. Co., \$7.58; Rentals; Mrs. J. W. Geary, \$9.00; Enid Gowau, \$9.00; Grading Papers; Nina Melvin \$5.00 Nursing; Burns Power Co., \$22.40; Lights; S. N. Bolton, \$21.40 Commissioner, C. T. Lillard, \$35.00; Commissioner; W. E. Huston, \$825.00 County Audit.
- Rodent Fund**
Supplies: Burns Cash Store, \$72.75; Reed Bros., \$6.00; Weinstein Merc. Co., \$51.10; Home Drug

TANLAC IS MARVELOUS SAYS OAKLAND LADY

Mrs. Nicolai Gives It Credit For Restoring Health And Strength.

"The friend who recommended Tanlac to me was mighty enthusiastic about it, but even then I did not expect such wonderful results as it has given me," said Mrs. R. Nicolai, 1421 37th Ave. Oakland, Calif. recently.
"For months I had been so run-down that I felt worn-out all the time. My appetite had fallen off, I suffered dreadfully from nervousness and headaches and would wake up at all hours of the night. I lost about ten pounds and that miserable feel-

ing of weakness and exhaustion beggars description.

"To begin with, Tanlac gave me a perfectly splendid appetite and it was a revelation how the medicine built me up. My nerves became calm, I could sleep straight through the night and before long I regained all my lost weight. I have felt good to this very day, too, Tanlac is certainly a marvelous tonic."

Tanlac is for sale by all good druggists. Accept no substitute. Over 40 Million bottles sold.

Tanlac Vegetable Pills, for constipation made and recommended by the manufacturers of TANLAC.

—Advertisement.

Co., \$2.50; I. S. Geer & Co., \$3.00; Gould Bros. 27.10; Labor; Chas. Brittingham, \$4.00; Fred Racine, \$14.00.

Market Road Fund
W. T. VanDeveer \$550.00, Posts.

General Road Fund
Labor on Roads: Albert Rose \$10.50; W. S. Showalter \$12.25; W. W. Stoten \$5.50; Frank Bryce, \$120.00; J. O. Harris, \$33.25; N. E. Currey \$54.00; Dalia Turner \$63.00; Bill Campbell, \$187.50; O. W. Randel, \$20.00; J. H. Hunyard, \$54.75; Herbert Whiting, \$24.50; J. L. McMullin, \$146.00; Clarence Swacker, \$93.88; Claud McGee, \$8.75; Chas. Culp, \$60.00; Ubaldo Cote \$203.80; R. W. Conger, \$52.50; James A. Varlen, \$60.00; Bud Hinton, \$76.00; John Breedlove, \$7.00; W. T. VanDeveer \$187.50, Posts; W. F. Oltman, \$6.90 hauling; Lumber: Melvin Parker, \$10.48; Harney Saw Mill, \$491.10; Supplies: Mullen Fiser Co., \$81.50; C. R. Liebig, \$15.30, Standard Oil Co., \$19.35, Porter, Sitz Co., \$9.10; Repairs: Geo. M. Shaw, \$6.15; Burns Hardware Co., \$5.85; T. H. Short, \$6.50; H. A. Piekens, \$45.00 Driving Truck; B. A. Dickenson, \$10.00 Hauling; Andy Hall, \$38.50 Labor; Bill Campbell \$41.30, Labor; W. F. Sturges \$2.50, Supplies.

High School Fund
Supplies: I. S. Geer & Co., \$3.10; Weinstein Merc. Co., \$5.15; Reed Bros, \$4.65; L. E. Reed, \$2.65; N. E. Pardee, \$293.75; Wood; Burns Garage \$40.00 Car Hire; Burns Power Co. \$7.06; Lights; D. M. McDade \$2.50, Telephone; Commencement; Alex Eggleston, \$4.00; The Times-Herald, \$12.70; Janitor; Harry J. Loggan, \$18.75; Chas. M. McConnell, \$18.75.

I Chas. E. Dillman, County Clerk in and for the County of Harney, do hereby certify that the foregoing is a true and correct copy of all bills allowed by the County Court at the Regular June Term, 1924.

Dated June 10th, 1924.
CHAS. E. DILLMAN, County Clerk.

Many additional men are now employed in the national forest as fire patrol because of the danger of fire during this extreme dry weather. Every precaution is being taken to prevent fires in the forest and every individual should do their part in preventing fire.

Some women are so modest that they will not wear calico because they hate to see themselves in print.

"How's your wife, Blinks?" Her head troubles her a good deal. "Neuralgia?" queried Jinks. "No, she wants a new hat."

NOTICE OF SALE

NOTICE IS HEREBY GIVEN That under and by virtue of Sections 10227 and 10228, Oregon Laws, 1923 the undersigned, will sell to the highest bidder for cash at the John R. Jenkins ranch on Sage Hen, Harney County, Oregon, on the 23rd day of June, 1924, the following described property for the feed bill due thereon:

- One bay horse, branded quarter circle S on right stifle.
- One brown horse branded quarter circle S on right stifle.
- One bay horse, branded 71 on left shoulder.
- One bay horse, branded H on left stifle.
- One bay horse, branded H on left stifle.
- One brown horse, branded reversed E with bar through it on both jaws.
- One brown horse, branded VB connected on left stifle and H4 connected on right stifle.
- One bay horse, branded B with bar under it on left shoulder and NC connected on left shoulder.
- One bay horse, branded reversed DE connected on left stifle.
- One gray horse, branded — on left shoulder.
- One brown horse, branded Z with two perpendicular bars above and one below on right shoulder.
- One bay horse, branded T over X and I K on left stifle.
- One bay horse, branded 4 over T blotch on left jaw.

That all of said horses being the property of Ed McDonald. Said feed bill being contracted on all of the above mentioned property at the same time and as a part of one transaction on the 20th day of January, 1924, and there now being due upon the said property as a feed bill the sum of \$176.41, together with the costs and expenses of this sale.

This notice is published in The Times-Herald, a weekly newspaper of general circulation within said County and State for a period of three weeks, the first publication being the 31st day of May, 1924, and that notices are published in three public and conspicuous places within the County and State and vicinity of the sale.

T. E. JENKINS.



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To be right a tire must be made right.
BADGER tires are made right, wear right and are priced right.
In all ways they are all-right. Your size in Cord or Fabric.
HIGHWAY SERVICE STATION
Burns, Oregon
Gas, Oil, Accessories

Round Trip Summer Excursion Fares via Union Pacific System To Points East To Points West
Daily May 22nd to September 15th | Daily May 15th to September 30th
Limits October 31st
Stopovers-Diverse Routes
Consult Local Agents for further details
D. S. SPENCER
General Passenger Agent
Salt Lake City

Crane-Burns Mail Stage
Seven Passenger Touring Cars
Best on the line
Leaves Burns Post Office every evening except Saturday, at 6 P. M.
Fare \$2.50
BONDED CARRIER
U. S. HACKNEY, Proprietor

CIGARS
in our humidors are just like they were fresh from the factory
a Good Cigar in Good Shape for a Good Smoke at HOME DRUG CO.