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## South Dakota Grasslands, Their Condition and Management

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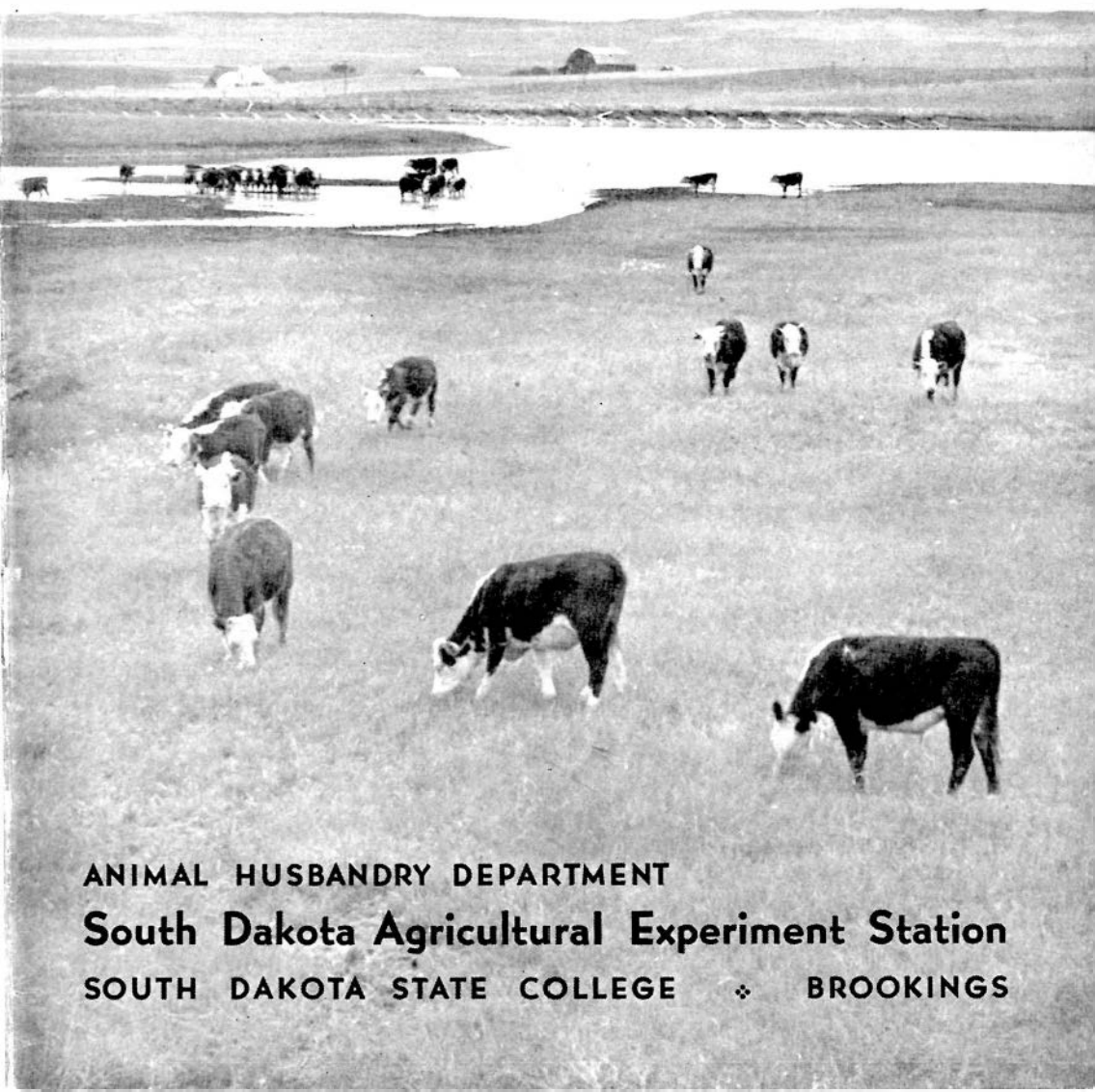
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# SOUTH DAKOTA GRASSLANDS

*Their Condition and Management---*



ANIMAL HUSBANDRY DEPARTMENT

**South Dakota Agricultural Experiment Station**

SOUTH DAKOTA STATE COLLEGE ❖ BROOKINGS

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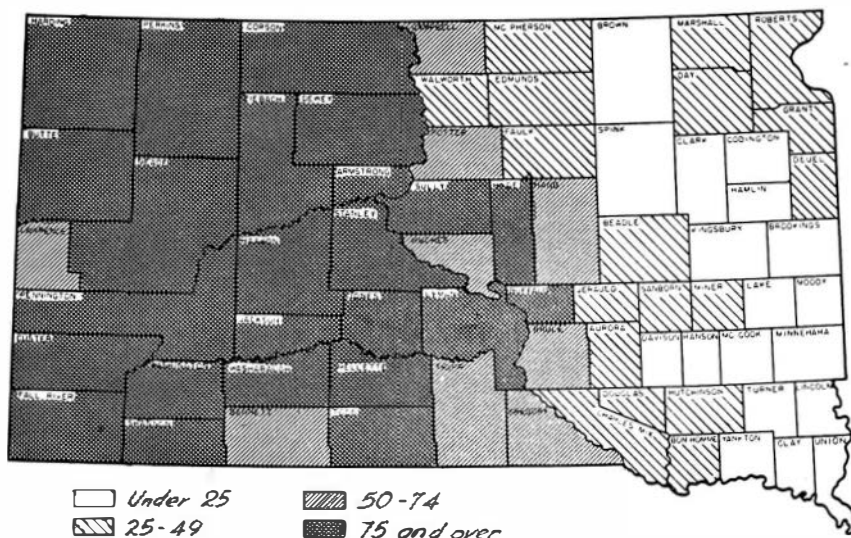


Fig. 1—Percentage of South Dakota Land in Grass by Counties

## Summary

Statewide surveys of South Dakota grasslands have been made in 1940, 1942, and 1946.

The stocking rates presented on the map (center pages) were determined from the 1946 survey, based upon the past ten years' actual use-grazing records from representative farms and ranches. The range and pasture condition method of study was introduced into the 1946 resurvey of South Dakota grassland. The condition approach is much more usable by stockmen and agricultural workers alike than former methods of making grassland inventories.

The 1946 inventory of range and pasture condition shows South Dakota grasslands are near the peak of productivity. Above-average rainfall is largely responsible for this condition. When the precipitation cycle becomes less favorable and dry years come—and they surely will—then only good management of our grasslands can maintain their productivity and prevent the unfavorable conditions of the mid-thirties.

Further studies and follow-up surveys will be made periodically to keep abreast of changes in condition and stocking rates for South Dakota grasslands.

# South Dakota Grasslands

## Their Condition and Management

LESLIE R. ALBEE, EARLE W. KLOSTERMAN, WILLIAM H. BURKITT  
and HARLAN R. OLSON<sup>1</sup>

### Introduction

South Dakota's 28 million acres of grassland comprise one of its most abundant and important resources. This grassland lies in the true prairie of the cornbelt and the mixed prairie of the Northern Great Plains. No definite line separates the true from the mixed prairie (Fig. 1), but the James River may be considered as the dividing line.

During the period of 1942 to 1948, this grassland was in a high state of productivity. The purpose of this circular is to point out methods of judging its condition and to present suggestions for maintaining its high productivity.

Grassland productivity is dependent upon at least five major factors: (1) fertility of the soil, (2) composition of the forage plants in the stand, (3) vigor of the important grasses, (4) amount and distribution of rainfall during the growing season, and (5) the intensity of grazing.

More than 90 percent of the native grassland forage in South Dakota is composed of less than a dozen grasses and sedges. This indicates that our grassland composition is not complex from a production standpoint.

### Survey Progress

This statewide study of South Dakota's grassland started in 1940. At that time the State Land Use Planning Committee had requested that the South Dakota Agricultural Experiment Station assemble the available grazing capacity information from various sources and present it in map form.<sup>2</sup> This was done in an effort to place reliable grazing capacity information at the disposal of the farmers and ranchers. The Experiment Station pooled its resources with those of the United States Soil Conservation Service to make a reconnaissance survey of South Dakota. This resulted in the presentation of a grazing capacity map in September, 1940, and publication of *Animal Husbandry Pamphlet No. 30* in July, 1941.

A resurvey was made in 1942 to note the changes in grazing capacity that had taken place because of the higher average rainfall in the western two-thirds of the state in 1941 and the entire state in 1942.

Most of the material presented in this circular is based upon a resurvey of the grassland resources of the state in 1946 by the Experiment Station and Soil Conservation Service. The range and pasture condition method of study, which is more useable by the stockmen and technical men alike, was introduced in the 1946 resurvey.

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<sup>2</sup>James C. Watson, formerly Assistant Animal Husbandman, who was killed in action in the Pacific Theater of Operation in 1945, conducted the initial survey of 30 counties in eastern South Dakota.

## PRECIPITATION FOR SOUTH DAKOTA

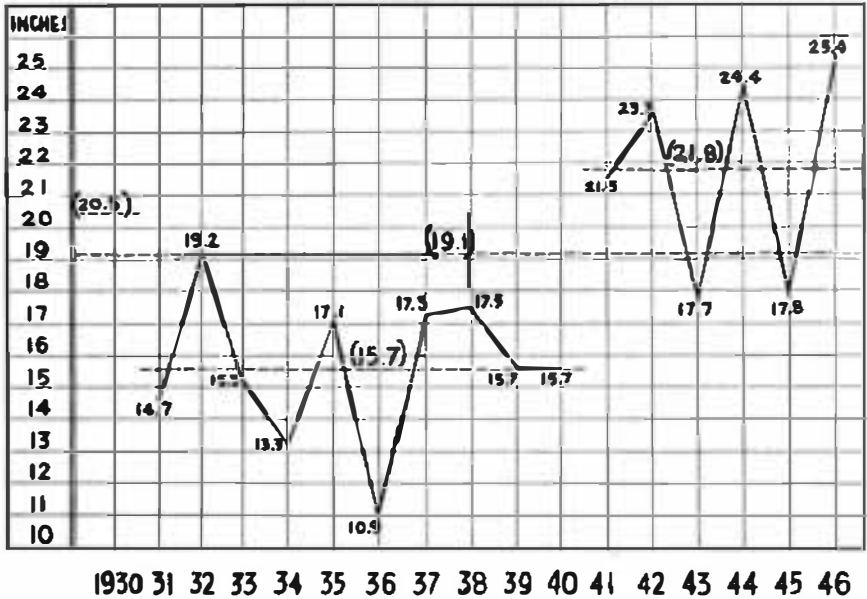


Fig. 2—Only one year (1932) in the ten year period 1931—1940, inclusive, came up to long-time statewide average of 19.12", while only two years (1943 and 1945) in the six year period 1941—1946, inclusive, fell below the long-time statewide average of 19.12".

20.50" was long-time statewide average through 1930.

19.12" is long-time statewide average through 1946.

15.66" was ten year statewide average 1931—1940, inclusive.

21.75" was six year statewide average 1941—1946, inclusive.

