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Center for Grassland Studies

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A Systems Approach to Production from Weaning to Harvest

by Terry Klopfenstein, D. J. Jordon, and Galen Erickson, Department of Animal Science, UNL

Introduction

Although some summer and fall calving occurs, most calves in the northern states are born in the spring. Therefore, to have a consistent supply of feeders entering feedlots, a variety of stocker programs are used. About 30% of calves produced in the U. S. enter the feedlot as calf-feds. Some of these calf-feds are weaned and enter the feedlot 30 to 40 days later. It is also common for calves to be backgrounded two to six months before entering the feedlot.

Many calves enter yearling programs. These cattle are nutritionally restricted to varying degrees and for various times. They make compensatory gain on grass and then make additional compensatory gain when they enter the feedlot. Because of the great variety of cattle production systems, cattle enter the feedlot at varying weights, ages and nutritional backgrounds. Ranchers have an opportunity to add value to their calves by backgrounding them. Ranches have forage resources. It may be possible, in some cases at least, to optimize the use of those forage resources by backgrounding calves produced on the ranch. We have conducted research on backgrounding programs over the past 15 to 20 years. We also feed 600 or more calf-feds each year. We want to share those observations and the appropriate economics with you.

Yearlings Versus Calf-feds

Data from calf-finishing (CALF) and yearling grow/finish systems at the University of Nebraska from 1995 to 1998 were used. For the yearling systems, two winter systems were evaluated. In one system, steers were grown over the winter at 0.42 lb/day average over four years (SLOW). In the second system, steers were grown at 1.54 lb/day over four years (FAST). The SLOW system represented 160 steers fed in 14 pens, while the FAST system represented 212 steers fed in 18 pens. Calf-finishing trials began in the fall (October and November). The CALF treatment represented 1257 head of steers fed in 128 pens.

For yearling trials, calves of British breeding weighing 520 lb were received and given a 28-day acclimation period. They were then placed on cornstalks from late November to mid-February and then drylotted until about May. The FAST calves received 5 lb (dry matter) of wet corn gluten feed as an energy, protein, and phosphorus supplement. The SLOW calves received 1.8 lb (dry matter) of a protein supplement. The same supplements were fed during the drylot phase when the forage was ammoniated wheat straw. The cattle grazed both cool- and warm-season grasses until mid-September when they were placed in the feedlot. They were stepped-up and fed a 40% (dry basis) corn gluten feed diet. Calves for calf-fed trials averaged 612 lb initial weight and were primarily black, exotic cross steers. They were given a 25- to 35-day acclimation period and then started on various feeding experiments. They were fed 160 to 180 days and marketed in May and June. They were fed finishing

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The Center for Grassland Studies is a unit within the University of Nebraska-Lincoln Institute of Agriculture and Natural Resources. It receives guidance from a Policy Advisory Committee and a 50–member Citizens Advisory Council. This newsletter is published quarterly.

Martin A. Massengale ..... CGS Director
Pam Murray ..... CGS Coordinator
Jan Shamburg ..... CGS Secretary
Anne Moore ..... Newsletter Layout

From the Director

Grasslands represent a wide range of vegetation and are used for many different purposes. In addition to food, fiber, feed and recreational purposes, they are an excellent protector of our natural resources of soil, water and air. With increased emphasis today on conservation, grasses and grasslands become all the more important.

Grazing lands comprise the largest portion of watershed cover types in the United States, as well as in Nebraska. They cover more than half of the nation's and Nebraska's land surface area. Therefore, the potential for using grassland as a conservation resource is enormous.

Humans have been transforming the environment for many, many years. One of the big transformations came when millions of acres of grasslands were plowed and converted to cropland. In retrospect, it appears many of these areas should have been left in grass for grazing and for soil cover to prevent erosion. The "black blizzards" of the "dirty thirties" came about largely because of the destruction of acres and acres of grasslands in the Great Plains states.

A good cover of grass holds the soil from wind and water erosion. Also, with enough time, grass can rebuild soils. With other things being equal, the kind and quality of the vegetation will determine, to a large degree, the quality of the soil.

Soil erosion by wind and water is a major problem throughout the world. Grasses provide both an effective and economical method to slow this process. Grasses also provide an effective way to reduce air pollution from dust particles by holding the soil in place. A grass cover prevents the wind or other air currents from picking up soil particles and moving them either short or long distances through the air. We have seen this occur recently in Nebraska with the strong winds we are experiencing this spring.

