

# SOCIETY OF AMERICAN FORESTERS

## NORTHERN CALIFORNIA SECTION

### CHAPTERS:

Bay Area  
High Sierra  
Jedediah Smith  
Mt. Shasta  
Redwood Coast  
Sacramento-Tahoe  
Wyntoon  
49er  
Mother Lode  
Monterey Bay  
Peter Lassen



119 Jewett Street  
Fort Bragg, CA 95437

March 16, 1983

Mr. August L. Hormay  
101 Acadia Street  
San Francisco, CA 94131

Dear Mr. Hormay:

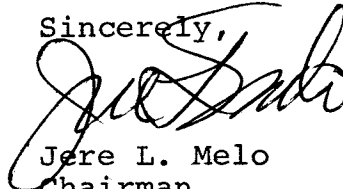
I have received your 50-year Membership Certificate from the national SAF office. I believe that such an award deserves some special recognition, and I hope you will be able to attend the joint Bay Area Chapter/U.C. Forestry Club meeting on May 13. At that time, I plan to present your certificate, along with others.

My understanding is that the meeting will be held on the U.C. Berkeley campus at the Hass Clubhouse. I'm sure the details of the meeting will be sent to you in advance.

Assuming that you will be able to attend, I will appreciate a summary of your work experience, education and service to SAF. Such a document will allow me to make a few sensible comments at the presentation. In addition, I would like to have your picture and some personal data published in the Journal of Forestry; 50-years of membership deserves some special note.

Thank you in advance for your attendance. If you cannot make the meeting, please let me know, and I will arrange for a presentation at another, more convenient time.

Sincerely,



Jere L. Melo  
Chairman  
Northern California SAF

JLM:mm

cc: Paul Cox  
John Barber  
John Nicoles

# MONTANA

## DEPARTMENT OF

# FISH, WILDLIFE AND PARKS

8695 Huffine Lane  
Bozeman, MT 59715



BEAVERHEAD NF

MAR 21 1983

March 18, 1983

Mr. Vergil Lindsey  
District Ranger  
Madison Ranger District  
P. O. Box 366  
Ennis, Montana 59729

al  
w  
RNG  
RNG  
TMB, MN  
TMS  
SILV  
FMO  
ENG  
CLKS

Dear Vergil:

Gus Hormay had requested some information regarding the Wall Creek area following our field review last spring. Some of the information dealt with the state wildlife management area and the rest dealt with the Forest land.

He requested acreages and grazing capacities for each of the following Forest Service pastures.

- 1) Nickerson - Dry Hollow
- 2) Hyde Creek
- 3) Bobcat - English George
- 4) Wall Creek Lake
- 5) Wall Creek
- 6) Dry Country
- 7) Horse Creek

He also requested fence locations for our lands. If you happen to have a map that has locations of fences along our common boundaries and those associated with the above pastures, this information would also be useful to him. I should have got this done a long time ago, but procrastination seems to be a regular part of my operation. He had hoped to provide us with some recommendations that may be useful in working out some possibilities for livestock grazing in the Wall Creek area. I appreciate your assistance on this matter.

Sincerely,

Arnold J. Foss  
Regional Game Mgr.

AJF:jtb

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
Beaverhead National Forest  
Madison Ranger District  
Route 2, Box 5, Ennis, MT 59729

2210  
March 31, 1983



Gus Hormay  
Pacific Southwest  
Experiment Station  
Box 245  
Berkeley, CA 94701

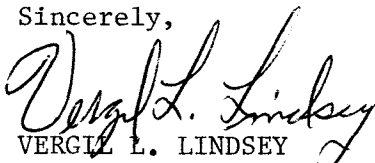
Dear Gus:

Attached is a letter to us from Arnie Foss requesting that we provide you with information about the Wall Creek C&H Allotment. Our files show that we sent you the information last June.

We are anxious to provide you with all the help we can so you can propose a management system for the Wall Creek Game Range and the Allotment. The Experiment Station gave us a phone number to contact you at, but it turned out to be a wrong number. You may write to us or call collect to our office at 406-682-4253. Ask for myself or Dave Tippetts, one of the District Range Conservationists.