### Grassland Productivity and Rainfall

To a large extent, climate influences the condition of grassland. Rainfall during the ten year period, 1931 to 1940 inclusive, for South Dakota averaged 15.66 inches per year, or nearly five inches below average. Grasslands were badly depleted during this period, and both forage production and livestock numbers were exceptionally low in 1936. By 1940 some recovery had taken place because forage production increased faster than cattle and sheep numbers.

In spite of all-time high livestock numbers since 1942, the South Dakota average precipitation of 21.8 inches per year from 1941 through 1946 built up and maintained grassland in high production. The accompanying graph of precipitation points out the variation in rainfall over the past 16 years. Never in the history of South Dakota weather records has there been a series of six consecutive years of such high precipitation as this current period.

The average range condition in 1947 was probably at the all-time peak since man started harvesting the forage by livestock, following the Civil War. But these years of high grassland forage production due to high precipitation alone cannot and will not continue. The Northern Great Plains may have another drought. It may be soon. It is

much easier and less expensive to maintain grassland in good to excellent condition than it is to build it up after it has been depleted. The rancher loses income when grassland deteriorates.

### Stocking Rates and Grazing Capacities

The stocking rates presented on the accompanying color map (center pages) show the acres (or fraction of an acre) that are needed each month of the grazing season to produce the greatest amount of beef, mutton and wool, and at the same time, keep the forage plants thrifty and the grasslands in a highly productive condition.

The grazing season varies from four to five months in the extreme eastern part of the state and in the Black Hills. In the West River range area it varies from seven to ten months. The seasonal grazing capacity may be obtained by multiplying the stocking rate in acres per month by the length of the grazing season in months. Thus a stocking rate of two acres per animal unit per month for a six month grazing season would indicate a 12-acre grazing capacity for the season.<sup>3</sup> A section of grazing land (640 acres) on this basis would provide forage for approximately 53 head of cattle for the six months grazing season.

The stocking rates indicated on the map have been based in each area upon actual grazing use on representative farms or ranches and, therefore, are only the average for each area. Actual stocking rates may vary more within any given area than between two areas in different parts of the state. This is due to the fact that of two grasslands with the same area, one may have greater productivity, or one may be in better condition.

This study shows that a higher percentage of grasslands in the range part of the state are in "good to excellent" condition than in the more intensively farmed parts. The farmer or rancher who depends to a greater degree on livestock production also depends to a greater degree upon his grassland and usually takes better care of it.

It will be noted that the stocking rates in eastern and southeastern South Dakota are much higher than those for the rest of the state. This is due largely to higher rainfall and increased productivity of tame pastures in those areas. Tame pastures are usually established on better land than that on which native grasses occur.

Before the farmer uses the average stocking rates to determine the grazing of any farm or ranch, he should use the condition classification guide for his area and determine the condition of his own grasslands. The stocking rate for a given condition class in any area can then be determined from the guide and applied to his grassland, providing it is of average productivity.

The first step any farmer or rancher, livestock operator, or land owner must take toward grassland improvement and increased forage production is to determine the condition of his grassland—whether excellent, good, fair or poor, and whether it is increasing or decreasing in productivity under its present use and management.

### Grassland Condition

"Range or pasture condition" is a term indicating the relative ability of grassland to produce livestock and livestock products. It refers to the quantity and quality of forage in relation to the highest productive capacity of the grassland. Grassland in

<sup>3</sup>Animal unit equivalents:

1 cow (with or without calf) equals one animal unit.

1 bull equals 1.25 animal units.

5 sheep (with or without lambs) equal one animal unit.

1 horse equals 1.25 animal units.

1 two-year-old equals .8 animal unit.

1 yearling equals .6 animal unit.

good or excellent condition produces more forage at less cost than grassland in fair or poor condition.

The four grassland condition classes set up for South Dakota are excellent, good, fair, and poor. Excellent condition represents the quantity and quality of forage capable of yielding 90 to 100 percent of its greatest or potential productivity. Good condition will yield 75 to 90 percent; fair condition, 50 to 75 percent; and poor condition, 0 to 50 percent of its potential productivity.

## Perennial Plants and Legumes Associated With Good and Excellent Condition

### PERENNIAL PLANTS

Common Name	Botanical Name
Aster.....	<i>Aster multiflorus</i>
Blazing star.....	<i>Liatris punctata</i>
Cinquefoil.....	<i>Potentilla species</i>
Goldenrod.....	<i>Solidago species</i>
Goldenaster.....	<i>Chrysopsis villosa</i>
Green sage.....	<i>Artemisia dracunculoides</i>
Pasque flower.....	<i>Pulsatilla patens</i>
Pentstemon (Beard Tongue).....	<i>Pentstemon species</i>
Prairie mallow.....	<i>Malvastrum coccineum</i>
Purple coneflower.....	<i>Echinacea angustifolia</i>
Skeleton weed.....	<i>Lygodesmia juncea</i>
White sage.....	<i>Artemisia gnaphalodes</i>
Yellow coneflower.....	<i>Ratibida columnaris</i>

### NATIVE LEGUMES

Common Name	Botanical Name
American vetch.....	<i>Vicia americana</i>
Yellow trefoil.....	<i>Medicago lupulina</i>
Breadroot.....	<i>Psoralea esculenta</i>
Buffalo bean.....	<i>Geophrum crassicaerum</i>
Lead plant.....	<i>Amorpha canescens</i>
Lupine.....	<i>Lupinus species</i>
Non-poisonous milk vetch.....	<i>Asagalus species</i>
Parosela.....	<i>Parosela species</i>
Prairie clover.....	<i>Petalostemum candidum</i>
Silverleaf scurfpea.....	<i>Psoralea argophylla</i>
Wild alfalfa.....	<i>Psoralea species</i>

These are some of the desirable perennial plants and native legumes found on good and excellent grasslands in the state. Normally these plants will make up less than 15 percent of the total composition of forage in the grass stand. When the aggregate percentage of these plants exceeds 15 percent, then the condition drops one or more classes.

South Dakota's grassland has been divided into 19 range or pasture areas (See Fig. 3), each of which has its own condition classification guide. These in turn fall into four natural areas in which recommended grazing management and treatment practices are similar.

Each classification guide indicates the area to which it applies, the type of grassland in that area, and the important forage and indicator plants which determine the condition class for a given range or pasture. The amount of erosion, ground cover,





## Recommendations for Areas 1, 2 and 3

### Grazing Management Practices for Pasture in Excellent and Good Condition:

1. Grazing season—May 15 to October 15 (approximately).
2. Use stocking rate indicated on condition classification guide for each area.
3. Provide adequate water.
4. Place salt at least 40 rods from water.
5. Obtain uniform grazing of available forage throughout pasture.
6. Graze important grasses to 90 percent of the annual growth in wet years and 75 percent in dry years. These degrees of use mean leaving a stubble height of at least two inches for blue grass and four inches for the mid and tall grasses in either case because of differences in growth in wet and dry years.
7. Provide tame grass and supplemental pastures to extend the grazing period beyond the capability of native grasses.

### Treatment of Pasture in Excellent and Good Condition:

1. Mow weed spots to prevent spread.

### Grazing Management Practices for Pasture in Fair Condition:

1. Grazing season—June 1 to October 1 (approximately).
2. Use stocking rate indicated on condition classification guide for each area.
3. Provide adequate water.
4. Place salt at least 40 rods from water.
5. Obtain uniform grazing of available forage throughout pasture.
6. Graze current year's forage to 2½ inches stubble height for bluegrass and five inches stubble height for mid and tall grasses. This means grazing forage to about 80 percent in wet years and 65 percent in dry years.
7. Provide tame and supplemental pastures to extend the grazing period beyond the capability of native grasses.

### Treatment of Pasture in Fair Condition:

1. Mow weeds in the bud stage for weed control.
2. Reseed bare areas in pastures; protect until established.
3. Fence to protect eroding gullies from grazing livestock.
4. Construct diversions around gullies.

### Management of Pasture in Poor Condition:

1. Grazing season—June 1 to October 1 (approximately).
2. Use stocking rate indicated on condition classification guide for each area.
3. Provide adequate water.
4. Place salt at least 40 rods from water.
5. Obtain uniform grazing of available forage throughout pasture.
6. Graze current year's forage to three inches stubble height for bluegrass and six inches for mid and tall grasses, or give the pasture total protection for one or more years.
7. Provide tame and supplemental pastures to extend the grazing period beyond the capability of native grasses.

### Treatment of Pasture in Poor Condition:

1. Mow weeds in the bud stage for weed control.
2. Reseed bare areas in pastures; protect until established.
3. Fence to protect eroding gullies from grazing livestock.
4. Construct diversions around gullies.
5. Reseed entire pasture to adapted native or tame grasses and legumes if natural recovery is too slow.

**Area I—Condition Classification Guide for Pasture Land**  
**South Lincoln, Southeastern Turner, Yankton,**  
**Clay and Union counties**

TYPE: True Prairie and Tame  
Pastures

Location: Southeastern  
South Dakota  
Date: October 18, 1946

PLANT SPECIES Important forage and indicator plants	PASTURE CONDITION			
	EXCELLENT 100—90% Productivity	GOOD 90—75% Productivity	FAIR 75—50% Productivity	POOR 50% or less Productivity
<b>Desirable Short/Mid/Tall Grasses</b>				
Kentucky bluegrass—Junegrass	70%	45%		
Big/Little bluestem				
Porcupinegrass—Alfalfa	or	or		
Sidelcoats grama—Smooth brome			More	Less
Western/Crested wheatgrass	more	more		
Tall dropseed—Switchgrass				
<b>Less Desirable Plants</b>			than	than
Blue grama—Buffalo grass	20%	35%		
Canada wildrye	or	or	50%	50%
Prairie mihly	less	less		
Lowland sedges—Slough grass				
Many perennial forbs—Sweet clover				
<b>Undesirable Plants</b>				
Ragweed—Gumweed—Maretail				
Pigeongrass—Wild barley	10%	20%	Less	More
Sunflowers—Blue vervain				
Bull thistle—Prickly lettuce	or	or	than	than
Peppergrass—Annual bromes				
Buckbrush—Rose	less	less	50%	50%
Other undesirable plants				
Stocking rate	Native Pastures 3—5	4—7	.75—1.25	1.25 or more
Acres per AUM*	Tame Pastures .15—.25	.2—-.35	.35—.60	.60 or more
Erosion	None	None to slight	None to moderate	None to severe
Ground cover	Dense cover		(grading down to)	Sparse cover
Amount of litter	Abundant litter		(grading down to)	No litter
Length of grazing season		4 to 5 months		3 to 4 months

\*Acres per Animal Unit Month.

