

INTRODUCTION

FORAGE SUITABILITY GROUPS FOR WYOMING

The Forage Suitability Group (FSG) sub-section contains the narratives, soils list, and adapted species list for the FSG in each of the Major Land Resource Areas (MLRA). FSG's are composed of one or more soil map components having similar potentials and limitations for forage production or grazing within the specified Major Land Resource Area (MLRA). The soils making up a FSG are sufficiently uniform to:

- support the same adapted forage plants under the same management conditions.
- have comparable potential productivity.
- require similar conservation treatment and management to produce adapted forages in optimum amounts and qualities.

All soil map unit components (except those that comprise less than 15% of the Map Unit) have been placed in a FSG. Those components that did not comprise 15% of the Soil Map Unit were not considered. Associated narrative reports, soils list and adapted species table have been prepared for each FSG group. These are interpretive reports that provide the soil and plant science basis for planning individual tracts of grazed or mechanically harvested forage land. Each FSG report is organized into the following sections:

Forage suitability groups order, condense, and simplify soils information. They are interpretive narratives providing the soil and plant science basis for planning individual tracts of grazing land where detailed soil mapping has been done.

The information contained in the Forage Suitability Groups is not absolute, as with all FOTG material, it is intended as a guide for planners and clients to assist in the resolution of identified resource concerns leading to resource sustainability. Planners must utilize local sources of information, other agency personnel, results of applicable research, their own experience and professional judgment, and the experiences and observations of the client in preparing inventory, evaluation, alternatives, and alternative evaluations to the client for decision-making.

The following describes the different sections of the Forage Suitability Group narratives. For more detailed information, refer to the National Range and Pasture Handbook.

Descriptive Name

The first section identifies the group by a descriptive name and a number that is unique to that group across the whole United States. It also identifies the MLRA that the group occurs in.

Physiographic Features

This section describes the types of landforms within the landscape occupied by the soil group. It serves to identify landscape factors that have a bearing on forage adaptation and management.

Climate Features

This section describes the climate for the MLRA being represented. Information in this section is tailored for its applicability to forage production and management.

Soil Interpretations

This section lists the chemical and physical properties of the soils that impact forage plant adaptation, management, or production potential.

Adapted Species List

This section identifies forage species that are adapted to the landscape positions, climate conditions, and soil properties listed in the report. Not all the listed species have the same yield potential, and considerable differences exist in their management needs. Adapted species should be selected from those listed based on the needs and management goals of the landuser.

Production Estimates

This section provides for a means to communicate the yield potential of several commonly grown forage crops and mixtures relative to each other within the FSG. Great care should be taken if these figures are used for estimating future forage yields.

The management steps taken by a producer to arrive at an ultimate forage yield occur in two inter-related phases. The first is the production phase in which the management (species selection, fertility, etc.) is geared towards growing the forage crop. The production estimates listed in the reports represent the results of this phase as total annual above ground plant production on an air-dry-matter basis. Estimate ranges are provided for both irrigated and dryland production management.

The second phase is harvest, during which management is geared towards removal of the forage crop either by mechanical means or grazing. Actual yields are dependent on the efficiency of the harvest management system employed. Careful consideration needs to go into choosing a harvest efficiency when estimating potential yields.

Mechanical harvest efficiency is generally higher than grazed efficiency. A 70 percent harvest efficiency for haying may be a reasonable figure to use. If total annual above ground production of a forage mixture were estimated to be 6,000 pounds/acre, a 70 percent harvest efficiency would equate to 4,200 pounds per acre, or 2.1 tons per acre.

Grazing efficiency is highly dependent on the grazing management system employed. In Wyoming the following conversion will be applied. 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 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).

Harvest management, especially grazing management, strongly impacts the forage plant growth and total annual production. This is because it affects on plant vigor. This inter-relationship of production management and harvest management results in a wide range of yield potentials from the

same forage crop on the same soil. The production estimates provided in the FSG narrative reports should only be used for broad planning purposes. For conservation planning, site specific information and consideration of the inter-relationship of forage production and forage harvest management (both mechanical and/or grazing) must be used when predicting forage and/or pasture yields.

Forage Growth Curves

This section estimates the seasonal distribution of the various forage crops. They are valuable as a management tool for predicting mechanical harvest dates, and for identifying potential periods of forage surplus or deficit during the growing season.

Management

This section discusses 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. This section may also discuss any special management needs for forage production based on the soil grouping.

Documentation and Reference

This section identifies the reference material used in developing the Forage Suitability narrative reports, adapted species, growth curves and the management information. In some instances there is also the area for correlation with other states and/or a name of the corresponding Forage Suitability Group in the adjoining state for that MLRA. It also identifies the author and approval person for the FSG.