

FACT SHEET

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MODIFIED RANGE CONDITION GUIDE

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Modified Range Condition Guide is designed to help you classify range conditions to determine the kind and number of grazing animals a pasture can support and still maintain or improve range condition. Where possible, follow this guide to determine the range condition class for any Texas site you may be classifying for a range judging contest. Use this guide with B-864, *Do You Know Your Range?*

Range management is planning and directing the grazing of natural range forage for maximum and efficient livestock production, consistent with the wise use and perpetuation of the range resources—vegetation, soil, water and wildlife.

This modified guide helps familiarize you with the 10 vegetational areas of Texas and shows that various plants have different classifications in each area. Each vegetational area contains several range sites. This guide only considers: bottomland; deep upland; shallow upland; very shallow upland; hills, ridges or canyons; and deep sand.

To learn more about a technician's range condition guide for your area, consult your local Soil Conservation Service range technician. Specific range condition guides, in most cases, have been developed for all vegetational and land resource areas of the State. These guides should be followed to determine accurately the range condition class for a particular site on a local basis.

KNOW YOUR RANGE

Knowing range plants and range conditions, like knowing livestock, is the foundation of the ranching business. The measuring stick in range management is in terms of pounds of beef, mutton, wool and mohair produced—not in number of head grazed. A ranchman is in the grass business, and livestock are the salable by-products. Good, palatable grass is the cheapest feed grown. Keeping livestock numbers balanced with forage production is one of the greatest problems facing the Texas stockman. Efficient livestock production depends largely upon the condition and management of the grass crop.

The *ranchman* must know the *kinds* of plants growing on the range, their *forage value*, when to *utilize* them *properly* with the *right kind* of *livestock* and at the *proper season*. He must know how to control and manage noxious plants, how to properly *distribute livestock* for uniform use of forage and how to *develop* a *grazing system* that will *keep livestock* numbers and *forage* in balance. The kind and amount of vegetation determines the kind and number of livestock that can be grazed for most efficient and greatest economic returns. In general, cattle consume grasses, sheep consume weeds and grasses and goats consume browse and grasses.

HOW TO USE THIS GUIDE

Knowing how to determine range condition to base the grazing management on a pasture is easy. Minimum effort is necessary on the part of the ranch operator. All he needs to know is the grazing value and potential production of different plants, the different range sites and which plants are decreasers, increasers and invaders in relation to the site and the climate.

Range site is an area of land which because of its characteristic soil and climatic conditions is capable of producing a certain kind and amount of vegetation. Certain characteristics—soil, topography, water relationship, rainfall, exposure, climate, temperature and related environmental factors—give the site a forage production potential. The potential generally is known as the grazing climax and is the most efficient and productive vegetation which the site will produce under proper grazing management and average climatic conditions. Range sites differ because of abrupt changes in certain environmental factors or a combination of these which results in a different kind or amount of potential vegetation for the area. The six general range sites used in range judging and considered in the modified guide are:

A bottomland site—High producing, fine textured, nearly level (0 to 3 percent slope), fertile soils over 20 inches deep, receiving overflow water.

GRASSES (native)

