

FORAGE SUITABILITY GROUP

Not Suited

FSG No.: G055CY000SD

Major Land Resource Area: 55C - Southern Black Glaciated Plains

Physiographic Features

The soils in this group are in various landscape positions.

	<u>Minimum</u>	<u>Maximum</u>
Elevation (feet):	1300	1970
Slope (percent):	0	40
Flooding:		
Frequency:	None	Frequent
Duration:	None	Very Long
Ponding:		
Depth (inches):	0	18
Frequency:	None	Frequent
Duration:	None	Very Long
Runoff Class:	Negligible	Very high

Climatic Features

This group occurs in a mid-continental climate characterized by wide seasonal temperature and precipitation fluctuations and extremes.

Annual precipitation varies widely from year to year in MLRA 55C. Average annual precipitation for all climate stations listed below in is about 21 inches. About 75 percent of that occurs during the months of April through September. On average, there are about 28 days with greater than .1 inches of precipitation during the same timeframe. Annual precipitation and temperature increase from the north to the south in the MLRA.

Average annual snowfall ranges from 23 inches at Pickstown to 41 inches at Huron. Snow cover at depths greater than 1 inch range from 32 days at Howard to 72 days at Huron.

Average July temperatures are about 75⁰F and average January temperatures are about 16⁰F. Recorded temperature extremes in the MLRA during the years 1961 to 1990 are a low of -39 at both Mellette and Huron, and a high of 114 recorded at Mellette. The MLRA lies mostly in USDA Plant Hardiness Zones 4a and 4b, with a small area of warmer 5a along the Missouri River.

At Huron, the average annual wind speeds are about 11.5 mph. The highest wind speeds occur during March through May. It is cloudy about 154 days a year. Average morning relative humidity in June is about 86 percent and average afternoon humidity is 59 percent.

The climate data listed in the tables below represent high and low ranges and averages for the climate stations and dates listed. For additional climate data access the National Water and Climate Center at <http://www.wcc.nrcs.usda.gov>.

	From	To
Freeze-free period (28 deg)(days): (9 years in 10 at least)	128	161
Last Killing Freeze in Spring (28 deg): (1 year in 10 later than)	May 19	May 07
Last Frost in Spring (32 deg): (1 year in 10 later than)	May 31	May 18

	From	To
First Frost in Fall (32 deg): (1 year in 10 earlier than)	Sep 08	Sep 23
First Killing Freeze in Fall (28 deg): (1 year in 10 earlier than)	Sep 16	Oct 04
Length of Growing Season (32 deg)(days): (9 years in 10 at least)	105	136
Growing Degree Days (40 deg):	4360	5304
Growing Degree Days (50 deg):	2763	3192
Annual Minimum Temperature:	-30	-20
Mean annual precipitation (inches):	18	22

Monthly precipitation (inches) and temperature (F):

2 years in 10:	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Precip. Less Than	0.12	0.18	0.36	0.85	1.28	1.35	1.40	0.94	0.52	0.43	0.18	0.20
Precip. More Than	0.93	1.28	2.56	3.74	5.15	5.28	4.68	3.53	4.20	2.68	1.90	1.38
Monthly Average:	0.44	0.61	1.48	2.32	3.11	3.56	2.72	2.27	2.10	1.47	0.80	0.56
Temp. Min.	-1.5	4.9	18.8	31.6	43.3	53.4	58.8	55.4	44.1	32.5	18.7	4.1
Temp. Max.	30.6	36.4	47.0	62.4	73.4	83.0	90.4	88.6	78.2	65.5	46.7	33.4
Temp. Avg.	15.8	21.8	33.4	47.8	59.3	69.0	75.2	72.9	62.3	50.2	33.9	17.7

<u>Climate Station</u>	<u>Location</u>	<u>From</u>	<u>To</u>
SD0043	Academy, SD	1961	1990
SD4037	Howard, SD	1961	1990
SD4127	Huron, SD	1961	1990
SD5456	Mellette, SD	1961	1990
SD5561	Miller, SD	1961	1990
SD6574	Pickstown, SD	1961	1990
SD7052	Redfield, SD	1961	1990
SD8767	Wagner, SD	1961	1990

Soil Interpretations

The soils in this group possess one or more physical or chemical properties that make their economic use for forage production difficult or impossible.

Drainage Class:	Excessively drained	To	Very poorly drained
Permeability Class: (0 - 40 inches)	Rapid	To	Very slow
Frost Action Class:	Low	To	High

Depth:	<u>Minimum</u>	<u>Maximum</u>
Surface Fragments >3" (% Cover):	5	
Organic Matter (percent): (surface layer)	0.0	5.0
Electrical Conductivity (mmhos/cm): (0 - 24 inches)	0	32
Sodium Absorption Ratio: (0 - 12 inches)	0	40
Soil Reaction (1:1) Water (pH): (0 - 12 inches)	5.6	9
Available Water Capacity (inches): (0 - 60 inches)	1	12
Calcium Carbonate Equivalent (percent): (0 - 12 inches)	0	70

Adapted Species List

Unless the severe chemical and/or physical restrictions of these soil have been corrected no forage species can be expected to be economically produced on them.

Soil Limitations

These soils have severe limitations that make their use for forage production impractical or impossible. They are too steep, shallow, wet, stony, or possess unfavorable chemical properties.

Management Interpretations

If the severe restrictions have been reduced or removed the soils should be managed the same as the group that most closely resembles them without the restrictions. For instance, if a soil has been placed in this group because of stoniness and the stones have been removed, it should be managed under the same group that the non-stony phase is managed under.

Inventory Data References

Agriculture Handbook 296-Land Resource Regions and Major Land Resource Areas
Natural Resources Conservation Service (NRCS) National Water and Climate Center data
USDA Plant Hardiness Zone maps
National Soil Survey Information System (NASIS) for soil surveys in South Dakota counties in MLRA 55C
NRCS South Dakota Technical Guide
NRCS National Range and Pasture Handbook
Various Agricultural Research Service, Cooperative Extension Service, and NRCS research trials for plant adaptation and production.

Forage Suitability Group Approval:

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