**Area 2—Condition Classification Guide for Pasture Land**  
**Brookings, Moody, Minnehaha, North Lincoln, Lake,**  
**Northeast Turner, East Kingsbury**

Location: East Central  
 South Dakota  
 Date: September 18, 1946

TYPE: Tall Grass and Mixed Prairie

PLANT SPECIES Important forage and indicator plants	PASTURE CONDITION			
	EXCELLENT 100—90% Productivity	GOOD 90—75% Productivity	FAIR 75—50% Productivity	POOR 50% or less Productivity
<b>Desirable Short Grasses</b>	20%	30%		
Bluegrama—Buffalo grass	or	or		
Junegrass—Upland sedge	less	less		
<b>Desirable Mid-Grasses and Legumes</b>				
Smooth bromc—Crested wheatgrass		30%	More	Less
Canada/Kentucky bluegrass	80%			
Little bluestem		or		
Tall dropseed—Quackgrass	or		than	than
Needle-and-thread		more		
Sideoats grama	less		50%	50%
Western wheatgrass				
Alfalfa				
White/Red clover				
<b>Desirable Tall Grasses</b>				
Big bluestem—Feather bunchgrass	20%			
Porcupinegrass—Switchgrass	or			
Reed canarygrass	more			
<b>Less Desirable Plants</b>				
Prairie muhly	15%	20%		
Canada wild rye—Prairie cordgrass	or	or		
Indiangrass	less	less	Less	More
Lowland sedges			than	than
<b>Undesirable Plants</b>				
Foxtail barley—Bull thistle				
Pigeongrass—Gumweed	10%	20%	50%	50%
Sunflower—Ragweed	or	or		
Other undesirable plants	less	less		
Stocking Rate	Native Pastures	0.5—0.7	0.6—0.9	0.9—1.5
Acres per AUM*	Tame Pastures	0.25	0.45	0.65
Erosion	None	None to slight	None to moderate	None to severe
Ground cover	Dense cover	(grading down to)		Sparse cover
Amount of litter	Abundant litter	(grading down to)		No litter
Length of Grazing season		4 to 5 months		3 to 4 months

\*Acres per Animal Unit Month.

**Area 3—Condition Classification Guide for Pasture Land**  
**Roberts, East Day, Grant, Codington, Hamlin, Deuel**  
**and East Marshall**

Location: North Eastern  
 South Dakota  
 Date: September 18, 1946

TYPE: Tall Grass and Mixed Prairie

Plant Species Important forage and indicator plants	PASTURE CONDITION				
	EXCELLENT 100-90% Productivity	GOOD 90-75% Productivity	FAIR 75-50% Productivity	POOR 50% or less Productivity	
<b>Desirable Short Grasses</b>					
Blue grama—Buffalo grass	40%	60%			
Upland sedge—Niggerwool	or	or			
Juncgrass	less	less	More	Less	
<b>Desirable Mid/Tall Grasses</b>	35%	5%	than	than	
Kentucky bluegrass					
Smooth brome	or	or	50%	50%	
Western wheatgrass—Quackgrass					
Big/Little bluestem	more	more			
Sidecoats grama—Tall dropseed					
Porcupinegrass—Switchgrass					
<b>Less Desirable Plants</b>	15%	20%			
Indiangrass					
Prairie muhly	or	or			
Canadian wildrye			Less	More	
Prairie cordgrass	less	less	than	than	
<b>Undesirable Plants</b>					
Sage—Pigeongrass	10%	15%	50%	50%	
Sunflower					
Gumweed—Ragweed	or	or			
Blue vervain					
Bull thistle—Peppergrass	less	less			
Other undesirable plants					
Stocking Rate	Native Pastures	0.5—0.8	0.6—1.0	1.0—2.0	2.0 or more
Acres Per AUM*	Tame Pastures	.25—0.5	0.5	.75	1.0 or more
Erosion	None	None to slight	None to moderate	None to severe	
Ground cover		Dense cover	(grading down to)	Sparse cover	
Amount of litter		Abundant litter	(grading down to)	No litter	
Length of Grazing Season		4 to 5 months		3 to 4 months	

\* Acres per Animal Unit Month.

## Recommendations for Areas 4, 5, 6, 7, and 8

### Grazing Management Practices for Pasture in Excellent and Good Condition:

1. Grazing season—May 1 to November 15 (approximately).
2. Use stocking rate indicated on condition classification guide for each area.
3. Provide adequate water to all parts of pasture or range.
4. Provide salt at all times, placing it at least 60 rods from water.
5. Obtain uniform grazing throughout pasture.
6. Graze important grasses to a minimum stubble height of one inch for short grasses and four inches for mid and tall grasses. These degrees of grazing represent about 90 percent of the annual growth in wet years and 75 percent in dry years.
7. Provide tame and supplemental pastures to furnish early and late season grazing.

### Treatment of Pasture in Excellent and Good Condition:

1. Mow weed spots in pastures to prevent their spread.
2. Spread water over grassland for increased hay and forage production.
3. Provide adequate fireguards.

### Grazing Management Practices for Pasture in Fair Condition:

1. Grazing season—May 15 to November 1 (approximately).
2. Use stocking rate indicated on condition classification guide for each area.
3. Provide adequate water to all parts of pasture or range.
4. Provide salt at all times, placing it at least 60 rods from water.
5. Obtain uniform grazing throughout pasture.
6. Graze current season's grasses to a minimum stubble height of 1½ inches for short grasses and five inches for mid and tall grasses. This represents 80 percent use in wet years and 65 percent use in dry years.
7. Provide tame and supplemental pastures to furnish early and late season grazing.

### Treatment of Pasture in Fair Condition:

1. Mow weeds in bud stage for weed control.
2. Spread water over grassland for increased hay and forage production.
3. Provide adequate fireguards.
4. Reseed bare areas in pastures; protect until established.
5. Fence to protect eroding gullies from grazing livestock.
6. Construct diversions around gullies.

### Grazing Management Practices for Pasture in Poor Condition:

1. Grazing season—June 1 to November 1 (approximately).
2. Use stocking rate indicated on condition classification guide for each area.
3. Provide adequate water to all parts of pasture or range.
4. Provide salt at all times, placing it at least 60 rods from water.
5. Obtain uniform grazing throughout pasture.
6. Graze current season's grasses to a minimum stubble height of two inches for short grasses and six inches for mid and tall grasses; or give pasture total protection for one or more seasons to hasten natural recovery.

### Treatment of Pasture in Poor Condition:

1. Mow weeds in the bud stage for weed control.
2. Spread water over grassland for increased hay and forage production.
3. Reseed bare areas in pastures; protect until established.
4. Fence to protect eroding gullies from grazing livestock.
5. Construct diversions around gullies.
6. Provide adequate fireguards.
7. Reseed entire pasture to adapted native and tame grasses and legumes if natural recovery is too slow.

**Area 4—Condition Classification Guide for Pasture Land**  
**Central Spink, West Day, East Brown, and West Marshall**

Location: Upper James River  
 Date: September 18, 1946

TYPE: Mixed Prairie

Plant Species Important forage and indicator plants	PASTURE CONDITION				
	EXCELLENT 100-90% Productivity	GOOD 90-75% Productivity	FAIR 75-50% Productivity	POOR 50% or less Productivity	
<b>Desirable Short Grasses</b>					
Blue grama—Buffalograss	40%	60%			
Upland sedge—Niggerwool	or	or			
Junegrass	less	less	More	Less	
<b>Desirable Mid/Tall Grasses</b>					
Kentucky bluegrass	25%	5%	than	than	
Western wheatgrass—Quackgrass			50%	50%	
Big/Little bluestem	or	or			
Sideoats grama					
Tall dropseed	more	more			
Porcupinegrass—Switchgrass					
<b>Less Desirable Plants</b>	15%	20%			
Indiangrass					
Prairie muhly	or	or	Less	More	
Canada wildrye					
Prairie cordgrass	less	less	than	than	
<b>Undesirable Plants</b>			50%	50%	
Sage	10%	15%			
Sunflower—Pigcongrass					
Gumweed—Ragweed	or	or			
Blue vervain					
Bull thistle—Pepperglass	less	less			
Other undesirable plants					
<b>Stocking Rate</b>	<b>Native Pastures</b>	0.5—0.8	0.6—1.0	1.0—2.0	2.0 or more
<b>Acres Per AUM*</b>	<b>Tame Pastures</b>	0.25—0.5	0.5	0.75	1.0 or more
<b>Erosion</b>	None	None to slight	None to moderate	None to severe	
<b>Ground cover</b>		Dense cover	(grading down to)	Sparse cover	
<b>Amount of litter</b>		Abundant litter	(grading down to)	No litter	
<b>Length of grazing season</b>		5 to 6 months		4 to 5 months	

\*Acres per Animal Unit Month.

**Area 5—Condition Classification Guide for Pasture Land**  
**Clark, Southeast Spink, East Beadle, West Kingsbury, East Sanborn,**  
**Miner, McCook, Hanson, Hutchinson, Bon Homme, East Charles**  
**Mix, East Douglas and Northwest Turner**

Location: Upper Vermillion River  
 and Lower James River  
 Date: September 18, 1946

TYPE: Mixed Prairie

Plant Species Important forage and indicator plants	PASTURE CONDITION				
	EXCELLENT 100-90% Productivity	GOOD 90-75% Productivity	FAIR 75-50% Productivity	POOR 50% or less Productivity	
<b>Desirable Short Grasses</b>					
Blue grama—Buffalograss	35% or less	50% or less	More	Less	
Juncgrass—Upland sedge					
<b>Desirable Mid/Tall Grasses</b>					
Smooth brome—Crested wheatgrass	45%	15%	than	than	
Big/Little bluestem					
Western wheatgrass	or	or	50%	50%	
Sideoats grama—Switchgrass					
Quackgrass—Dropseed	more	more			
Kentucky bluegrass—Portulacinegrass					
<b>Less Desirable Plants</b>					
Canada wildrye	15% or less	20% or less	Less than	More than	
Prairie muly					
Prairie cordgrass—Lowland sedges					
<b>Undesirable Plants</b>					
Foxtail barley—Bull thistle	5%	15%	50%	50%	
Pigeongrass—Gumweed	or	or			
Sunflower—Ragweed	less	less			
Other undesirable plants					
<b>Stocking Rate</b>	<b>Naive Pastures</b>	0.5—0.8	0.6—1.0	1.0—1.7	Over 1.7
<b>Acres Per AUM*</b>	<b>Tame Pastures</b>	0.3	0.5	0.75	1.0 or more
<b>Erosion</b>	None	None to slight	None to moderate	None to severe	
<b>Ground cover</b>		Dense cover	(grading down to)	Sparse cover	
<b>Amount of litter</b>		Abundant litter	(grading down to)	No litter	
<b>Length of grazing season</b>		5 to 6 months		4 to 5 months	

\*Acres per Animal Unit Month.