	Life span	Season growth	Grazing value	Pineywoods	Gulf Prairies & Marshes	Post Oak Savannah	Blackland Prairies	Cross Timber & Prairies	South Texas Plains	Edwards Plateau	Rolling Plains	High Plains Trans-Pecos, Basins & Mountains
Annual threeawns	A	W	P	I	I	I	I	I	I	I	I	I
Arizona cottontop	P	W	G	O	O	O	O	all	all	all	all	all
Balsamscale	P	W	F	O	10	O	O	O	10	O	O	all
Beaked panicum	P	W	G	all	O	all	all	O	O	O	O	O
Big bluestem	P	W	G	all	all	all	all	all	all	all	all	all
Big sandbur	P	W	G	O	O	O	O	O	all	O	O	O
Black grama	P	W	G	O	O	O	O	O	O	all	all	all
Blue grama	P	W	G	O	O	O	O	O	O	all	all	all
Broadleaf uniola	P	W	G	all	O	all	O	O	O	O	O	O
Broomsedge bluestem	P	W	P	I	I	I	I	I	I	I	I	I
Broomseed paspalum	P	W	F	15	15	15	O	O	15	O	O	O
Buffalograss	P	W	G	O	I	I	I	10	20	35	35	35
Burrograss	P	W	P	O	O	O	O	O	I	I	O	O
Bush muhly	P	W	G	O	O	O	O	O	all	all	all	all
Canada wildrye	P	C	G	all	all	all	all	all	all	all	all	all
Cane bluestem	P	W	G	O	O	O	20	10	all	all	all	all
Chino grama	P	W	G	O	O	O	O	O	O	O	O	30
Crinkleawn	P	W	G	O	all	O	O	O	all	O	O	O
Curlymesquite	P	W	F	O	O	O	O	O	20	20	20	O
Ear and Sand muhly	P	W	P	O	O	O	O	O	O	I	I	I
Eastern gamagrass	P	W	G	all	all	all	all	all	all	all	all	all
Filly panicum	P	W	F	10	10	10	10	10	10	10	10	10
Florida paspalum	P	W	F	all	15	all	O	O	O	O	O	O
Fluffgrass	P	W	P	I	I	I	I	I	I	I	I	I
Fringeleaf paspalum	P	W	F	I	I	5	O	5	5	5	5	O
Fall witchgrass	P	W	F	O	O	O	O	O	20	20	20	20
Green sprangletop	P	W	G	O	O	O	O	O	all	all	all	all
Gulf cordgrass	P	W	F	O	20	10	O	O	20	O	O	O
Gummy lovegrass	P	W	P	I	I	I	I	I	I	I	I	I
Halls panicum	P	W	F	O	O	O	O	O	10	10	10	20
Hairy grama	P	W	F	O	I	I	I	15	20	20	20	20
Hairy tridens	P	W	P	I	I	I	I	I	I	I	I	I
Hooded windmillgrass	P	W	F	I	I	I	I	I	10	10	15	15
Indiangrass	P	W	G	all	all	all	all	all	all	all	all	all
Inland saltgrass	P	W	F	O	O	O	O	O	I	O	I	I
Jointtail	P	W	F	20	O	O	O	O	O	O	O	O
Junglerice	P	W	P	I	I	O	O	O	O	O	O	O
Knotroot bristlegrass	P	W	F	5	5	5	15	15	15	15	15	15
Longleaf uniola	P	W	G	15	O	15	O	O	O	O	O	O
Longtom	P	W	F	O	20	O	O	O	O	O	O	O
Little barley	A	C	P	I	I	I	I	I	I	I	I	I
Little bluestem	P	W	G	all	all	all	all	all	all	all	all	all
Meadow dropseed	P	W	F	15	15	20	15	15	20	20	15	20
Neally grama	P	W	G	O	O	O	O	O	O	25	O	O
Merrill bluestem	P	W	G	O	O	O	O	O	O	all	O	all
Pink pappusgrass	P	W	F	O	O	O	O	O	10	I	O	10
Plains bristlegrass	P	W	G	O	O	O	O	O	all	all	all	all
Plains lovegrass	P	W	G	O	O	5	all	all	all	all	all	all
Purpletop	P	W	F	all	all	all	O	all	O	O	O	O
Purple threeawn	P	W	P	I	I	I	I	I	I	I	I	I
Red grama	P	W	P	I	I	I	I	I	I	I	I	I

GRASSES (native)