As soon as we know more specifically what additional information you need, we will provide it as soon as possible. We look forward to hearing from you.

Sincerely,

  
VERGIL L. LINDSEY  
District Ranger

Enclosure

**STATE OF MONTANA**



**DEPARTMENT OF  
FISH AND GAME**

Helena, MT 59620  
March 31, 1983

Mr. A. L. Hormay  
101 Acadia St.  
San Francisco, CA 94131

Dear Gus:

Here is another draft of the little article for the  
Great Plains Handbook.

How does this one sound?

Regards,

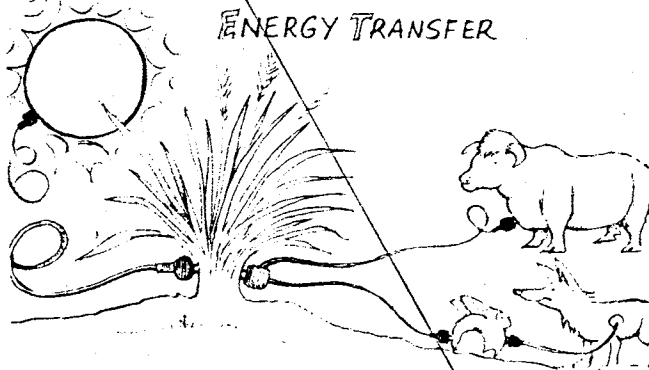
Joseph L. Egan, Asst. Administrator  
Wildlife Division

# THE Rest-Rotation One Grazing System

By Joe Egan  
Montana Game & Fish Department  
Dept of Fish, Wildlife & Parks

Joe -  
I've done  
one - The  
of my - YES  
we editor thinks  
we need to include  
the blocks indicated  
by A + B -  
BY

*Because*  
All life on this planet is somehow dependent on vegetation. ~~Vegetation is the assembly of the various types or kinds of plants growing in an area. The vegetation, for example, of rangeland consists of grass plants, brush plants, forb plants and in many cases also trees.~~



*Introduction*

~~Farmers and ranchers are in one way or another actually engaged in the husbandry of plants.~~

~~Because of our dependence on plants~~ we logically conclude that maintenance of ~~the vegetation of an area~~ in the healthiest condition possible would be an absolute must. Unfortunately vegetation has not been maintained in a healthy state. As a matter of fact, a considerable portion of the ~~vegetation grazing lands~~ of the Great Plains has been abused to the extent ~~they~~ <sup>it</sup> are not in a healthy condition. Many individual as well as species of plants have been eliminated from certain areas. When all or most vegetation has been eliminated from an area, the soil in that area also starts disappearing.

Currently many areas in the Great Plains are losing soil at an alarming rate. This is bad news for the entire nation!

Much of this abuse on uncultivated lands was due to continuous livestock grazing. ~~By continuous grazing is meant that~~ <sup>that is</sup> livestock graze the same areas year after year. Plants subjected to continuous grazing are not given the opportunity to replenish ~~their~~ energy requirements needed for growth, seed production, and other life processes.