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**Area 6--Condition Classification Guide for Range/Pasture Land**  
**West Beadle, West Sanborn, Davison, Northeast Douglas, East**  
**Aurora, Jerauld, Southeast Hand**

Location: Wessington Hills to  
James River  
Date: September 18, 1946

TYPE: Mixed Prairie

Plant Species Important forage and indicator plants	RANGE/PASTURE CONDITION									
	EXCELLENT 100-90% Productivity 1 2		GOOD 90-75% Productivity 1 2		FAIR 75-50% Productivity 1 2		POOR 50% or less Productivity 1 2			
<b>Desirable Short Grasses</b>										
Blue grama—Buffalograss	60%		80%							
Upland sedge—Niggerwood	or		or							
Juncgrass	less	90%	less	75%	More	More	Less	Less		
<b>Desirable Mid/Tall Grasses</b>										
Western/Crested wheatgrass	40%	or	20%	or	than	than	than	than		
Big bluestem		more		more						
Needle-and-thread	or		or		50%	50%	50%	50%		
Feather bunchgrass										
Sideoats grama—Tall dropseed	more		more							
Smooth brome—Switchgrass										
<b>Less Desirable Plants</b>										
Little bluestem	15%		20%							
Prairie cordgrass—Sand dropseed	or		or							
Prairie muhly	less	10%	less	25%	Less	Less	More	More		
Canada wildrye		or		or	than	than	than	than		
<b>Undesirable Plants</b>										
Foxtail barley—Inland saltgrass	5%		15%							
Gumweed		less		less	50%	50%	50%	50%		
Peppergrass—Sunflower	or		or							
Ragweed										
Annual brome—Sixweeks fescue	less		less							
Marestail—Locoweed										
Other undesirable plants										
Stocking Rate	Native Pastures		0.7—1.0		0.8—1.3		1.3—2.0		2.0 or more	
Acres Per AUM*	Tame Pastures		0.5		0.75		1.0		1.25 or more	
Erosion	None		None to slight		None to moderate		None to severe			
Ground cover	Dense cover				(grading down to)		Sparse cover			
Amount of litter			Abundant litter		(grading down to)		No litter			
Length of grazing season			6 to 7 months				5 to 6 months			

\*Acres Per Annual Unit Month.

†Native grassland.

‡Tame grass pastures.

**Area 7—Condition Classification Guide for Range/Pasture Land**  
**McPherson, Edmunds, North Hand, West Spink,**  
**West Brown, Faulk**

Location: North Central  
 South Dakota  
 Date: September 18, 1946

TYPE: Mixed Prairie

Plant Species Important forage and indicator plants	RANGE/PASTURE CONDITION							
	EXCELLENT 100—90% Productivity 1†		GOOD 50—75% Productivity 2		FAIR 75—50% Productivity 1		POOR 50% or less Productivity 2	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	60%		80%		More	More	Less	Less
Junegrass	or	90%	or	75%				
Upland sedge—Niggerwood	less	or	less	or	than	than	than	than
<b>Desirable Mid/Tall Grasses</b>								
Western/Crested wheatgrass	40%	more	20%	more	50%	50%	50%	50%
Needle-and-thread	or		or					
Sideoats grama—Feather bunchgrass	more		less					
Big bluestem—Fall droseed								
<b>Less Desirable Plants</b>								
Prairie mahly	15%		20%		Less	Less	More	More
Sand droseed—Little bluestem	or	10%	or	25%				
Canadian wildrye	less	or	less	or	than	than	than	than
<b>Undesirable Plants</b>								
Knotweed—Inland saltgrass	5%		15%		50%	50%	50%	50%
Silver sage	less		less					
Gunweed	or		or					
Buckbrush								
Bull thistle	less		less					
Other undesirable plants								
<b>Stocking Rate</b>	<b>Native Range</b>	0.7—1.0	0.8—1.3	1.3—2.0	Over 2.0			
<b>Acres Per AUM*</b>	<b>Tame Pastures</b>	0.5	0.75	1.00	1.25 or more			
<b>Erosion</b>	<b>None</b>	<b>None to slight</b>	<b>None to some</b>	<b>None to severe</b>				
<b>Ground Cover</b>	<b>Dense cover</b>	<b>(grading down to)</b>	<b>Sparse cover</b>					
<b>Amount of litter</b>	<b>Abundant litter</b>	<b>(grading down to)</b>	<b>No litter</b>					
<b>Length of Grazing Season</b>		6 to 7 months	5 to 6 months					

\*Acres per Animal Unit Month.

†Native grassland.

‡Tame grass pastures.

**Area 8—Condition Classification Guide for Range/Pasture Land**  
**Campbell, Walworth, Potter, Sully, Hughes, Hyde, Southwest**  
**Hand, Buffalo, Brule, West Aurora, West Douglas,**  
**North Charles Mix**

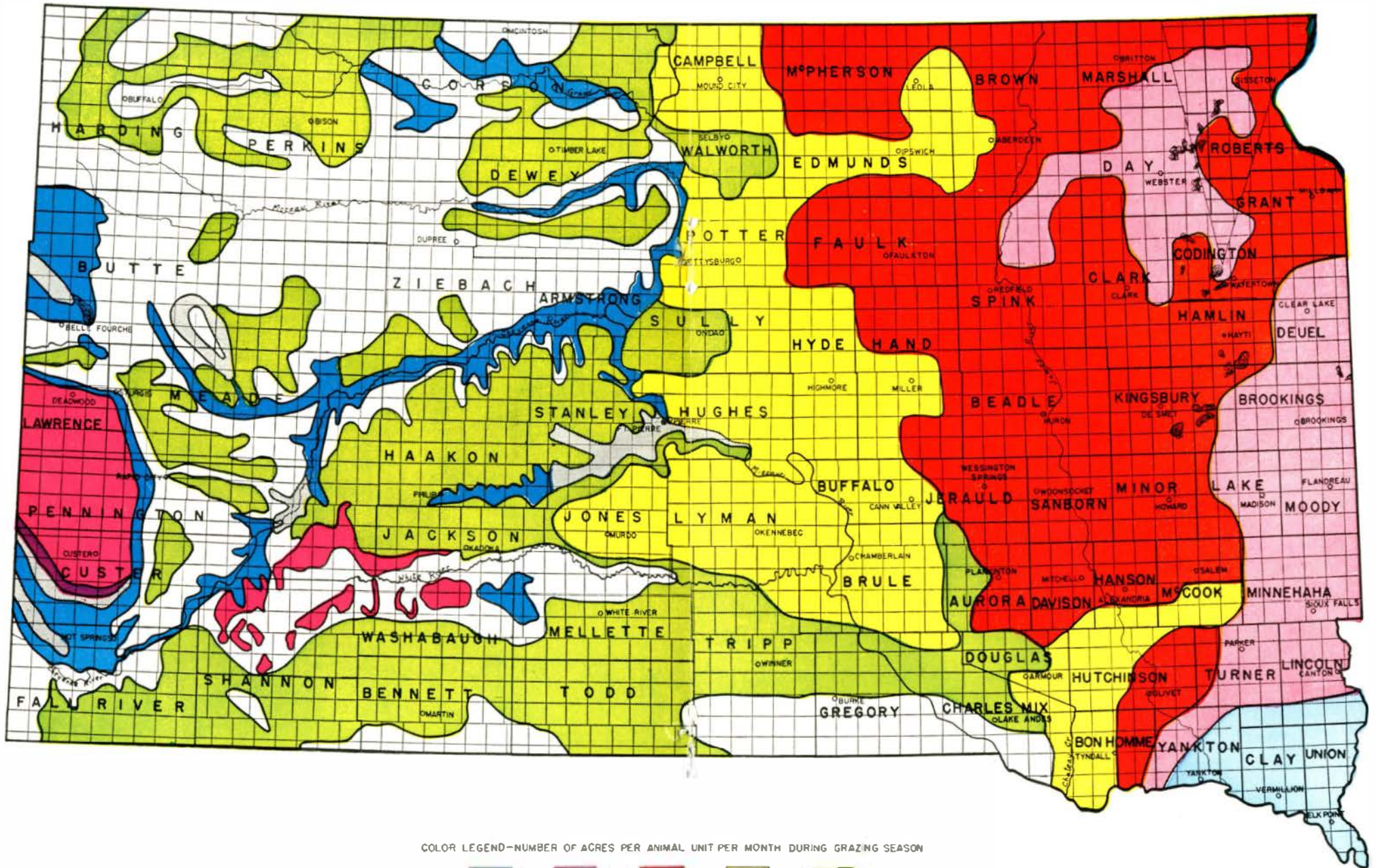
Location: East Missouri River  
 Date: September 18, 1946

TYPE: Mixed Prairie

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Plant Species Important forage and indicator plants	RANGE/PASTURE CONDITION								
	EXCELLENT 100—90% Productivity 1† 2‡		GOOD 90—75% Productivity 1 2		FAIR 75—50% Productivity 1 2		POOR 50% or less Productivity 1 2		
<b>Desirable Short Grasses</b>									
Blue grama—Buffalograss	60%	90%	80%	75%	More	More	Less	Less	
Junegrass	or less	or	or less	or	than	than	than	than	
Niggerwool—Upland sedge									
<b>Desirable Mid Tall Grasses</b>									
Western/Crested wheatgrass	40%	more	20%	more	50%	50%	50%	50%	
Needle-and-thread—Big bluestem	or		or						
Sideoats grama—Feather hunchgrass	more		more						
<b>Less Desirable Plants</b>									
Little bluestem	15%		20%						
Canada wildrye	or		or						
Prairie muhly—Prairie sandgrass	less		less						
Sand dropseed		10%		25%	Less	Less	More	More	
<b>Undesirable Plants</b>									
Inland saltgrass		or		or	than	than	than	than	
Sixweeks fescue—Annual bromes									
Marestail—Aster		less		less	50%	50%	50%	50%	
Sunflower—Lacaweed									
Gumweed									
Russian thistle									
Pricklypear									
Death camas									
Other undesirable plants									
Socking Rate	Native Range	1.0—1.5	1.2—1.8	1.8—2.6			Over 2.6		
Acres per AUM†	Crested wheat		0.5	0.75	1.0		1.25 or more		
Erosion		None	None to slight	None to moderate			None to severe		
Ground cover		Dense cover	(grading down to)	(grading down to)			Sparse cover		
Amount of litter		Abundant litter					No litter		
Length of grazing season			6 to 7 months				5 to 6 months		
Acres per Animal Unit Month	Native grassland.							Crested Wheatgrass pastures.	

# STOCKING RATES FOR RANGES AND PASTURES IN SOUTH DAKOTA



COLOR LEGEND—NUMBER OF ACRES PER ANIMAL UNIT PER MONTH DURING GRAZING SEASON



## Recommendations for Areas 9 to 18 Inclusive

### Grazing Management Practices for Range in Excellent and Good Condition:

1. Grazing season—May 1 through November and possibly December.
2. Use stocking rates indicated on condition classification guide for each area listed above.
3. Provide adequate water for uniform distribution of livestock on the range.
4. Keep salt before livestock at all times, placing it at least one-fourth mile from water so that grazing will be distributed uniformly.
5. Cross-fence large range areas for better distribution of cattle on the range.
6. Move sheep bed grounds at least every week.
7. Graze important grasses to a minimum stubble height of one inch for short grasses and four inches for mid and tall grasses.
8. Provide crested wheatgrass pastures to furnish early season grazing, starting April 10 in average years. Crested wheatgrass pasture may allow deferring native range for one to two months later than May 1.
9. Rotate grazing to maintain high vigor of the range grasses.

