Forage suitability group report: a tool for grassland management

J.B. Cropper[1] and G.L. Peacock[2]
USDA, Natural Resources Conservation Service, [1]East National Technology Support Center, Northwood Building, Suite 410, 200 E. Northwood Street, Greensboro, North Carolina 27401, USA, Email: james.cropper@gnb.usda.gov, [2]Central National Technology Support Center, 501 West Felix Street, Building 23, P.O. Box 6567, Fort Worth, Texas 76115 USA

Keywords: forage production, soil map unit component, grassland, Microsoft Access™

Introduction Forage suitability groups (FSG's) are USDA-Natural Resources Conservation Service (NRCS) interpretative reports used to develop conservation plans for forage-producing farms and ranches and provide grassland resource information to producers. These electronic reports use soil properties and climatic data to develop forage selection, management recommendations, seasonal distribution of growth, and yield potentials for groups of soil map unit components that have like agronomic characteristics. The information contained in a FSG report can help the user develop proper livestock-forage balances, grazing management plans, pasture and haycrop renovation options, and land treatment measures.

Materials and methods The FSG's are being developed by local NRCS grassland experts and soil scientists for each Major Land Resource Area (MLRA) in the US with significant forage production occurring in it. They use the NRCS National Soil Information System (NASIS) and other relevant soil databases to group similar response soil map unit components together. Once the groupings are completed, evaluated, and accepted, interpretative reports are written for each group. Also contained within FSG's are regional climatic data that affect yield and forage selection and management recommendations. If a MLRA contains very dissimilar climatic conditions due to its terrain or extent that would impact the contents of the FSG report, the dissimilar areas are separated into land resource units (LRU's). Guidance in producing FSG reports is contained in the NRCS *National Range and Pasture Handbook*, revision 1, Chapter 3, Section 2 (USDA-NRCS, 2003). Microsoft Access™ is the database used to store the information and generate a report for each FSG currently. Once the template for FSG's is completed for the NRCS Ecological Science Information System, all FSG reports will reside in that database.

Results Each FSG report contains the following sections: general information (FSG name, identifier number, & MLRA or LRU locale), physiographic features, climatic features, soil interpretations, soil map unit list, adapted species list, production estimates, growth curves, soil limitations, management interpretations, management dynamics, and documentation. The user has the option of selecting only those sections of most interest to them. Currently with Microsoft Access, this is done by selecting Tools, then Office Links, and then Publish It with MS Word™. Once in MS Word, the user can extract what they want. An example section excerpt follows:

Forage Growth Curves

Growth Curve Number:	PA1205
Growth Curve Name:	Orchardgrass-Kentucky bluegrass-white clover, 120-140 day growing season
Growth Curve Description:	Orchardgrass pasture with K. bluegrass and white clover components 20-30% each by weight

Percent production by month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	15	30	22	8	6	14	5	0	0

Conclusions The FSG's reduce the redundancy of providing the same agronomic interpretations for each soil map unit component when many may share much the same soil properties with several other named soils. FSG reports are stored in a convenient format for retrieval and editing. For FSG's sharing similar interpretations with other FSG's, report contents can be copied, then edited, and given a new identifier and name to reduce repetitive report inputs. Reports of FSG's can show besides what we know, what we do not know. They put together the storehouse of soil information in NASIS with forage research trials and on-farm yield trials observation on identified soil map unit components. Missing quantified data can be painfully obvious. They can, however, unleash a stream of useful known data for anyone querying the database. They can also point to needed data collection for action to strengthen the data bank.

References

USDA-NRCS (2003). National Range and Pasture Handbook, revision 1. Chapter 3, Section 2 and Exhibits. Washington, District of Columbia, 61pp.