

FORAGE SUITABILITY GROUP

Loamy, Limy “LRU F” (AWC > 6")

10 - 14” ppt & 70 – 90 Freeze Free Days

FSG No.: GO34AF022WY

Major Land Resource Area (MLRA) : 34 - Central Desertic Basins, Mountains, and Plateaus

Physiographic Features

This area is considered the Central Desert Basins, Mountains and Plateaus with slightly more than half of the area being federally owned. The remainder of the area is privately owned. The elevation ranges from 6,234 to 7,218 feet (1,900 to 2,200 meters). The area spreads from alluvial fans and slopes to surrounding mountains with broad intermountain basins. Water is scarce and ground water supplies are meager and little developed. Most of the area is used for cattle and sheep grazing with some hay and pasture along the streams.

Climatic Features

This area is classified as semi-arid. Annual precipitation ranges from 7 - 14 inches per year. Maximum precipitation occurs in the spring and fall. Relative humidity is low. The prevailing winds on the high plains are from the southwest during the fall and winter and from the southeast during the spring and summer with the highest average wind velocities during the fall and winter.

This is in Land Resource Area “F”. The precipitation in this LRU is 10 to 14 inches and has a freeze free period of 90 to 120 days.

Temperatures are subject to wide ranges, both seasonal and day to night. The high elevation of the plains and the dry air in this area permit large amounts of incoming and outgoing radiation, giving rise to warm days and cool nights. Late spring and early fall freezes are common, because of the cold air outbreaks from Canada, high elevation and rapid nighttime cooling. Sunshine is quite abundant with few days during the year without some sunshine.

For further climatic information look in the Field Office Technical Guide, Section I, Climatic Data, or refer to the National Water and Climate Center web page at <http://www.wcc.nrcs.usda.gov>.

Soil Interpretations

This group consists of deep, medium textured soils. The loam soils tend to be mellow and are easily worked, and have a pore-size distribution that results in good water retention and aeration. These soils have a water holding capacity (AWC) of greater than 6 inches in 60 inches of root depth. They have few limitations for the management and growth of adapted plants. The permeability class ranges from slow to moderately rapid. The primary limitation to the soils in this group is the high lime content close to the soil surface. The lime reduces the availability of some plant nutrients. This reduces species choices and yield potential.

The soil survey maps were completed for the purposes of developing plans for tracts of land and can not be used to determine the soils on or the suitability of a specific site. Consequently, small areas of significantly different soils are not identified on the maps and may occur in any map unit.

Refer to Appendix A, Forage Suitability Group Rules in Section II, of the Field Office Technical Guide, Pastureland and Hayland Interpretations for the parameters used in grouping the soils.

Soil Map Unit List

For a complete listing of soil components and what Forage Suitability Group the soil is in, refer to Appendix B, Section II of the Field Office Technical Guide, Pastureland and Hayland Interpretations.

Adapted Species List

Refer to Appendix C, Adapted Species for Forage Suitability Groups in Section II of the Field Office Technical Guide, Pastureland and Hayland Interpretations or access the electronic adapted species list at http://efotg.nrcs.usda.gov/references/public/WY/10-14_INCH_PRECIPITATION_ZONE_ADAPTED_SPECIES_MATRIX_34A_APPENDIX_C.pdf. Additional information concerning plant characteristics of a number of the listed species as well as individual cultivars of many of those species can be accessed on the web at <http://plants.usda.gov>.

Production Estimates

Production estimates are based on management intensity (fertility regime, irrigation water management, harvest timing, etc.) and should be considered as estimates only. The estimates should only be used for making general management recommendations. On site production information should always be used for making detailed planning and management recommendations when available.

The high forage production estimates listed below are based on dense, vigorous stands of climatically adapted, superior performing cultivars. They are properly fertilized for high yields, and pest infestations are kept below economic thresholds. Mechanical harvests are managed to maintain stand life by cutting at appropriate stages of maturity and harvest intervals. If grazed, optimum beginning and ending grazing heights are adhered to. Adequate time is allowed for plant recovery before entering winter dormancy under both uses.