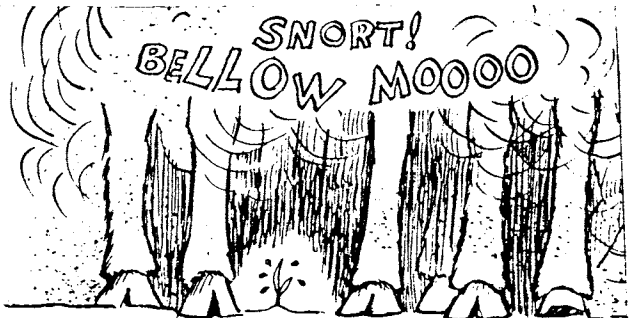
## Healthy Plants

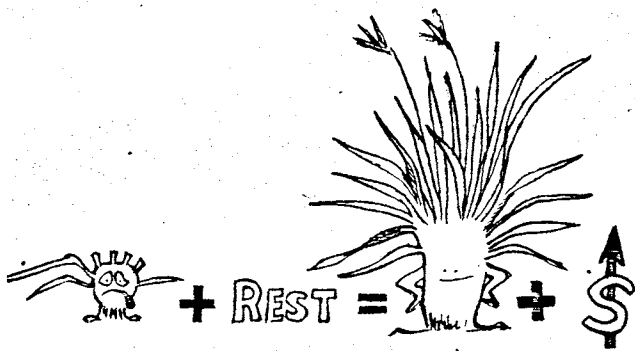
Virtually all grazing lands can be brought to and maintained in a healthy and productive condition ~~simply~~ <sup>periodically</sup> by resting the plants.

During the green or growing period plants utilize the sun's energy (photosynthesis) to make their own food. The carbon, oxygen, hydrogen and other elements occurring in the air, in the soil moisture and, of course, in the soil itself are assembled in the proper order and proportions to provide the starches, proteins and sugars necessary for the plants' life processes. If most or all the green portion of the plant is removed every year, the plant's ability to make and store food declines every year until finally it can no longer produce enough food to live and it dies.

Virtually all the food making process occurs in the green, growing leaves of a plant. The plant must make enough food each year during the green period to provide for the growth process including root systems, seed production and energy storage in the roots for the following year's initial (greenup) growth process. If the green portion (leaves) is removed every year or removed to the extent that there is not enough food made to carry out both the growth and storage processes, the plant will, over time, die. In the case of shrubs, most of the food storage is in the terminal ends of the twigs above ground. For grasses and grass-like plants about two year's rest is needed after being grazed during the green period. Given this rest, the plants will return to and maintain a healthy productive life. The plant will even produce seed, and increase in number. Soon the range will be back in good shape.

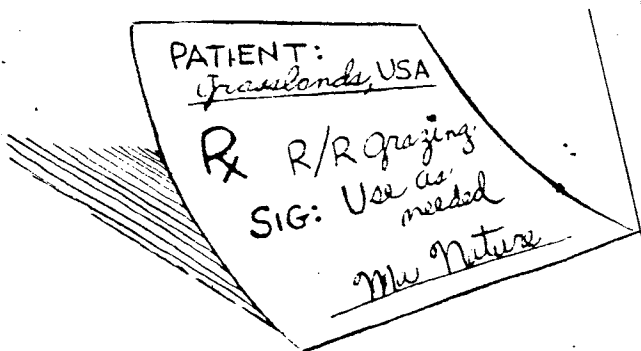
*me too. except I want the two new figures*





## Rest-Rotation Grazing

One of the cheapest, quickest and most efficient methods of getting these ranges including the pastures, meadows, and creek bottoms into this healthy condition is by grazing livestock on the area according to a rather simple plan. This plan is called rest-rotation (R/R) grazing. The sole objective of R/R is to promote and maintain the growth of vegetation. It is designed objectively to accomplish this and thus maintain the basis of renewable resources and land productivity. It is not aimed at producing livestock or any other resource except vegetation, and will work on any land area capable of producing vegetation. ~~But because~~ <sup>It</sup> promotes and aids the growth of whatever kind of vegetation <sup>the site</sup> is capable of growing on <sup>producing and</sup> the particular area, all values, including livestock, wildlife, and watershed are benefited. In ~~the course of~~ <sup>the</sup> time under this system many undesirable plants <sup>are</sup> will simply be crowded out, thus eliminating in most cases any need for cultural treatments such as chemical or mechanical treatment programs.



## Method

~~It is not the purpose of this section to present each and every detail of how R/R is implemented and conducted.~~ <sup>Since</sup> The details, background, theory and actual conduct of R/R are ~~already~~ available in the publication "Principles of Rest-Rotation Grazing and Multiple-Use I and management" by August L. Hormay, USDI-BLM and USDA-FS September 1970 (TT-4)(2200), only

~~However,~~ <sup>will</sup> the basic features of the system ~~need to~~ be reviewed.