### Treatment of Range in Excellent and Good Condition:

1. Practice windrowing for fall and winter grazing. Rotate windrowed area over the range. Cut grass early in July for highest protein content.
2. Divert water from natural drainages and spread it on grassland for increased hay and forage production.
3. Provide adequate fireguards.

### Grazing Management Practices for Range in Fair Condition:

1. Grazing season—May 15 to December 1 (approximately).
2. Use stocking rates indicated on condition classification guide for each area listed above.
3. Provide adequate water for uniform distribution of livestock on the range.
4. Keep salt before livestock at all times, placing it at least one-fourth mile from water so that grazing will be distributed uniformly.
5. Cross-fence large range areas for better distribution of cattle on the range.
6. Move sheep bed grounds at least every week.
7. Graze current season's grass growth to a minimum stubble height of 1½ inches for short grasses and five inches for mid and tall grasses.
8. Provide crested wheatgrass pastures to furnish early season grazing, starting April 10 in average years. Crested wheatgrass pasture may allow deferring native range for one to two months.
9. Rotate grazing to maintain high vigor of the range grasses.

### Treatment of Range in Fair Condition:

1. Practice windrowing for fall and winter grazing. Rotate windrowed area over the range. Cut grass early in July for highest protein content.
2. Divert water from natural drainages and spread it on grassland for increased hay and forage production.
3. Provide adequate fireguards.
4. Reseed bare areas where natural recovery is too slow.
5. Fence to protect actively eroding gullies from grazing livestock where practicable.
6. Construct diversions around gullies to prevent further head cutting.

### **Grazing Management Practices for Range in Poor Condition:**

1. Grazing season— June through November (approximately).
2. Use stocking rates indicated on condition classification guide for each area listed.
3. Provide adequate water for uniform distribution of livestock on the range.
4. Keep salt before livestock at all times, placing it at least one-fourth mile from water so that grazing will be distributed uniformly.
5. Cross-fence large range areas for better distribution of cattle on the range.
6. Move sheep bed grounds at least every week.
7. Graze current season's grass growth to a minimum stubble height of two inches for short grasses and six inches for mid and tall grasses, or give range total protection from grazing for one or more seasons.
8. Provide crested wheatgrass pastures to furnish early season grazing, starting April 10 in average years. Crested wheatgrass pasture may allow deferring native range for one to two months.
9. Rotate grazing to maintain high vigor of the range grasses.

### **Treatment of Range in Poor Condition:**

1. Divert water from natural drainages and spread it on grassland for increased hay and forage production.
2. Reseed bare areas where natural recovery is too slow.
3. Fence to protect actively eroding gullies from grazing livestock, where practicable.
4. Construct diversions around gullies to prevent further head cutting.
5. Provide adequate fireguards.
6. Reseed large bare areas only when the desirable perennial grasses have been completely killed by over grazing. Usually remnants of grasses will revegetate badly depleted ranges more rapidly and at less expense than artificial reseeding.

**Area 9—Condition Classification Guide for Range Land  
Stanley, Jones, Lyman, East Mellette, North Tripp  
and North Gregory Counties**

Location: West Missouri River  
Date: August 15, 1946

TYPE: Mixed Grass Prairie

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1†		GOOD 90—75% Productivity 2		FAIR 75—50% Productivity 1		POOR 50% or less Productivity 2	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	60%	90%	80%	75%	More	More	Less	Less
Niggerwood—Upland sedge	or	or	or	or	than	than	than	than
Juncgrass	less	or	less	or	than	than	than	than
<b>Desirable Mid-Grasses</b>								
Western/Crested wheatgrass	40%	more	20%	more	50%	50%	50%	50%
Needle-and-thread—Feather bunchgrass	or	or	or	or	or	or	or	or
Sidcoats grama	more	or	more	or	or	or	or	or
<b>Less Desirable Plants</b>								
Little bluestem—Sand dropseed	Less	or	20%	or	Less	Less	More	More
Prairie muhly—Canada wildrye	than	or	less	or	than	than	than	than
10%	10%	10%	25%	Less	Less	More	More	
<b>Undesirable Plants</b>								
Foxtail/Little barley		10%	25%	Less	Less	More	More	
Inland saltgrass—Red threeawn	Less	or	15%	or	than	than	than	
Annual bromes—Sixweeks fescue	than	less	or	less	50%	50%	50%	
Sunflower—Gumweed	than	less	or	less	50%	50%	50%	
Russian thistle								
Locoweed—Death camas	10%		less					
Marestail								
Other undesirable plants								
<b>Stocking Rate</b>	Native range	1.25—1.75	1.50—2.25	2.25—3.25	Over 3.25			
<b>Acres Per AUM*</b>	Crested wheat	0.75	1.00	1.25	1.50 or more			
<b>Erosion</b>		None	None to slight	None to moderate	None to severe			
<b>Ground Cover</b>		Dense cover	(grading down to)	(grading down to)	Sparse cover			
<b>Amount of litter</b>		Abundant litter	(grading down to)	(grading down to)	No litter			
<b>Length of Grazing Season</b>		6 to 7 months			5 to 6 months			

\*Acres per Animal Unit Month.

†Native range or goback land.

‡Crested wheatgrass.

**Area 10—Condition Classification Guide for Range Land**  
**South Tripp, South Todd, South Bennett, Southeast Shannon,**  
**and Central Fall River Counties**

Location: Sandhill Areas  
 Date: September 10, 1916

TYPE: Sandhills—Sandsage

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1†		GOOD 90—75% Productivity 2		FAIR 75—50% Productivity 1 2		POOR 50% or less Productivity 1 2	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	60%		80%		More	More	Less	Less
Niggerwood—Upland sedge	or	90%	or	75%				
Junegrass—Hairy grama	less		less					
<b>Desirable Mid/Tall Grasses</b>	40%	or	20%	or	than	than	than	than
Western/Crested wheatgrass								
Sidecoats grama	or	more	or	more	50%	50%	50%	50%
Switchgrass								
Big bluestem	more		more					
<b>Less Desirable Plants</b>								
Prairie sandgrass—Prairie muhly	Less		20%					
Little/Sand bluestem								
Sand dropseed	than	10%	or	25%	Less	Less	More	More
Western bluegrass								
Lead plant—Squirreltail	10%	or	less	or	than	than	than	than
Canada wildrye								
<b>Undesirable Plants</b>	Less	less	15%	less	50%	50%	50%	50%
Sandsage—Yucca								
Fringed sage—Snakeweed	than		or					
Pricklypear								
Other undesirable plants	10%		less					
<b>Stocking Rate</b>	Native range	1.75—2.5	2.0—3.25	3.25—4.5	Over 4.5			
<b>Acres Per AUM*</b>	Crested wheat	1.0	1.5	2.0	2.0 or more			
<b>Erosion</b>	None		None to slight		None to moderate		None to severe	
<b>Ground cover</b>	Dense cover		(grading down to)				Sparse cover	
<b>Amount of litter</b>	Abundant litter		(grading down to)				No litter	
<b>Length of grazing season</b>	5 to 7 months				5 to 6 months			

\*Acres per Animal Unit Month.

†Native range or go-back land.

‡Crested wheatgrass.



**Area 11—Condition Classification Guide for Range Land**  
**South Gregory, Southeast Tripp, West Tripp, Todd, and**  
**South Central Mellette Counties**

Location: Rosebud  
 Date: September 10-11, 1946

TYPE: Mixed Grass Prairie

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1†		GOOD 90—75% Productivity 2‡		FAIR 75—50% Productivity 1		POOR 50% or less Productivity 2	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	65%	90%	80% or less	75% or more	More	More	Less	Less
Niggerwool—Upland sedge					than	than	than	than
Junegrass		or						
<b>Desirable Mid/Tall Grasses</b>								
Western/Crested wheatgrass	35%	more	20% or more	more	50%	50%	50%	50%
Needle-and-thread—Big bluestem								
Sideoats grama—Switchgrass	more		more					
<b>Less Desirable Plants</b>	Less		20%					
Little bluestem								
Prairie mchly	than		or					
Canada wildryc								
Sand dropseed	10%	10%	less	25%	Less	Less	More	More
<b>Undesirable Plants</b>								
Foxtail/Little Barley		or		or	than	than	than	than
Inland saltgrass—Red threawn	Less		15%					
Annual bromes		less		less	50%	50%	50%	50%
Sixweeks fescue	than		or					
Marestail—Sunflower								
Ragweed	10%		less					
Gumweed								
Cocklebur—Fringed sage								
Other undesirable plants								
<b>Stocking Rate</b>	Native range	1.50—2.00	1.75—2.50	2.50—3.50			Over 3.50	
<b>Acres per AUM*</b>	Crested wheat		0.75	1.00	1.25		1.50 or more	
<b>Erosion</b>		None	None to slight	None to moderate			None to severe	
<b>Ground cover</b>		Dense cover		(grading down to)			Sparse cover	
<b>Amount of litter</b>		Abundant litter		(grading down to)			No litter	
<b>Length of Grazing Season</b>			6 to 7 months				5 to 6 months	

\*Acres per Animal Unit Month.

†Native range or go-back land.

‡Crested wheatgrass.

**Area 12—Condition Classification Guide for Range Land**  
**Bennett, Washabaugh, and Shannon Counties**

TYPE: Mixed Grass/Scattered Timber

Location: Pine Ridge  
 Date: September 10, 1946

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1† 2‡		GOOD 90—75% Productivity 1 2		FAIR 75—50% Productivity 1 2		POOR 50% or less Productivity 1 2	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	70%		85%		More	More	Less	Less
Niggerwool—Upland sedge Junegrass	or less	90%	or less	75%	than	than	than	than
<b>Desirable Mid-Grasses</b>								
Western/Crested wheatgrass	30%	or	15%	or	50%	50%	50%	50%
Feather bunchgrass	or	more	or	more				
Needle-and-thread	more		more					
Sideoats grama—Big bluestem								
<b>Less Desirable Plants</b>								
Little bluestem	Less than		20%					
Sand dropseed—Prairie sandgrass			or					
Prairie muhly	10%	10%	less	25%	Less	Less	More	More
Canada wildrye								
<b>Undesirable Plants</b>								
Foxtail/Little barley	Less	or		or	than	than	than	than
Sixweeks fescue—Annual brome		less	15%	less	50%	50%	50%	50%
Gumweed—Fringed sage	than		or					
Snakeweed—Inland saltgrass			less					
Red threeawn	10%							
Other undesirable plants								
<b>Stocking Rate</b>	Native range	1.75—2.25	2.0—2.75	2.75—3.75	Over 3.75			
<b>Acres per AUM*</b>	Crested wheat	1.0	1.25	1.75	2.25 or more			
<b>Erosion</b>	None		None to slight		None to moderate		None to severe	
<b>Ground cover</b>	Dense cover		(grading down to)		(grading down to)		Sparse cover	
<b>Amount of litter</b>	Abundant litter						No litter	
<b>Length of grazing season</b>	7 to 8 months				6 to 7 months			

\*Acres per Animal Unit Month.

†Native range or go-back land.

‡Crested wheatgrass.