	Life span	Season growth	Grazing value	Pineywoods	Gulf Prairies & Marshes	Post Oak Savannah	Blackland Prairies	Cross Timber & Prairies	South Texas Plains	Edwards Plateau	Rolling Plains	High Plains Trans-Pecos, Basins & Mountains
Red lovegrass	P	W	P	I	I	I	I	I	I	I	I	I
Red threeawn	P	W	P	I	I	I	I	I	I	I	I	I
Reverchon panicum	P	W	F	O	O	O	O	O	15	15	15	O
Rough tridens	P	W	F	O	O	O	5	5	10	15	15	10
Sacaton	P	W	F	O	8	O	O	O	all	all	all	all
Sand bluestem	P	W	G	O	O	O	O	O	O	all	all	all
Sandbur	A	W	P	I	I	I	I	I	I	I	I	I
Sand dropseed	P	W	F	I	I	I	I	I	I	I	15	15
Sand lovegrass	P	W	G	O	O	O	O	O	O	O	all	all
Scribner panicum	P	C	F	5	5	5	5	5	5	5	5	5
Seacoast bluestem	P	W	G	all	all	O	O	O	all	O	O	O
Seashore saltgrass	P	W	F	O	20	O	O	O	15	O	15	15
Sideoats grama	P	W	G	O	10	10	25	all	all	all	all	all
Signalgrasses	P	W	P	I	I	I	I	I	I	I	I	I
Silver bluestem	P	W	F	O	5	5	20	10	all	all	all	all
Slender grama	P	W	F	O	O	O	O	O	25	O	O	O
Slim tridens	P	W	F	O	O	O	O	O	10	15	20	10
Southwestern bristlegrass	P	W	G	O	O	O	O	O	all	all	all	all
Squirreltail	A	C	P	I	I	I	I	I	I	I	I	I
Splitbeard bluestem	P	W	P	I	I	I	I	I	O	O	O	O
Stinkgrass	P	W	P	I	I	I	I	I	I	I	I	I
Switchgrass	P	W	G	all	all	all	all	all	all	all	all	all
Tall dropseed	P	W	F	5	10	10	10	15	20	20	20	15
Tanglehead	P	W	G	O	O	O	O	O	all	O	O	all
Texas bluegrass	P	C	G	all	all	all	all	all	all	all	all	all
Texas cupgrass	P	W	G	O	O	O	O	O	all	all	all	O
Texas grama	P	W	P	I	I	I	I	I	I	I	I	I
Three flowered melic	P	C	G	all	O	all	O	O	O	all	O	O
Two flowered melic	P	W	G	all	O	all	O	O	O	O	O	O
Texas wintergrass	P	G	G	O	5	O	5	10	all	10	15	20
Tobosagrass	P	W	F	O	O	O	O	O	15	25	25	35
Trichloris	P	W	F	O	O	O	O	O	all	O	O	O
Tumblegrass	P	W	P	I	I	I	I	I	I	I	I	I
Tumble lovegrass	P	W	P	I	I	I	I	I	I	I	I	I
Tumble windmillgrass	P	W	P	I	I	I	I	I	I	I	I	I
Vine mesquite	P	W	G	O	15	all	all	all	all	all	all	all
Virginia wildrye	P	C	G	all	all	all	all	all	all	all	all	all
Western wheatgrass	P	C	G	O	O	O	O	O	O	all	all	all
White tridens	P	W	F	O	O	O	O	5	10	15	20	10
Whorled dropseed	P	W	P	I	I	I	I	I	I	I	I	I
Wright threeawn	P	W	F	O	O	O	O	5	5	5	5	5

GRASSES (introduced)

Bermudagrass	P	W	G	A desirable pasture grass								
Blue panicum	P	W	G	A desirable pasture grass								
Carpetgrass	P	W	F	A less desirable pasture grass								
Dallisgrass	P	W	G	A desirable pasture grass								
Italian ryegrass	P	W	G	A desirable pasture grass								
Johnsongrass	P	W	G	A desirable pasture grass								
King Ranch bluestem	P	W	F	A less desirable pasture grass								
Rescuegrass	A	C	F	A less desirable pasture grass								
Rhodesgrass	P	W	F	A less desirable pasture grass								