A R/R system requires that the entire grazing area be divided into <sup>at least three</sup> pastures, with each pasture systematically grazed ~~and~~ <sup>or</sup> rested. Pastures are commonly referred to as Pasture 1, Pasture 2, Pasture 3, ~~Pasture 4,~~ <sup>Pasture</sup> etc. The grazing and resting operations are generally referred to as treatments.

Pastures should be about equal in grazing capacity and topography. In areas where there are considerable differences in elevation each pasture should have about the same amount of low areas. ~~There are~~ <sup>the</sup> essentially three basic grazing treatments <sup>namely:</sup> ~~the entire season including~~ <sup>the</sup> grazing during the green (growing) period; ~~excluding~~ <sup>seed</sup> grazing during the green (growing) period; and ~~excluding~~ <sup>grazing</sup> grazing altogether. The <sup>arrangement</sup> number of treatments depends on ~~how much rest the plants need at various times but~~ <sup>objectives and plant condition</sup> a certain amount of rest is always needed to maintain plant vigor. ~~Many~~ <sup>different</sup> formulas (combinations) can be developed with these three basic treatments; however, a pasture is needed for each treatment. ~~The minimum number of pastures is more than three, but rarely exceeds eight.~~ <sup>With three</sup>

Diagrammatic illustrations of grazing treatments reproduced here follow those presented by Hormay, and illustrate the sequence of ~~grazing using~~ <sup>implementation</sup> ~~or~~ <sup>of</sup> treatment formulas. ~~As previously stated, there needs to be a pasture for each treatment. Fencing is usually necessary on cattle ranges but not on sheep ranges to adequately implement the grazing treatments. It is usually not necessary to fence out creek bottoms (riparian areas) under R/R grazing management. With three pastures, it takes 3 years for a complete cycle.~~ <sup>Under the</sup> ~~5 treatment grazing/resting formula (fig. One) livestock are turned into the pasture at the beginning of the grazing season and allowed to remain therein until the end of the grazing season the first year of a cycle. Under a 3 treatment formula a cycle is 3 years, under a 4 treatment formula it is 4 years, 5 treatments 5 years, etc. It is rarely necessary to exceed 8 treatments. The second year of the 5 treatment formula the pasture is not grazed at all. Bitter accumulates from the current year's growth and the plant is rested during the green (growing) period. The third year stock are not turned into the pasture until seed ripe. Seed ripe is determined by the species of plant on the range under R/R that ripens seed latest in the season. In the third year livestock perform the all important function of actually planting seeds produced that year. If possible, livestock should be able to drift from one pasture into any other pasture. In the case of this particular 5 treatment formula, pastures should be laid out in such a manner that livestock could move from the "season-long" pasture into the "seed-ripe" pasture. Such an arrangement might involve stock driveways which take advantage of terrain or fences to keep livestock~~

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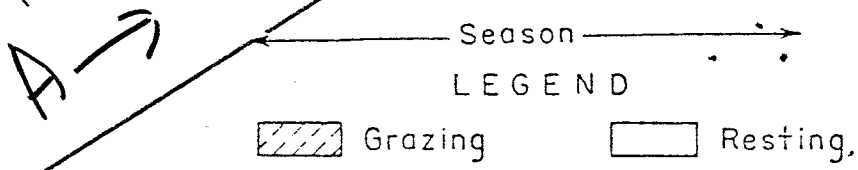
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Handwritten notes on the left side of the page:  
 "Handwritten on p. 1" (at the top)  
 "could put this" (next to the diagram)  
 "A page" (next to the diagram)  
 "Fig. 1 & 2" (next to the diagram)  
 "combined on one page" (at the bottom)

YEAR	TREATMENT	MAIN TREATMENT EFFECT
1st.	A	Livestock production
2nd.	B	Vigor, litter
3rd.	C	Seed, seed trampling, vigor, livestock production
4th.	D	Seedlings, vigor, litter
5th.	E	Seedlings, livestock production