Grasses are also a great resource for maintaining surface and ground water quality. They will hold the water in place until it has time to be absorbed by the soil and percolate into the ground water. The interception of water by grasslands is high since a thick stand of grasses may have a surface that is 5 to 20 times larger than the soil surface underneath it. This vegetation also checks the force of the raindrops, causing them to fall more gently on the soil beneath the layer(s) of mulch. Furthermore, grasslands hold a portion of the rain upon their surface until it evaporates; therefore, some of the water never reaches the soil for runoff.

Grass strips and grassy wetlands in flood plains are also good conservation practices because they disrupt water flows, slow the velocity of water, reduce its eroding capacity, and provide temporary flood water storage. In another type of conservation — species diversity — grasses provide a vital wildlife habitat, which stabilizes and/or helps to increase wildlife populations, thus enhancing biodiversity. Grasses also provide improved aesthetic value and more recreational opportunities.

When one takes time to reflect, they can begin to visualize the importance of grasslands to our society as a whole.

M. A. Massengale

Turf in the Landscape

The following is excerpted from a January 2001 NebGuide that describes the benefits and uses of turf in the landscape. The authors are Anne Streich, Steve Rodie, and Roch Gaussoin, UNL Department of Agronomy and Horticulture. The complete NebGuide is online at www.ianr.unl.edu/pubs/horticulture/g1418.htm.

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Environmental

Many people avoid turf or reduce turf areas in their landscapes because they perceive turf as a high maintenance and environmentally insensitive plant. But properly used and maintained, turf provides many environmental benefits. Turfgrass:

Reduces soil erosion and runoff. The dense leaves, thatch, mat and roots of the turfgrass system provide an excellent groundcover that significantly reduces soil erosion and water runoff when compared to other landscape plants or bare soil. Bare soil losses from wind and water can be several tons per acre per year. The turfgrass system can efficiently reduce groundwater and surface water contamination from fertilizers and pesticides applied by capturing, retaining and using them. Turf also protects water sources when excessive applications are inadvertently applied. Fertilizers or pesticides that are applied to bare soil are more likely to contaminate water sources than those applied to turf.

Provides a cooling effect and reduces glare. Patios, concrete walks and other nonliving landscape materials used as walking surfaces reflect significantly more light than turf. This reflection can cause glare and on sunny days can be visually uncomfortable. Evapotranspiration is the cooling process of all living plants, including turf. In contrast, nonliving landscape elements do not evaporate water through transpiration. As a result, turfgrass areas reduce ground surface temperatures. Turf provides a cool, nonglare surface that is pleasant to walk on, sit on and look at.

Reduces noise. Using turf instead of concrete on road embankments can reduce traffic noise by nearly 200%. Turf also increases water infiltration on slopes, which minimizes water run-off, soil erosion and potential environmental contamination.

Functional

Turf areas in the landscape often are looked upon as being large and wasteful because of the time and energy needed to maintain, but turf provides many functional benefits in the landscape. Turf:

Provides an ideal surface for recreation and sports fields. Unlike other landscape plants, the turfgrass growing point is near the soil surface. This allows turf to be mowed at very low heights, which provides optimal playing surfaces for many recreational activities. Turf also is very wear tolerant and resilient compared to other groundcovers, which is necessary in high-use areas such as soccer fields, backyard play areas and courtyards.

Provides a surface that is easily maintained. For beginning or less-trained landscape managers, turf is typically easier to maintain and manicure than other landscape plants. It does not require the pruning and watering skills that are required to properly maintain trees, shrubs, flowers and other groundcovers. Once the mower is set at the desired height, all of the leaves are cut (pruned) at the same height. With mulching mowers now available, mowing does not result in left over material that needs to be disposed of in the landfill. Generally, turf areas can withstand over- or under-watering better than other landscape plants can. Controlling weeds in turf is generally easier than in other groundcovers, perennials or shrub beds. With proper mulching however, weeds can be effectively controlled in planting beds. By keeping a dense, healthy turf, most weeds can be easily kept out.