	Life span	Season growth	Grazing value	Pineywoods	Gulf Prairies & Marshes	Post Oak Savannah	Blackland Prairies	Cross Timber & Prairies	South Texas Plains	Edwards Plateau	Rolling Plains	High Plains	Trans-Pecos, Basins & Mountains
GRASSES (introduced)													
Smutgrass	P	W	P	An undesirable grass									
Weeping lovegrass	P	W	F	A less desirable pasture grass									
LEGUMES, wild (grazable)													
Allow 20% on all range sites													
LEGUMES (not palatable or poisonous)													
Undesirable on range sites													
FORBS													
Bitter sneezeweed	A	W	P	An undesirable forb									
Bush sunflower	P	W	G	A desirable forb									
Common broomweed	A	W	P	An undesirable forb									
Engelmann daisy	P	W	G	A desirable forb									
Heath aster	P	W	G	A desirable forb									
Ironweed	P	W	P	An undesirable forb									
Mecalycup sage	A	W	P	An undesirable forb									
Mexican sagewort	P	W	G	A desirable form									
Orange zexmenia	P	W	G	A desirable form									
Prairie-coneflowers	P	W	P	An undesirable forb									
Perennial sunflowers	P	W	G	A desirable forb									
Texas croton	A	W	P	An undesirable forb									
Texas filaree	A	C	F	A less desirable forb									
Tallowweed	A	C	F	A less desirable forb									
Western ragweed	P	W	P	An undesirable forb									
Yankeeweed	P	W	P	An undesirable forb									
POISONOUS PLANTS													
Bitterweed	A	C	Pos	Undesirable									
Groundsel	P	W	Pos	Undesirable									
Loco	P	W	Pos	Undesirable									
Poison milkweed	P	W	Pos	Undesirable									
Rayless goldenrod	P	W	Pos	Undesirable									
WOODY PLANTS													
Sand sagebrush	P	W	P	O	O	O	O	O	O	O	O	25	25
Shinnery oak	P	W	F	O	O	10	O	10	O	10	25	25	10
Skunkbush sumac	P	W	F	O	O	O	O	10	O	10	I	I	O
Post oak	P	W	P	O	O	25	O	25	O	10	O	O	O
Mesquite	P	W	P	I	I	I	I	I	I	I	I	I	I
Junipers	P	W	P	I	I	I	I	I	I	I	I	I	I

A deep upland site—High producing, nearly level (0 to 3 percent slope), fertile soils over 20 inches deep. Found in divide or valley areas and not subject to overflow from a draw, creek, stream or river. Excludes deep sands.

A shallow upland site—Soils 10 to 20 inches deep which may have pockets of deeper soils; nearly level to rolling (3 to 12 per cent slope).

A very shallow upland site—Soils less than 10 inches deep which may have pockets of deeper soils; nearly level to rolling (3 to 12 percent slope).

A hill, ridge or canyon site—Shallow soils less than 10 inches deep with rocks on the surfaces and with pockets of deep productive soils, particularly in depressions or canyon floors. Topography is hilly, rough, broken with steep slopes or mountains (3 to 20 percent slope).

A deep sand site—Soils over 20 inches deep with a coarse texture throughout the soil profile; nearly level to rolling (0 to 12 percent slope). May have dunes of shifting sands.

Range condition is the state and health of range-land. It implies what plants the range is naturally capable of producing. Range condition class is determining the native vegetation growing on the site as percentage of vegetation that grew on the site before changes by heavy grazing pressures. Range condition actually is a measurement of the change of decrease, increase and invader plants from the potential.

Species which first decrease from the potential when a pasture is grazed heavily are termed *decreasers*. These plants usually are dominant or abundant in potential plant composition. As the decreaseers die, other plants take their place. The species that increase under these conditions are termed *increaseers*. Increaseer plants usually are secondary in potential composition. As the increaseers become more and more abundant, animals eventually will graze them excessively, causing plant death. This leaves the plant community open to invasion. Those plants which invade under these circumstances are termed *invaders*.

The phenomena described takes place only with range deterioration during long periods of overgrazing. The process can be stopped or reversed with certain management practices, such as deferred grazing and/or proper stocking.

Invaders spread over the range site or invade the site when decreaseers and increaseers are reduced by overgrazing, drouth and other causes. Invaders are grazed by livestock during certain seasons of the year, but they generally contribute little to over-all production of the range.

The four range condition classes are:

1. *Excellent*—when 76 to 100 percent of the vegetation is a mixture of decreaseers and allowable increaseers.
2. *Good*—when 51 to 75 percent of vegetation is a mixture of decreaseers and allowable increaseers.
3. *Fair*—when 26 to 50 percent of the vegetation is a mixture of decreaseers and allowable increaseers. Invader plants make up the rest of the plant community.
4. *Poor*—when 0 to 25 percent of the vegetation is a mixture of decreaseers and allowable increaseers. Invader plants make up the major part of the vegetation being produced.

