

FORAGE SUITABILITY GROUPS

DEFINITION

Forage suitability groups (FSG's) are composed of one or more individual soil map units having similar potentials and limitations for forage production. Soils within a forage production suitability group are sufficiently uniform to:

- Support the same adapted forage plants under the same management conditions
- Require similar conservation treatment and management to produce the forages selected in the quality and quantity desired
- Have comparable potential productivity

PURPOSE

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. FSG's list the soil map units contained in them. They identify adapted forage species and seeding mixtures that will grow on those soils without corrective treatment. They may also identify other forages that could be grown after applying certain practices to correct limiting soil features found within a group.

FSG narratives state which limitations are present and their severity, associated management problems, and conservation and management practices needed to overcome the limitations. They also should identify any over-riding limitation that precludes expansion of the list of adapted species. For instance, if the soil will frost heave, alfalfa will not be suitable for the soil even if it was fertilized, limed, and drained to support alfalfa.

FSG's also give total yearly forage production estimates for the forages commonly raised on the soils within the FSG. They display the distribution of production on pasture by forage species or commonly associated mixtures during the growing season, when reliable figures are available. This is useful for planning pasture availability throughout the grazing season.

USING FORAGE SUITABILITY GROUPS FOR CONSERVATION PLANNING

The soil survey and/or field work will determine the kinds and extents of Forage Suitability Groups within a planning unit. Forage Suitability Groups will be used (where available) to assist with the gathering of inventory data and the evaluation of data.

Pasture and Hayland inventory and evaluation usually consists of determining:

- The Reconstructed Annual Weight (in air-dry pounds per acre) of each species present in the plant community
- The estimated annual weight (in air-dry pounds per acre) of the plant community as a whole
- An estimated Growth Curve for the plant community showing percent growth per month and cumulative growth
- An Initial Stocking Rate, derived from a Forage Value Rating, for the target grazing/browsing species in the management plan.
- For Hayland, a calculation of the amount of air-dry annual weight allocated to roughage and/or forage (aftermath).
- Pasture Condition Score
- Basal and Canopy cover estimations of Grasses & Grasslike plants, Forbs, Shrubs, Trees, Litter, Cryptobiotic Crusts, and Bare Ground

Information in Forage Suitability Groups are to be used for completing pasture and hayland inventory and evaluation, and for suggesting and evaluating appropriate alternatives to solve identified resource concerns for Resource Management Systems (RMS) planning. Forage Suitability Groups may not be developed for all areas within the state. When a Forage Suitability Group description is not available other sources of information should be used as references for planning activities. These include Extension Service publications, locally adapted research results, soil survey information, or other appropriate sources. Areas without current soil surveys will not have soil map units and correlated Forage Suitability Groups identified. Planners must identify soils and appropriate FSG correlations (from existing Forage Suitability Groups) from site-specific field visits for use in conservation planning. Planners are encouraged to collect and submit data to the state technical specialist in refining existing and/or developing new Forage Suitability Groups.

The information contained in 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 also utilize local sources of information, other agency personnel, results of applicable research, their own experience and professional judgement, and the experiences and observations of the client in preparing inventory, evaluation, alternatives and alternative evaluations to the client for decision-making. Refer to the National Range and Pasture Handbook for more information.

NEW YORK FORAGE SUITABILITY GROUPS

Forage suitability groups in New York are developed using the Forage Species Selection Tool <http://www.forages.org/> developed by Dr. Christopher Post, Dr. Jerry Cherney, Dr. Shaw Reid, and Mr. Daniel Elswit, Programmer at Cornell University. Support is provided by the Northern New York Agricultural Development Program at: <http://www.nny.org/>.

The Forage Species Selection Tool is made up of several programs which access numerous databases to provide forage species suggestions for New York State, taking into consideration both the available soil type and the intended forage use. Soil type can be selected from a list, or the program can estimate soil type based on zipcode, county, and basic soil characteristics. <http://www.forages.org/image/demo14small.gif>

The diagram on the following page is a graphical depiction of the Forage Species Selection Tool.

Species Selection Tool