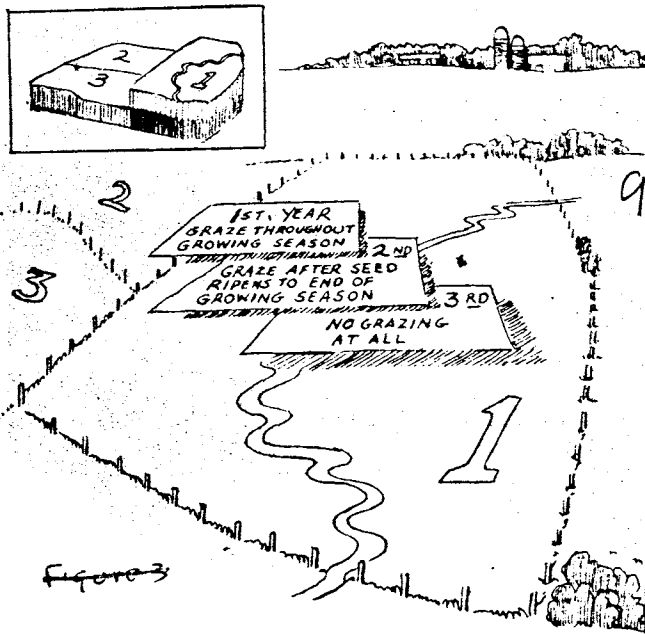
Handwritten text below the diagram:  
 "A →" (with an arrow pointing to the right)  
 "B Seed-ripe time ⊕ Flowering time or equivalent"  
 "We will substitute the New Fig 1 for this." (in large letters)  
 "see attachment" (in large letters)  
 "Figure 1.—A 5-treatment grazing formula. (After Hormay)"

~~In the proper pastures at the proper time. In the fourth year of this 5-treatment/5-pasture formula the pasture is not grazed at all, and seedlings are given a chance to establish without being subjected to trampling or grazing. Referring to Fig. Two, we note that although in any given year 2 pastures are not grazed at all, the remaining 3 pastures are grazed for varying lengths of time during the grazing season. It should also be pointed out at this time that stocking rate is based on the forage produced on the portion of the range that is open for use each year. In the fifth year of the sequence stock are turned into a pasture about the time flowers on the key plant species are produced. In a plant species like the fescues, most of the root growth has been accomplished by its flowering time. Seedlings are also given opportunity to establish. Fig. Two illustrates the sequence of treatments in all five pastures for two complete cycles (10 years).~~

~~In this particular 5-treatment/5-pasture formula a considerable amount (40%) of the entire range is rested completely from grazing and 80% is rested from grazing during the green (growing) period.~~

~~On ranges where plants need less rest but the minimum number of treatments, a 3-treatment formula may be used. It is important to remember that plant vigor, seed production, seedling establishment and in many cases the production of litter cannot be accomplished with less than the 3 treatments—~~  
 A, grazing during the green (growing) period; exclude grazing during the green (growing) period, and complete exclusion of grazing.

Handwritten text above Figure 3:  
 "The 3-treatment/3-pasture formula is illustrated in Figs. Three and Four. Again, it must be remembered, this is the minimum number and types of treatments that can be used to accomplish restoration of the range."