Steps in Using the Guide

Follow these steps in using this guide:

1. Determine the range site.
2. List the plants found on the site.

3. Estimate the percentage of each plant found in the vegetation composition.

4. Refer to the guide to determine the percentage of each plant that could be in the composition in the vegetational areas and site for which you are judging.

The modified range condition guide has the plants listed alphabetically by common name. For each vegetational area, the life span, season of growth and grazing value are given to help you classify each plant. Most plants are native, but the introduced plants that are well adapted to Texas conditions are listed.

Certain symbols are found in the columns of the Modified Range Condition Guide. These symbols and their meanings are:

Life span:

- P — perennial
- A — annual

Season of growth:

- W — warm
- C — cool

Grazing value:

- G — good
- F — fair
- P — poor
- Pos — poisonous

Vegetational areas:

“All”—indicates the plant is a decreaser. Its total percentage of the composition can be counted in determining the range condition class.

Numerals 5-35—indicate the plant is an increaser. Allow only the percentage listed for these plants in determining the range condition class as this percentage has been estimated to have grown in the original plant community. A maximum of 40 percent increasers is allowable in determining range condition class.

“I”—indicates the plant is an invader. Its percentage of the vegetation cannot be counted toward determining the range condition class, because, normally, it did not grow in the original plant community.

“O”—indicates the plant does not usually grow on the range site or is not important in the vegetational area.

The percentages of all species composition of a site should add to 100 percent. Excessive bare ground or denuded area is to be considered as being occupied by annual plants. All annuals are considered as *invaders*, even though they may furnish considerable grazing during certain seasons of the year.

Sample

Imagine a range condition for the Edwards Plateau Vegetational Area. Suppose you are deciding the range condition class of a plot containing the following percentages: buffalograss, 45 percent; sideoats grama, 7 percent; merrill bluestem, 3 percent; silver bluestem, 2 percent; red grama, 13 percent; purple threeawn, 20 percent; and red lovegrass, 10 percent.

Turning to the Modified Range Condition Guide, you find the word “all” written in the columns for sideoats grama, merrill and silver bluestem. These three desirable grasses are *decreasers*, and you add “all” of their total percentage for the range condition class which is 12 percent. Next, find buffalograss to determine the percentage allowed in the condition class. You find that a maximum of 35 percent of this grass can be allowed toward determining the range condition class.

Now consider what you should add for red grama, purple threeawn and red lovegrass. Each of these have an “I” in the column, indicating they are invaders and are not considered in the composition to determine range condition. They are occupying 43 percent of the space in the plot. Now add the allowable percentages to determine the range condition for the plot.

Total Composition of Site	Percent Composition Counting toward Range Condition Class
Sideoats grama	7%
Merrill bluestem	3%
Silver bluestem	2%
Buffalograss	45%
Red lovegrass	10%
Red grama	13%
Purple threeawn	20%
	100%
Sideoats grama	7%
Merrill bluestem	3%
Silver bluestem	2%
Buffalograss	35%
Buffalograss, excess	0%
Red grama	0%
Purple threeawn	0%
Red lovegrass	0%
	47%

The 47 percent falls in the 26 to 50 percent category; so the range condition class is fair. Fifty-three percent of the area is covered with undesirable plants. If this 53 percent were covered with more desirable plants, the range condition class, grazing capacity and livestock production would be higher.

When the range site vegetation composition is made up of increaser plants only, the maximum allowable toward determining range condition class is 40 percent. For example, if a range composition were made up of 65 percent increaser plants, you could count only 40 percent of the vegetation for range condition class. The range with all increaser plants cannot be rated better than a fair condition class. On particular range sites, 5 to 15 percent of desirable forbs or browse can be allowed in determining the range condition class. When the desirable browse species is out of reach of grazing animals, it is considered an invader. Also, if brush plants are relatively thick, 250 or more stems per acre, the condition may need to be lowered one condition class.