The production estimates listed below represent total annual above ground plant production on an air-dry-matter basis. Production on pastures in many instances is species dependent and depends if the pasture is a single species pasture or a mixture of grass species. To convert the information below to AUM's (Animal Unit Months), multiply the pounds per acre by 35 per cent (harvest efficiency) and then divide by 790 lbs./year/AU (animal Unit) (example: assume 2,800 pounds per acre: $2,800 \times .35 \div 790 = 1\frac{1}{4}$ AUM's).

Irrigation: The expected production for legumes would range from 2 to 3 tons per acre. The expected production for grass would be from 2,000 to 4,000 pounds per acre.

Dryland: The expected production for grass would be from 300 to 600 pounds per acre. Legumes are not suited.

Forage Growth Curves

LRU F

Growth Curve Number: WY0012

Growth Curve Name: Cool Season Grass

Growth Curve Description: Dryland (10 – 14” precipitation)

Percent Production by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	35	40	10	5	5	0	0	0

Growth Curve Number: WY0013
Growth Curve Name: Cool Season Grass
Growth Curve Description: Irrigated (10 – 14” precipitation)

Percent Production by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	20	30	25	15	5	0	0	0

Growth Curve Number: WY0006
Growth Curve Name: Legumes
Growth Curve Description: Irrigated (10 – 14” precipitation)

Percent Production by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	10	30	10	30	15	0	0	0

Growth Curve Number: WY0007
Growth Curve Name: Legumes/Cool Season Grass
Growth Curve Description: Irrigated (10 – 14” precipitation)

Percent Production by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	10	30	15	15	15	15	0	0	0

Growth Curve Number: WY0003
Growth Curve Name: Legumes
Growth Curve Description: Dryland (10 – 14” precipitation)

Percent Production by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	20	25	20	25	5	0	0	0

Growth Curve Number: WY0004
Growth Curve Name: Legumes/Cool Season Grass
Growth Curve Description: Dryland (10 – 14” precipitation)

Percent Production by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	10	30	30	15	5	10	0	0	0

Growth Curve Number: WY0005
Growth Curve Name: Warm Season Grass
Growth Curve Description: Dryland (10 – 14” precipitation)

Percent Production by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0		15	40	35	15		0	0	0

Management

The relationship between soils, vegetation and climate on any given site is historically driven by the ability of the plants to grow and change as conditions warrant and has allowed various species to express themselves naturally. Under agronomic conditions, production-enhancing practices have altered the original limits of the biomass production. The modification of growth factors, customized selection of species and wise use of a variety of management practices have the potential to produce yields and quality far superior to those found in the native state.

These soils when in forage management system should see organic matter at a steady or a slowly climbing state. If erosion from either wind or water is a concern, the current erosion prediction tool should be used to ensure that the erosion concern is addressed properly. Refer to the pasture and hayland planting standard or the forage harvest standard in the Field Office Technical Guide, Section IV for further management information. The impact on yields can be reduced by selecting forage species that are tolerant of the high lime levels inherent to these soils.

FSG Documentation

Data References:

Agriculture Handbook 296 - Land Resource Regions and Major Land Resource Areas
Natural Resources Conservation Service, National Water and Climate Center (NWCC)
National Soil Survey Center, National Soil Information System (NASIS)
National Range and Pasture Handbook
Natural Resources Conservation Service, Field Office Technical Guide (FOTG)
Various Agriculture Research Service (ARS), Cooperative Extension Service (CES), and Natural Resources Conservation Service (NRCS) information on plant trials for adaptation and production.
"Dryland Pastures in Montana and Wyoming" Species and Cultivars, Seeding Techniques and Grazing Management, Montana State University, EB19

State Correlation:

This site has been correlated with the following states:
Colorado, Utah

Forage Suitability Group Approval:

Original Author: Douglas A. Gasseling, CPAg, CPESC, CCA
Original Date: 8/27/02
Approval by: Paul Shelton
Approval Date: 7/16/03