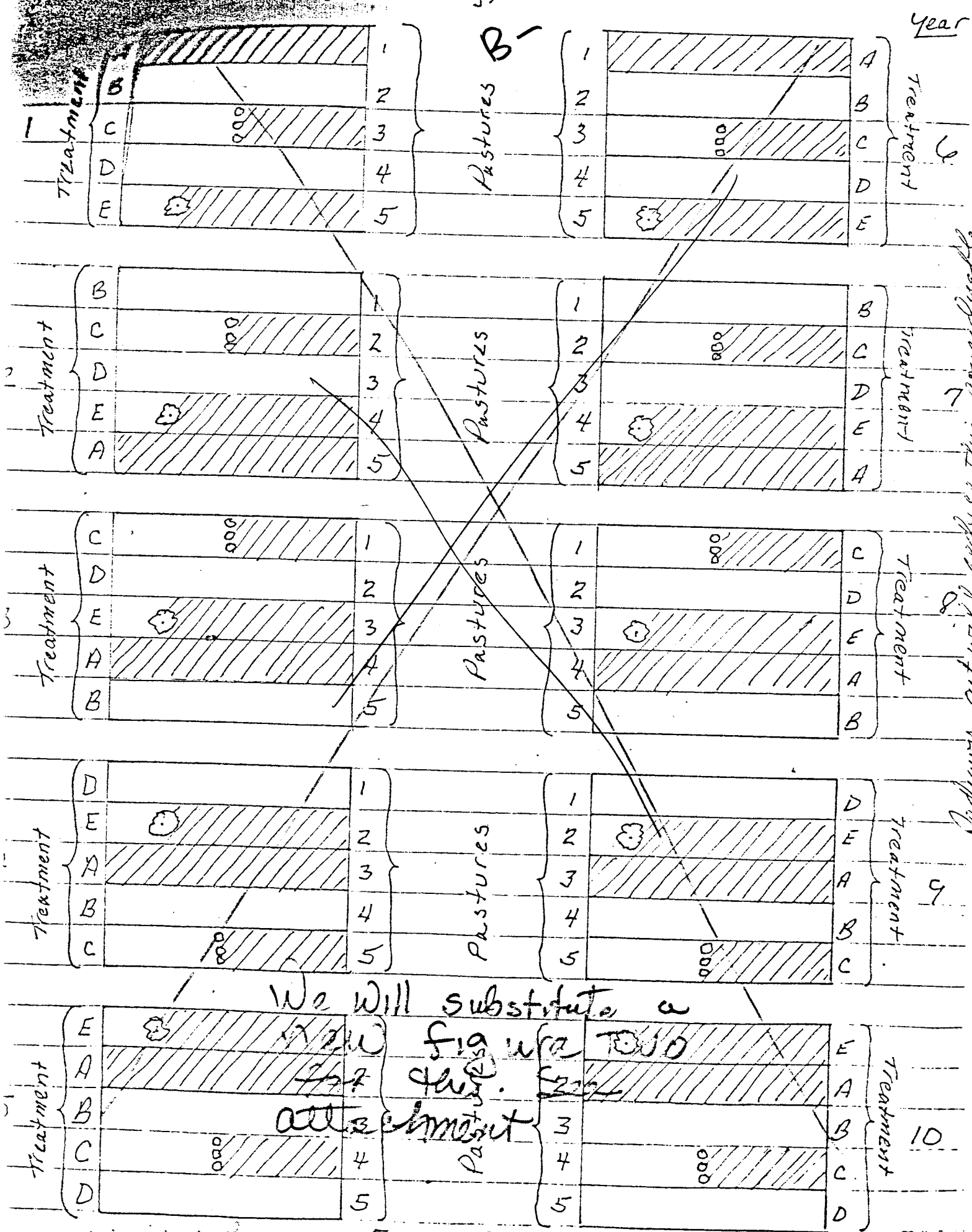
A brief explanation of the 3-treatment grazing rest sequence follows:

In the first year of operation the stock are turned into Pasture 1 at the beginning of that year's grazing

Handwritten note on the right side:  
 "Good! I like this"

Rotational formula - 2 cycles (10 years)  
(After Horne)

FIGURE 2



Redrawn actual with errors this considerable

Redrawn's inference.

Figure Two to page 4



Stock driveways - which take advantage of terrain and fences may help.

season, ~~and left in that pasture until seed-ripe.~~ At seed-ripe time the stock are allowed to go into Pasture 2. Pastures should be arranged in such a way that stock can easily drift from any one pasture into any other pasture. They remain in pasture 2 until the end of the grazing season. Pasture 3 is not grazed at all.