**Area 13—Condition Classification Guide for Range Land  
Northwest Shannon, Southeast Pennington, Southwest Jackson,  
North Washabaugh, and West Milledge Counties**

Location: Badlands  
Date: September 13, 1946

TYPE: Mixed Grass—Badlands

Plant Species Important forage and indicator plants	RANGE CONDITION												
	EXCELLENT 100—90% Productivity			GOOD 50—75% Productivity			FAIR 75—50% Productivity			POOR 50% or less Productivity			
	1†	2‡	3§	1	2	3	1	2	3	1	2	3	
<b>Desirable Short Grasses</b>													
Blue grama—Buffalograss	75%			90%			75%	More		Less			
Niggerwood—Western bluegrass	or	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	90%	or	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	75%	More	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	More	Less	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	Less	
Juncgrass	less		or	less		or	than		than	than			
<b>Desirable Mid.Grasses</b>													
Western/Crested wheatgrass	25%			10%			more	50%		50%		50%	
Feather bunchgrass	or	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	more	or	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	more	50%	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	50%	50%	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	50%	
Silcoats grama	more		more	more		50%	50%		50%				
<b>Less Desirable Plants</b>													
Little bluestem	Less	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area		20%	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area			Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area		Less	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	More	
Prairie muly—Prairie sandgrass	than		or	less		or	than		than	than			
Sand dropseed	10%		10%			25%	Less		Less	More		More	
<b>Undesirable Plants</b>													
Foxtail/Little barley		Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area		15%	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area		or	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area		than	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	than	
Inland saltgrass—Red threeawn	Less		or	15%		or	than		than				
<b>Annual bromes</b>													
Tumblegrass—Sixweeks fescue	than	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	less	or	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	less	50%	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	50%	50%	Same as column 1. Reduce grazing capacity by same percentage as bare badlands in area	50%	
Sunflower—Gumweed			less	less		50%	50%		50%				
Fringed sage—Snakeweed	10%			less									
Pricklypear													
Other undesirable plants													
<b>Stocking Rate</b>	Native range	2.25	2.75		2.5—3.25			3.25	4.50			Over 4.5	
<b>Acres per AUM*</b>	Crested wheat			1.0			1.25			1.75		2.25 or more	
<b>Erosion</b>		None			None to slight			None to moderate			None to severe		
<b>Ground cover</b>		Dense cover			(grading down to)			(grading down to)			Sparse cover		
<b>Amount of litter</b>		Abundant litter									No litter		
<b>Length of grazing season</b>		7 to 8 months									6 to 7 months		

\*Acres per Animal Unit Month.

‡Badlands range.

†Native range or go-back land.

§Crested wheatgrass.

**Area 14—Condition Classification Guide for Range Land**  
**Northwest Mellette, Jackson, Haakon, South Ziebach, Armstrong,**  
**East Dewey, Southeast Carson, South Meade, Butte, East Custer,**  
**East Pennington, and East and South Fall River Counties**

Location: Belle Fourche  
 Cheyenne Rivers  
 Date: August 13-14, 1946

TYPE: Mixed Grass Prairie

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1†		GOOD 90—75% Productivity 2		Fair 75—50% Productivity 3		POOR 50% or less Productivity 4	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	70%		85%		More	More	Less	Less
Nigger wool—Upland sedge	or	90%	or	75%				
Western bluegrass—Funggrass	less		less		than	than	than	than
<b>Desirable Mid/Tall Grasses</b>	30%	or	15%	or	than	than	than	than
Western/Crested wheatgrass								
Feather bunchgrass	or	more	or	more	50%	50%	50%	50%
Needle-and-thread								
Silcoats grama	more		less					
<b>Less Desirable Plants</b>								
Little bluestem	Less		20%					
Sand dropseed—Prairie sandgrass	than		or					
Prairie muhly	10%	10%	less	25%	Less	Less	More	More
<b>Undesirable Plants</b>								
Foxtail/Little barley	Less	or	15%	or	than	than	than	than
Annual bromes								
Inland saltgrass—Red threeawn	than	less	or	less	50%	50%	50%	50%
Sixweeks fescue—Pricklypear								
Sunflower—Gumweed	10%		less					
Snakeweed—Fringed sage								
Other undesirable plants								
Stocking Rate	Native range	2.0—2.5	2.25—3.0	3.0—4.0	Over 4.0			
Acres per AUM*	Crested wheat	1.0	1.25	1.75	2.25 or more			
Erosion	None		None to slight	None to moderate	None to severe			
Ground cover	Dense cover		(grading down to)	(grading down to)	Sparse cover			
Amount of litter	Abundant litter		(grading down to)		No litter			
Length of grazing season		7 to 8 months			6 to 7 months			

\*Acres per Annual Unit Month.  
 †Native range or go-back land.  
 ‡Crested wheatgrass.

**Area 15—Condition Classification Guide for Range Land  
North Ziebach, West Dewey, and Corson Counties**

TYPE: Mixed Grass Prairie

Location: Lower Grand River  
Date: August 29, 1946

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1†		GOOD 90—75% Productivity 1 2		FAIR 75—50% Productivity 1 2		POOR 50% or less Productivity 1 2	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	60%		80%		More		Less	
Niggerwool—Upland Sedge	or	90%	or	75%	More	More	Less	Less
Juncgrass	less		less		than	than	than	than
<b>Desirable Mid-Grasses</b>		or		or				
Western/Crested wheatgrass	40%		20%		50%	50%	50%	50%
Feather bunchgrass	or	more	or	more				
Needle-and-thread	more		more					
Sidecoats grama								
<b>Less Desirable Plants</b>	Less		20%					
Little bluestem								
Sand dropseed	than		or					
Prairie muhly		10%		25%	Less	Less	More	More
Canada wildrye	10%		more					
<b>Undesirable Plants</b>		or		or	than	than	than	than
Inland saltgrass—Red threacow	Less		15%					
Annual bromes		less		less	50%	50%	50%	50%
Sixweeks fescue	than		or					
Sunflower—Gumweed								
Marestail—Wild lettuce	10%		less					
Fringed sage—Sagebrush								
Other Undesirable Plants								
Stocking Rate	Native range	1.50—2.00	1.75—2.75	2.75—3.75	Over 3.75			
Acres Per AUM*	Crested wheat		.85	1.15	1.65	2.15 or more		
Erosion		None	None to slight	None to moderate	None to severe			
Ground cover		Dense cover	(grading down to)		Sparse cover			
Amount of litter		Abundant litter	(grading down to)		No litter			
Length of grazing season			7 to 8 months		6 to 7 months			

\*Acres Per Animal Unit Month.

†Native range of go-back land.

‡Crested wheatgrass.

**Area 16—Condition Classification Guide for Range Land**  
**North Meade, Perkins, Harding, and Northeast Butte Counties**

Location: Northwest South Dakota  
 Date: November 18, 1946

TYPE: Mixed Grass Prairie

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1† 2‡		GOOD 90—75% Productivity 1 2		FAIR 75—50% Productivity 1 2		POOR 50% or less Productivity 1 2	
<b>Desirable Short Grasses</b>								
Blue grama—Niggerwool	65%		80%		More	More	Less	Less
Buffalograss—Upland sedge	or	90%	or	75%				
Western bluegrass—Junegrass	less		less		than	than	than	than
<b>Desirable Mid. Grasses</b>	35%	or	20%	or	than	than	than	than
Western/Crested wheatgrass					50%	50%	50%	50%
Feather bunchgrass	or	more	or	more				
Sideoats grama								
Needle-and-thread	more		more					
<b>Less Desirable Plants</b>								
Little bluestem	Less		20%					
Sand dropseed—Canada wildrye	than		or					
Prairie sandgrass	10%	10%	less	25%	Less	Less	More	More
Prairie muhly								
<b>Undesirable Plants</b>		or		or	than	than	than	than
Inland saltgrass—Red threawn	Less		15%					
Tumblegrass—Marestail		less		less	50%	50%	50%	50%
Sunflower—Gumweed	than		or					
Snakeweed—Fringed sage								
Sagebrush—Russian thistle	10%		less					
Other undesirable plants								
<b>Stocking rate</b>	Native range	2.0—2.5	2.25—3.0	3.0—4.0			Over 4.0	
<b>Acres per AUM*</b>	Crested wheat	1.0	1.25	1.75			2.25 or more	
<b>Erosion</b>		None	None to slight	None to moderate			None to severe	
<b>Ground cover</b>		Dense cover		(grading down to)			Sparse cover	
<b>Amount of litter</b>		Abundant litter		(grading down to)			No litter	
<b>Length of grazing season</b>			7 to 8 months				6 to 7 months	

\*Acres per Animal Unit Month.

†Native range or go-back land.

‡Crested wheatgrass.

## Area 17—Condition Classification Guide for Range Land North Lawrence County

TYPE: Mixed grass prairie

Location: Spearfish  
Date: August 27, 1946

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1†		GOOD 90—75% Productivity 2		FAIR 75—50% Productivity 1		FAIR 50% or less Productivity 2	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	65%		80%		More	More	Less	Less
Niggerwood—Upland sedge	or	90%	or	75%	than	than	than	than
Western bluegrass—fencgrass	or less		or less					
<b>Desirable Mid/Tall Grasses</b>								
Western/Crested wheatgrass	35%		20%		50%	50%	50%	50%
Kentucky bluegrass	or more		or more					
Smooth brome—Big bluestem	or		or					
Sideoats grama—Needle-and-thread	more		more					
Feather bunchgrass	more		more					
<b>Less Desirable Plants</b>								
Little bluestem—Canada wildrye	Less than		20% or less		Less	Less	More	More
Prairie muhly—Prairie sandgrass	10%	10%		25%				
<b>Undesirable Plants</b>								
Inland saltgrass—Red threecawn	Less	or	15%	or	than	than	than	than
Foxtail/Little barley								
Annual bromes—Pricklypear	than	less	or	less	50%	50%	50%	50%
Sixweeks fescue—Yucca								
Gumweed—Sunflower	5%		less					
Fringed sage—Snakeweed								
Other undesirable plants								
<b>Stocking Rate</b>	Native range	1.75—2.25	2.00—3.00	3.00—4.00	Over 4.00			
<b>Acres per AUM*</b>	Crested wheat	1.00	1.25	1.75	2.25 or more			
<b>Erosion</b>	None		None to slight	None to moderate		None to severe		
<b>Ground cover</b>	Dense cover		(grading down to)			Sparse cover		
<b>Amount of litter</b>	Abundant litter		(grading down to)			No litter		
<b>Length of grazing season</b>	6 to 7 months				5 to 6 months			

\*Acres per Animal Unit Month.

†Native range or go-back land.

‡Crested wheatgrass.