Provides different levels of management. Compared to other landscape plants, turf has many species available that can all effectively contribute to a highly unified visual affect. Turfgrass species should be selected based on use, intended level of management and aesthetic necessities.

Minimizes injuries. Artificial turf became popular in the 1980s on athletic and all-purpose fields due to the ability to withstand hours of wear and use in poor weather conditions. Although it has some benefits, artificial turf is not without negative characteristics. Studies have found that artificial turf fields produce more injuries and higher field temperatures than natural turf.

Design

Often, areas in a landscape design that are intended as turf are identified only as turf or not identified at all on the plan. They are usually areas left over after all the beds and plantings have been identified. Instead, careful thought should be given to the turf used and the placement of turf in the design for many reasons. Turf:

Provides an attractive foreground. Turf provides an excellent foreground for other plants, since green is a neutral color and all turfgrasses are a shade of green during the growing season. Flowers or plants that have a different foliage color are good contrasts with turf. The low height of turf against taller plants provides a good visual contrast and also gives a sense of depth to the landscape. In addition, the fine texture of turf creates interesting contrasts when viewed adjacent to plants with large leaves or rough bark.

Adds spaciousness to an area. Maintained turf is usually mowed at heights no greater than 3 1/2 inches. This creates

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A Systems Approach to Production from Weaning to Harvest (continued from page 1)

diets comparable to the yearlings, most containing wet corn gluten feed.

Animal Performance

Initial weights (before the winter period) of the yearling-finishing systems were 521 and 524 lb for FAST and SLOW, respectively. Gains over the winter period were imposed to evaluate any potential compensatory growth response in the subsequent summer grazing period. Initial summer weights were 763 and 592 lb for FAST and SLOW, respectively. Average daily gains on grass were 1.21 lb/day for FAST and 1.65 lb-day for SLOW. Steers in the SLOW system exhibited some compensatory growth during the summer period as a result of lower winter gains. Final weights off grass and initial feedlot weights were 931 lb for FAST and 814 lb for SLOW. Steers on the CALF treatment entered the feedlot weighing 612 lb. Yearlings ate more feed and gained faster than calves, but were less efficient. Slaughter weights were 1234, 1254 and 1360 lb for calves, SLOW and FAST cattle, respectively. Profits were -$23.18, -$20.66 and $21.00 per head, respectively.

Conclusions

These backgrounding programs fit nicely in a farming area where cornstalks and wet corn gluten feed are readily available. How well do they fit on ranches where neither are available? The basic concepts are the same. The forage resources on ranches are winter range and hay. These are not greatly different than cornstalks and ammoniated wheat straw. It is probably not feasible to feed wet corn gluten feed on most ranches. However, dry corn gluten feed and dried distillers grains are available as commodities. Both supply protein, energy and phosphorus. The feeding level will be dictated by gains desired and digestibility of the forage. Dried corn gluten feed and distillers grains will be more expensive than wet corn gluten feed. However, handling and feeding costs may be less. Numerous fuel alcohol plants are being built, and it is expected that supplies of the byproducts will be plentiful. That plentiful supply should keep prices at moderate levels.

Clearly, cattle type (mature weight) is important to yearling production versus calf feeding. Large-framed steers certainly should be fed as calves. Smaller-framed steers and heifers are good candidates for yearling systems. If calves are to be retained in yearling programs, weaning weight is much less important, and smaller cows with lower maintenance requirements may increase profitability compared to larger cows producing calf-feds. On many ranches, it may be appropriate to "sort" calves at various times after weaning to produce calf-feds, short yearlings and long yearlings. This takes advantage of different frame scores of calves within the herd and spreads market risk.

Finally, the yearling systems described herein were economical primarily because of the heavy weights of the cattle entering the feedlot. There may be resistance by feeders to buy large (1000 lb) feeders. In order for ranchers to earn the benefits from a yearling system, it may be necessary to retain ownership in the feedlot.

Editor's Note: Klopfenstein and Erickson are faculty members and Jordan is a former graduate student in the Department of Animal Science. Klopfenstein can be contacted at 402-472-6443, tklopfenstein1@unl.edu.

Nebraska Grazing Conference in Kearney August 12-13

Graze *with* instead of *against* nature. Improve grazingland vegetation. Use grazing to produce health foods. Select the right cattle for your grazing needs. Diversify animal and utilization enterprises using grazing. Evaluate potential and success of grazing decisions.

