

FORAGE SUITABILITY GROUP NOT SUITED

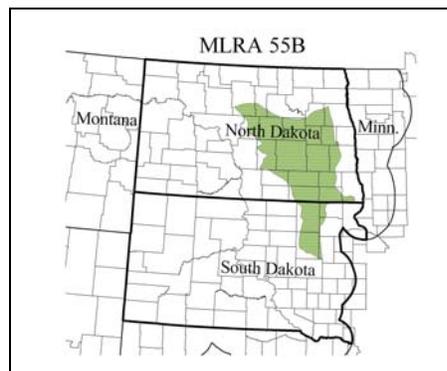
FSG No.: G055BY000ND

Major Land Resource Area: 55B - Central Black Glaciated Plains

Physiographic Features

The soils in this group are in various landscape positions.

	<u>Minimum</u>	<u>Maximum</u>
Elevation (feet):	980	1790
Slope (percent):	0	75
Flooding:		
Frequency:	None	Frequent
Duration:	None	Very long
Ponding:		
Depth (inches):	0	30
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 55B. About 78% of the annual precipitation 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 time frame. Precipitation is lowest in the north west, and highest in the south in the MLRA.

Average annual snowfall ranges from 25 inches at Forman, ND to 37 inches at Columbia, SD. Snow cover at depths greater than 1 inch range from 32 days at Petersburg, ND to 98 days at Gackle, ND.

Average July temperatures are about 71 degrees F., and average January temperatures are about 7 degrees F. Recorded temperature extremes in the MLRA during the years 1961 to 1990 are a low of -39 degrees F. at both Petersburg and Oakes in ND, and a high of 114 degrees F. recorded at Mellette, SD. The MLRA lies in USDA Plant Hardiness Zones 3b and 4a.

At Aberdeen, SD the average annual wind speeds are about 11 MPH. The highest wind speeds occur during March though May, but average monthly wind speeds do not vary significantly throughout the year. It is cloudy about 163 days a year. Average morning relative humidity in June is about 85% and average afternoon humidity is 60%.

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>

	<u>From</u>	<u>To</u>
Freeze-free period (28 deg)(days): (9 years in 10 at least)	115	137
Last Killing Freeze in Spring (28 deg): (1 year in 10 later than)	May 28	May 14
Last Frost in Spring (32 deg): (1 year in 10 later than)	Jun 06	May 23
First Frost in Fall (32 deg): (1 year in 10 earlier than)	Aug 2 9	Sep 10

	<u>From</u>	<u>To</u>
First Killing Freeze in Fall (28 deg): (1 year in 10 earlier than)	Sep 08	Sep 21
Length of Growing Season (32 deg)(days): (9 years in 10 at least)	92	116
Growing Degree Days (40 deg):	3389	4402
Growing Degree Days (50 deg):	1852	2558
Annual Minimum Temperature:	-35	-25
Mean annual precipitation (inches):	16	21

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	0.24	0.13	0.30	0.63	1.08	1.72	1.30	0.94	0.76	0.23	0.18	0.24
Precip. More Than	0.60	0.79	2.10	3.58	4.09	5.07	3.66	4.02	3.07	1.92	1.14	0.74
Monthly Average:	0.50	0.43	1.02	1.89	2.41	3.39	2.65	2.27	1.94	1.18	0.57	0.46
Temp. Min.	-8.2	-2.7	11.6	28.1	39.9	50.0	54.0	51.2	40.8	30.3	15.0	-2.0
Temp. Max.	21.8	28.2	41.0	58.2	70.9	80.0	87.3	85.5	74.0	61.5	42.1	26.2
Temp. Avg.	7.4	13.6	26.9	42.8	55.7	65.4	71.0	68.7	57.6	45.8	28.3	12.9

Climate Station

Location

From

To

ND2482	Edgeley, ND	1961	1990
ND2605	Oaks, ND	1961	1987
ND2605	Ellendale, ND	1961	1987
ND2949	Fessenden, ND	1961	1990
ND3117	Forman, ND	1961	1990
ND3287	Fullerton, ND	1961	1990
ND3309	Gackle, ND	1961	1990
ND4343	Hurdsfield, ND	1961	1990
ND4413	Jamestown, ND	1961	1990
ND4937	La Moure, ND	1961	1990
ND5764	McVille, ND	1961	1990
ND7027	Petersburg, ND	1961	1990
ND8937	Valley City, ND	1961	1990
SD0020	Aberdeen, SD	1961	1990
SD1873	Columbia, SD	1961	1990
SD5456	Mellette, 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:	Very poorly drained	To	Excessively drained
Permeability Class: (0 - 40 inches)	Very slow	To	Rapid
Frost Action Class:	Low	To	High
		<u>Minimum</u>	<u>Maximum</u>
Depth:		10	
Surface Fragments >3" (% Cover):		0	9
Organic Matter (percent): (surface layer)		0	20
Electrical Conductivity (mmhos/cm): (0 - 24 inches)		0	32

	<u>Minimum</u>	<u>Maximum</u>
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)	0	
Calcium Carbonate Equivalent (percent): (0 - 12 inches)	0	28

Adapted Species List

Unless the physical restrictions of these soils are corrected, no forage species can be economically produced.

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.

Inventory Data References:

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

State Correlation:

This site has been correlated with the following states: North Dakota and South Dakota

Forage Suitability Group Approval:

Original Author: Tim Nordquist
Original Date: 11/1/01
Approval by: Jeff Printz
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