At the beginning of the grazing season the second year, the stock are put into Pasture 3 until seed-ripe, at which time they are allowed into Pasture 1. They remain in Pasture 1 until the end of the grazing season. Pasture 2 is not grazed at all the second year. The third year the stock are put in Pasture 2 at the beginning of the grazing season. ~~They remain in Pasture 2 until seed-ripe at which time they are allowed to move into Pasture 3, staying there until the end of the grazing season.~~ Pasture 1 of course is not grazed at all during the third year of operation. In your four the process is repeated, namely, that stock go into Pasture 1 at the beginning of that year's grazing season, ~~are moved to~~ Pasture 2 at seed-ripe and left there until the end of the grazing season. Pasture 3 is not grazed the fourth year.

with 1 & 2

This schedule of grazing is represented diagrammatically in Fig Four. Plants in Pasture 1 are grazed in year one during the growing period but not during the growing period in years two and three, thus providing the all important rest for those plants for a two-year period following use during a growing period.

In the case of seeds produced ~~in any year of the 2-treatment formula~~ <sup>during the 3</sup>, we note they are planted (trampled) after seed-ripe that year. The following year the resulting seedlings are not grazed or subjected to trampling since that is the pasture that is rested.



### Summary

The rest-rotation system of grazing allows plants to perform their life processes, especially those of food manufacture and storage as well as plant growth above and below ground.

It is a powerful tool available to the land manager for restoration and increasing land productivity. The principle of resting (plants) may be used to accomplish many objectives of wildland management, and thus serve many interests. The range (land) manager prepares the formula to meet his specific objectives. The results obtained are determined by the formula which by the very nature of rest-rotation must be flexible. Rest-rotation grazing management does work, but it is only as effective as the manager makes it.

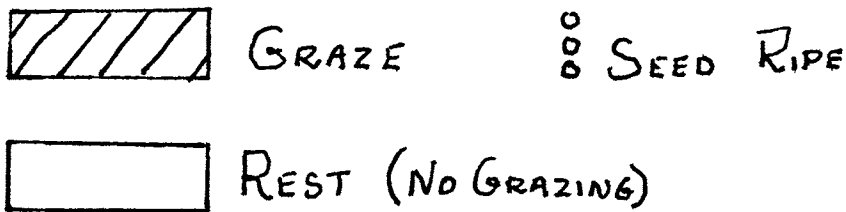
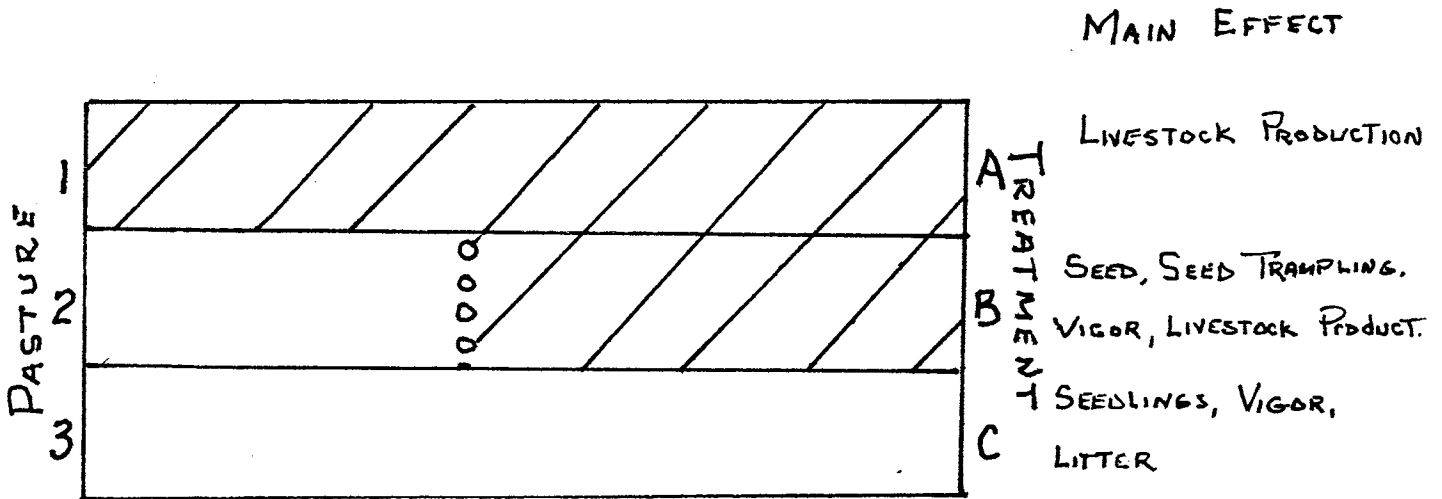