## Area 18—Condition Classification Guide for Range Land

### West Fall River County

Location: Edgemont  
Date: August 19, 1946

TYPE: Mixed Grass-Sagebrush

Plant Species Important forage and indicator plants	RANGE CONDITION											
	EXCELLENT 100—90% Productivity			GOOD 90—75% Productivity			FAIR 75—50% Productivity			POOR 50% or less Productivity		
	1†	2‡	3§	1	2	3	1	2	3	1	2	3
<b>Desirable Short Grasses</b>												
Blue grama—Buffalograss	75%			90%	90% or less		75%	More		More	Less	Less
Niggerwool—Upland sedge	or			or			or	than		than	than	than
Western bluegrass	less			more			more	50%		50%	50%	50%
<b>Desirable Mid-Grasses</b>												
Western/Crested wheatgrass	25%			10%	10% or more							
Feather bunchgrass	or			or								
Needleand-thread	more			more								
Sideoats grama												
<b>Less Desirable Plants</b>												
Little bluestem	Less			20%	20% or less							
Squirreltail—Prairie muhly	10%						25%	Less		Less	More	More
Sand dropseed—Prairie sandgrass				10%								
<b>Undesirable Plants</b>												
Foxtail/Little barley	Less			or	15%		or	than		than	than	than
Inland saltgrass—Red threacawn				less	or		less	50%		50%	50%	50%
Annual bromes—Yucca	than											
Sixweeks fescue—Pricklypear												
Sunflower—Gumweed	10%				less							
Sagebrush—Snakeweed												
Other undesirable plants												
<b>Stocking Rate</b>	Native range	2.50—3.00		2.75—3.75			3.75—5.00			Over 5.00		
<b>Acres per AUM*</b>	Crested wheat		1.25			1.50			2.00			2.50 or more
<b>Erosion</b>		None		None to slight			None to moderate			None to severe		
<b>Ground cover</b>		Dense cover		(grading down to)			Sparse cover			No litter		
<b>Amount of litter</b>		Abundant litter		(grading down to)								
<b>Length of Grazing Season</b>			7 to 8 months						6 to 7 months			

\*Acres per Animal Unit Month.

†Native range or go-back land.

‡Scabland or badlands.

§Crested wheatgrass.



## Recommendations for Area 19

### Grazing Management Practices for Range in Excellent and Good Condition:

1. Grazing season—May 15 to October 15 (approximately).
2. Use stocking rates indicated on condition classification guide for Area 19.
3. Provide adequate water for uniform distribution of livestock on the range.
4. Furnish salt to livestock at all times, placing it at least one-eighth mile from water so that grazing will be uniform.
5. Fence meadows to force cattle into higher ranges.
6. Move sheep bed grounds at least every week.
7. Graze important grasses to a minimum stubble height of 1½ inches for short grasses and five inches for mid and tall grasses.
8. Provide tame pastures to lengthen the grazing season, particularly between April 15 and May 15.

### Treatment of Range in Excellent and Good Condition:

1. Mow weed spots in meadows to prevent spread.

### Grazing Management Practices for Range in Fair Condition:

1. Grazing season—June 1 to October 1 (approximately).
2. Use stocking rates indicated on condition classification guide for Area 19.
3. Provide adequate water for uniform distribution of livestock on the range.
4. Furnish salt to livestock at all times, placing it at least one-eighth mile from water so that grazing will be uniform.
5. Fence meadows to force cattle into higher ranges.
6. Move sheep bed grounds at least every week.
7. Graze current season's grass growth to a minimum stubble height of two inches for short grasses and six inches for mid and tall grasses.
8. Provide tame pastures to lengthen the grazing season, particularly between April 15 and May 15.

### Treatment of Range in Fair Condition:

1. Mow weed spots in meadows to prevent spread.
2. Fence to protect eroding gullies from grazing livestock.
3. Divert water out of eroding gullies to prevent further head cutting.

### Grazing Management Practices for Range in Poor Condition:

1. Grazing season—June 15 to September 15 (approximately).
2. Use stocking rates indicated on condition classification guide for Area 19.
3. Provide adequate water for uniform distribution of livestock on the range.
4. Furnish salt to livestock at all times, placing it at least one-eighth mile from water so that grazing will be uniform.
5. Fence meadows to force cattle into higher ranges.
6. Move sheep bed grounds at least every week.
7. Graze current season's grass growth to a minimum stubble height of three inches for short grasses and 7½ inches for mid and tall grasses, or give range total protection for one or more grazing seasons.

### Treatment of Range in Poor Condition:

1. Mow weed spots in meadow to prevent spread.
2. Fence to protect eroding gullies from grazing livestock.
3. Divert water out of eroding gullies to prevent further head cutting.
4. Reseed with native and tame grasses and legumes in mixture where natural recovery is too slow.

**Area 19—Condition Classification Guide for Range Land**  
**South Lawrence, West Pennington, West Custer,**  
**North Fall River Counties**

Location: Black Hills  
 Date: August 21, 1946

TYPE: Timber—Mixed Grass—Browse

Plant Species Important forage and indicator plants	RANGE CONDITION							
	EXCELLENT 100—90% Productivity 1†		GOOD 90—75% Productivity 2		FAIR 75—50% Productivity 1 2		POOR 50% or less Productivity 1 2	
<b>Desirable Short Grasses</b>								
Blue grama—Buffalograss	60%	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	80%	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.		Same as column 1. Reduce grazing capacity by same percentage as waste land in area.		Same as column 1. Reduce grazing capacity by same percentage as waste land in area.
Hairy grama—June grass	or		or					
Niggerwood—Upland sedge	less		less		More			
<b>Desirable Mid/ Tall Grasses</b>								
Western/Crested wheatgrass	40%	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	20%	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	than	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	than	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.
Smooth brome—Slender wheatgrass	or		or		50%			
Kentucky bluegrass—Timothy	or		or		50%			
Sideoats grama—Big bluestem	more	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	more	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.		Same as column 1. Reduce grazing capacity by same percentage as waste land in area.		Same as column 1. Reduce grazing capacity by same percentage as waste land in area.
Feather bunchgrass								
Needle-and-thread								
Timber oatgrass—Panicum grass		Same as column 1. Reduce grazing capacity by same percentage as waste land in area.		Same as column 1. Reduce grazing capacity by same percentage as waste land in area.		Same as column 1. Reduce grazing capacity by same percentage as waste land in area.		Same as column 1. Reduce grazing capacity by same percentage as waste land in area.
<b>Less Desirable Plants</b>	Less		20%		Less		More	
Little bluestem								
Prairie/Sand dropseed	than	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	or	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	than	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	than	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.
Canada wildrye	10%		less		50%		50%	
Prairie/Marsh muhly								
<b>Undesirable Plants</b>	Less than 10%	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	15% or less	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	50%	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.	50%	Same as column 1. Reduce grazing capacity by same percentage as waste land in area.
Unpalatable weeds, shrubs, grasses and trees								
<b>Stocking Rate</b>	Native range	2.0—3.0	2.25—4.0	4.0—6.0	Over 6.0			
<b>Acres per AUM*</b>	Tame/Wet meadows	1.0 or less	1.5 or less	2.5 or less	2.0 or more			
<b>Erosion</b>	None		None to slight	None to moderate	None to severe			
<b>Forage cover</b>	Dense cover		(grading down to)		Sparse cover			
<b>Amount range litter</b>	Abundant litter		(grading down to)		No litter			
<b>Length of grazing season</b>	3 to 5 months			3 to 4 months				

\*Acres per Animal Unit Month.  
 †Open grassland without waste land.  
 ‡Areas with wasteland.

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## Classification of Important Perennial Grasses and Sedges for Range/Pasture Condition Guides—Western South Dakota

		Palatability Rating														
Common Name	Botanical Name	Short Grass	Mid Grass	Tall Grass	Desirable	Less Desirable	Undesirable	Usually Dominant	May be Dominant	Seldom Dominant	Cool Season	Warm Season	Bunch Grass	Sod Grass	Cattle Horses	Sheep Goats
Alkali sacaton	<i>Sporobolus airoides</i>		x			x				x		x	x		50	40
Big bluestem	<i>Andropogon furcatus</i>			x	x					x		x		x	70	50
Blue grama	<i>Bouteloua gracilis</i>	x			x			x			x	x			80	70
Buffalograss	<i>Buchloe dactyloides</i>	x			x			x			x				80	80
Canada bluegrass	<i>Poa compressa</i>		x		x				x		x			x	70	60
Canada wildrye	<i>Elymus canadensis</i>			x	x					x	x		x		30	30
Crested wheatgrass	<i>Agropyron cristatum</i>		x		x			x			x		x		70	50
Feather bunchgrass	<i>Stipa viridula</i>		x		x				x		x		x		60	40
Foxtail barley	<i>Hordeum jubatum</i>		x				x		x		x		x		20	10
Hairy grama	<i>Bouteloua hirsuta</i>	x			x				x			x	x		80	70
Indian ricegrass	<i>Oryzopsis hymenoides</i>		x			x			x		x		x		50	20
Inland saltgrass	<i>Distichlis stricta</i>	x					x		x		x			x	20	10
Juncgrass	<i>Koeleria cristata</i>	x			x					x	x		x		60	50
Kentucky bluegrass	<i>Poa pratensis</i>		x		x			x			x			x	70	60
Little bluestem	<i>Andropogon scoparius</i>		x						x						20	10
Marsh muhly	<i>Muhlenbergia racemosa</i>		x			x				x		x		x	40	20
*Needle and thread	<i>Stipa comata</i>		x		x				x		x		x		60	40
Niggerwool	<i>Carex filifolia</i>	x			x				x		x		x		80	70
Porcupinegrass	<i>Stipa spartea</i>		x			x				x	x		x		40	20
Prairie cordgrass	<i>Spartina pectinata</i>			x		x				x		x		x	10	0
Prairie dropseed	<i>Sporobolus heterolepis</i>		x			x			x			x	x		50	40
Prairie muhly	<i>Muhlenbergia cuspidata</i>		x			x				x	x	x		x	40	0
Prairie sandgrass	<i>Calamovilfa longifolia</i>			x		x		x				x		x	20	10
Red threeawn	<i>Aristida longiseta</i>		x				x			x	x		x		20	10
Sand dropseed	<i>Sporobolus cryptandrus</i>		x			x				x		x	x		40	20
Sand bluestem	<i>Andropogon hallii</i>			x		x				x		x		x	40	30
Sideoats grama	<i>Bouteloua curtipendula</i>		x		x					x		x		x	70	50
Slender wheatgrass	<i>Agropyron trachycaulum</i>		x		x				x		x		x		70	50
Smooth brome	<i>Bromus inermis</i>		x		x				x		x			x	80	50
Squirreltail	<i>Sitanion hystrix</i>		x			x				x	x		x		30	20
Switchgrass	<i>Panicum virgatum</i>			x	x					x		x		x	50	30
Timber oatgrass	<i>Danthonia intermedia</i>		x		x					x	x		x		50	20
Timothy	<i>Phleum pratense</i>			x	x				x		x		x		80	70
Tumblegrass	<i>Schedonnardus paniculatus</i>	x					x			x		x	x		10	10
Upland sedges	<i>Carex spp.</i>	x			x					x	x			x	70	60
Western bluegrass	<i>Poa secunda</i>	x				x				x	x		x		40	30
Western wheatgrass	<i>Agropyron smithii</i>		x		x			x			x			x	70	50

\*Less desirable on sheep range.