FIGURE ONE  
A REST/ROTATION GRAZING FORMULA  
(After Horney)

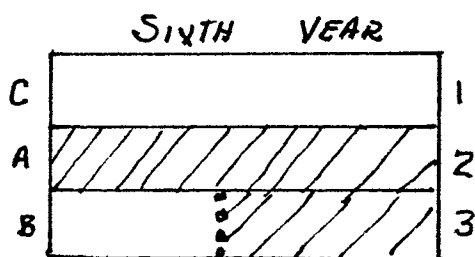
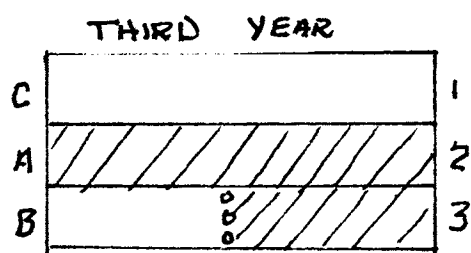
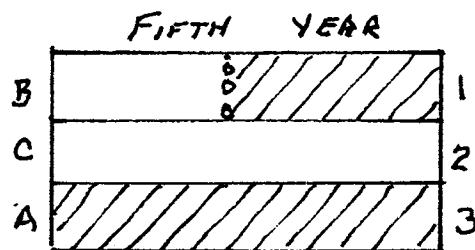
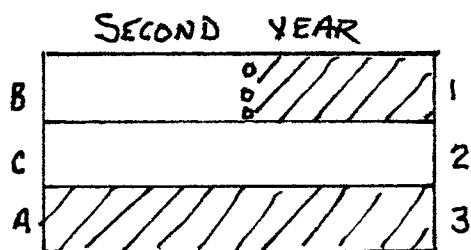
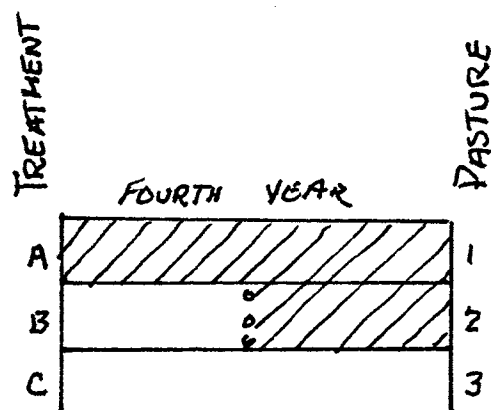
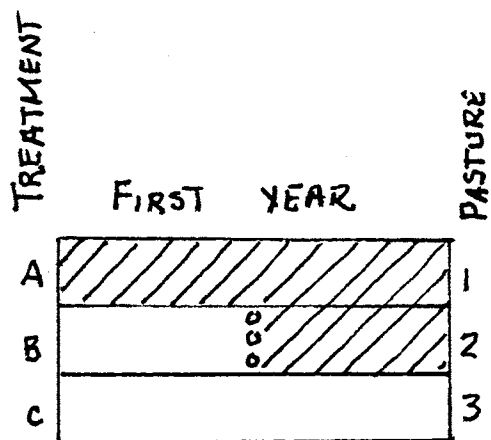


FIGURE TWO  
 R/R GRAZING FORMULA - 2 Cycles  
 (AFTER HORMAY)