†40% for cattle and horses in sunbluffs.

## Classification of Important Perennial Grasses and Sedges for Range/Pasture Condition Guides—Eastern South Dakota

Common Name	Botanical Name	Short Grass	Mid-grass	Tall Grass	Desirable	Less Desirable	Undesirable	Usually Dominant	May be Dominant	Seldom Dominant	Cool Season	Warm Season	Bunchgrass	Palatability Rating		
														Seed Grass	Cattle Horses	Sheep Goats
Big bluestem	<i>Andropogon furcatus</i>			x	x				x			x		x	70	50
*Blue grama	<i>Bouteloua gracilis</i>	x			x			x				x	x		80	70
*Buffalograss	<i>Buchloe dactyloides</i>	x			x			x				x		x	80	80
Canada bluegrass	<i>Poa compressa</i>		x		x			x			x			x	70	60
Canada wildrye	<i>Elymus canadensis</i>			x		x				x	x		x		30	30
Crested wheatgrass	<i>Agropyron cristatum</i>		x		x			x			x		x		70	50
Feather bunchgrass	<i>Stipa viridula</i>		x		x					x	x		x		60	40
Foxtail barley	<i>Hordeum jubatum</i>		x				x		x		x		x		20	10
Indiangrass	<i>Sorghastrum nutans</i>			x		x				x		x		x	40	10
Inland saltgrass	<i>Distichlis stricta</i>	x					x		x		x			x	20	10
Junegrass	<i>Koeleria cristata</i>	x			x					x	x		x		60	50
Kentucky bluegrass	<i>Poa pratensis</i>		x		x			x			x			x	70	60
†Little bluestem	<i>Andropogon scoparius</i>		x		x				x			x	x		70	50
Lowland sedges	<i>Carex spp.</i>			x		x			x		x			x	50	10
Needle-and-thread	<i>Stipa comata</i>		x		x				x		x		x		60	40
Niggerwool	<i>Carex filifolia</i>	x			x					x	x		x		80	70
Porcupinegrass	<i>Stipa spartea</i>		x		x				x		x		x		40	20
Prairie cordgrass	<i>Spartina pectinata</i>			x		x			x		x			x	10	0
Prairie dropseed	<i>Sporobolus heterolepis</i>		x			x			x			x	x		50	40
Prairie muhly	<i>Muhlenbergia cuspidata</i>		x			x				x		x	x		40	0
Prairie sandgrass	<i>Calamovilfa longifolia</i>			x		x		x			x			x	20	10
Quackgrass	<i>Agropyron repens</i>		x		x				x		x			x	60	40
Reed canarygrass	<i>Phalaris arundinacea</i>			x	x			x				x		x	80	60
Sand dropseed	<i>Sporobolus cryptandrus</i>		x			x				x		x	x		40	20
Sideoats grama	<i>Bouteloua curtipendula</i>		x		x					x		x		x	70	50
Slender wheatgrass	<i>Agropyron trachycaulum</i>		x		x				x		x		x		70	50
Smooth brome	<i>Bromus inermis</i>		x		x			x			x			x	80	50
Switchgrass	<i>Panicum virgatum</i>			x	x					x		x		x	50	30
Tall dropseed	<i>Sporobolus asper</i>		x		x					x		x	x		40	10
Upland sedges	<i>Carex spp.</i>	x			x					x	x			x	70	60
Western wheatgrass	<i>Aeropyron smithii</i>		x		x			x			x			x	70	50

\*Less desirable in Area 1.

†Less desirable west of James river, 20-10 palatability.

**RANGE CONDITION CHECK SHEET**  
Western South Dakota

Work Unit..... Location.....  
 Operator(s)..... Address.....  
 T. .... R. .... Sec. .... Date..... Examiner(s).....  
 Type: Mixed grass ..... Barllands ..... Scabland ..... Timber ..... Go-Back.....  
 Seeded ..... Sandhills ..... Sagebrush ..... Barren ..... Topography.....  
 Range Condition: Excellent ..... Good ..... Fair ..... Poor ..... Ground Cover ..... %  
 Vegetation Percentages—circle percentages in each group  
 Desirable short grasses ..... 5 10 15 20 25 30 40 50 60 70 80 90 100  
 Desirable mid-tall grasses ..... 5 10 15 20 25 30 40 50 60 70 80 90 100  
 Less desirable plants ..... 5 10 15 20 25 30 40 50 60 70 80 90 100  
 Undesirable plants ..... 5 10 15 20 25 30 40 50 60 70 80 90 100  
 Stocking Rate—acres per animal unit month—circle one: ½, ¾, 1, 1¼, 1½, 1¾, 2, 2¼, 2½, 2¾, 3, 3½, 4, 4½, 5, 5½, 6, 6½, 7, 7½, 8, 9, 10, Over 10  
 Accelerated Erosion: None ..... Slight ..... Moderate ..... Severe.....  
 Stockwater Situation: Excellent ..... Good ..... Fair ..... Poor.....  
 Current Forage Use—Percent ..... 0 5 10 15 20 25 30 40 50 60 70 80 90 100  
 Remarks: .....

Principal Plant Species—Grouped by Classification

Short Grasses	Total	Percent	Perennial Weeds	Total	Percent	Half Shrubs	Total	Percent
Blue grama			Asters			Fringed sage		
Buffalograss			Blazing star			Snake weed		
Inland saltgrass			Brearlroot			Winterfat		
Junegrass			Buffalo bean			<b>Full Shrubs</b>	<b>Total</b>	
Niggerwood			Goldenrod			Big sage		
Upland sedge			Green sage			Brittle pr. pear		
Western bluegrass			Hairy goldenaster			Buckbrush		
			Iron plant			Buffaloberry		
<b>Mid.Grasses</b>	<b>Total</b>		Locos			Chokecherry		
Crested wheatgrass			Lupine			Fourwing saltbush		
Foxtail barley			Pentstemon			Greasewood		
Ken/Can bluegrass			Phlox			Lead plant		
Little bluestem			Prairie clover			Plains pr. pear		
Needle and thread			Purple coneflower			Rabbitbrush		
Prairie muhly			Silverpea			Rose		
Red threeawn			Skeleton plant			Silver sage		
Sand dropseed			White sage			Skunkbush		
Sideoats grama			Wild alfalfa			Soapweed yucca		
Smooth brome			Yellow coneflower			Wild plum		
Western wheatgrass			<b>Annual Grasses/Weeds</b>			Willow		
			<b>Total</b>			<b>Trees</b>	<b>Total</b>	
<b>Tall Grasses</b>	<b>Total</b>		Downy brome			American elm		
Big bluestem			Japanese brome			Box elder		
Feather bunchgrass			Little barley			Burr oak		
Prairie cordgrass			Pigeongrass			Cottonwood		
Prairie sandgrass			Sixweeks fescue			Green ash		
Switchgrass			Gumweed			Juniper		
			Peppergrass			Ponderosa pine		
			Russian thistle			Willow		
			Sunflowers					
<b>Other Grasses</b>	<b>Total</b>		<b>Other Weeds</b>	<b>Total</b>		<b>Other Shrubs</b>	<b>Total</b>	

**RANGE/PASTURE CONDITION CHECK SHEET**  
Eastern South Dakota

Date ..... Examiner ..... No. ....

County ..... T. .... R. .... Sec. ....

Type: Tall grass ..... Mixed grass ..... Short grass ..... Seeded ..... Go-Back .....

Sandhills .....

Range/Pasture condition: Excellent ..... Good ..... Fair ..... Poor ..... Cover ..... %

Vegetation Percentages—circle percentage in each group.

Desirable short grasses .....	5	10	15	20	25	30	40	50	60	70	80	90	100
Desirable mid-grasses/legumes .....	5	10	15	20	25	30	40	50	60	70	80	90	100
Desirable tall grasses .....	5	10	15	20	25	30	40	50	60	70	80	90	100
Less Desirable plants .....	5	10	15	20	25	30	40	50	60	70	80	90	100
Undesirable plants .....	5	10	15	20	25	30	40	50	60	70	80	90	100

Stocking Rate—acres per animal unit month—circle one: 1/10, 1/8, 1/6, 1/4, 1/2, 3/4, 1, 1 1/4, 1 1/2, 1 3/4, 2, 2 1/4, 2 1/2, 2 3/4, 3, 3 1/2, 4, 4 1/2, 5, over 5.

Accelerated Erosion: None ..... Slight ..... Moderate ..... Severe .....

Grassland Used for: Pasture ..... Cattle ..... Sheep ..... Horses ..... Hayland .....

Degree of Grazing: Light ..... Moderate ..... Heavy ..... Severe .....

Remarks: .....

**Principal Plant Species—Grouped by Classification**

		Percent			Percent			Percent
<b>Short Grasses</b>	<b>Total</b>		<b>Tall Grasses (cont.)</b>			<b>Dandelion</b>		
Blue grama .....			Indiangrass .....			Death camas .....		
Buffalograss .....			Porcupinegrass .....			Fleabane daisy .....		
Inland saltgrass .....			Prairie cordgrass .....			Goldenrod .....		
Junegrass .....			Prairie sandgrass .....			Green sage .....		
<b>Short Sedges</b>	<b>Total</b>		Reed canarygrass .....			Hairy goldenaster .....		
Niggerwood .....			Switchgrass .....			Horsetail .....		
Upland sedge .....			<b>Tall Sedge</b>	<b>Total</b>		Iron plant .....		
<b>Mid-Grasses</b>	<b>Total</b>		Meadow sedge .....			Larkspur .....		
Crested wheatgrass .....			Other grasses and sedges .....			Leafy spurge .....		
Foxtail barley .....			<b>Legumes</b>	<b>Total</b>		Marsh elder .....		
Ken/Can bluegrass .....			Alfalfa .....			Phlox .....		
Little bluestem .....			Red clover .....			Prairie mallow .....		
Needle-and-thread .....			Sweet clover .....			Purple coneflower .....		
Quackgrass .....			White clover .....			Pussytoes .....		
Prairie muhly .....			Locos .....			Scarlet guara .....		
Prairie dropseed .....			Lupine .....			Silver sage .....		
Sand dropseed .....			Prairie clover .....			Skeleton weed .....		
Sideoats grama .....			Silver pea .....			Thistle .....		
Smooth bromc .....			Wild alfalfa .....			Yarrow .....		
Tall dropseed .....			Vetch .....			Other perennial weeds .....		
Western wheatgrass .....			<b>Perennial Weeds</b>	<b>Total</b>		<b>Annual weeds/grasses Total</b>		
<b>Medium Sedges</b>	<b>Total</b>		Asters .....			Downy brome .....		
Lowland sedge .....			Beardtongue .....			Japanese brome .....		
Spike rush .....			Blazing star .....			Gumweed .....		
<b>Tall Grasses</b>	<b>Total</b>		Blue vervain .....			Russian thistle .....		
Big bluestem .....			Breadroot .....			Sixweeks fescue .....		
Canada wildrye .....			Creeping Jenny .....			Sunflowers .....		
Feather bunchgrass .....								