The 2002 Nebraska Grazing Conference can teach you how to do this — and more! The conference features nationally recognized grazing experts as well as experienced Nebraska graziers who will help both beginning and advanced producers find ways to squeeze more profits from grazinglands without excessive risk, unreasonable labor demands or confusing technology.

The conference will be held at the Holiday Inn in Kearney, Nebraska on August 12 and 13. Sponsored or endorsed by many businesses, organizations and agencies, this conference is sure to provide new ideas and options for all ranchers, farmers, wildlife managers, and advisers who want to make grazing a profitable enterprise while benefitting the environment.

A special feature will be the Argentinian-style grass-fed beef dinner Monday evening, prepared by acclaimed chef Gaspar Tartanian from New York City.

Interested in the health benefits and market potential of grass-fed animals? Chris Calkins and Judy Driskell will provide details of their University of Nebraska-Lincoln (UNL) research into nutrient composition and consumer acceptance of grass-fed products. Plus, Nebraska producers will describe their experiences growing and marketing grass-fed bison, beef, poultry, and milk.

Do genetics matter for grass-fed cattle? Kit Pharo from Colorado, a popular speaker at last year's conference, returns to help you choose the best cows and bulls for your resources.

Tired of spending money to fight weeds, feed hay, and fertilize pastures? Dave Pratt from California, leader of the world-famous Ranching for Profit School, will show you how understanding and working with the basic building blocks of our ecosystem can make your grazinglands more productive and profitable.

Maybe you need to enhance the productivity of your grazinglands. Leah Carson, Kim Stine, and Jan Joseph from the Natural Resource Conservation Service, along with several Nebraska ranchers, will help you get started with improved grazing practices and help target acres with the most improvement potential. Chris Helzer with The Nature Conservancy will describe planting, grazing, and other techniques to achieve your goals, and Pat Reece from UNL will design a system for you to monitor your progress.

Cedar trees taking over? John Ortmann from Colorado State University has some answers on methods and costs to reclaim your land.

Are wildlife and biodiversity, natural grassland beauty, prairie preservation and conservation of interest to you? Grazing can be valuable for achieving these goals, and Arnold Mendenhall from Audubon Nebraska will describe how it's done.

The two-day pre-registration fee of $70 is due to the Buffalo County Extension office by August 1. The fee covers lunch both days, the evening meal, break refreshments, and materials (including proceedings). One-day registrations are also available. Late fees apply to registrations received or postmarked after August 1.

For a copy of the brochure containing the registration form, or for information on CEU credits, contact: Buffalo County Extension, 1400 E. 34th, Kearney, NE 68847-3998, phone 308-236-1235, e-mail Buffalo-County@unl.edu. Information and a registration form are also available online from the Center for Grassland Studies Web site, www.grassland.unl.edu.

National Grassland Week in May

In recognition of National Grassland Week, which in 1997 USDA Secretary Dan Glickman proclaimed to be the third week of May, we provide the following information excerpted from the U.S. Forest Service's "National Grasslands" Web site, www.fs.fed.us/grasslands/.

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The Homestead Act of 1862 brought almost six million settlers by 1890 who tried to replace grass with crops more beneficial to economic aspirations. The settlers soon discovered, however, that while these vast grasslands were productive in wet years, they were also subject to serious drought and bitter winters. Land that should never have been plowed yielded its topsoil to incessant dry winds. Above parts of Oklahoma, Texas, Wyoming, Nebraska, Kansas, Colorado and the Dakotas, dust clouds rose to over 20,000 feet. Ten-foot drifts of fine soil particles piled up like snow in a blizzard, burying fences and closing roads.

During the same time, bison were largely eliminated by westward expansion. Ranchers filled the large open ranges of the plains and the Great Basin with cattle and sheep. Soldiers, prospectors, railroad builders and a host of others seeking the west helped push back the last frontier as they crossed and settled these lands. By the early 1930s, the broad midsection of America was in trouble. Not only because of the Dust Bowls, but the Great Depression was reaching its economic depths. Emergency measures were taken to save the farmers and settlers. The National Industrial Recovery Act of 1933 and the Emergency Relief Appropriations Act of 1935 allowed the federal government to purchase and restore damaged lands and to resettle destitute families. From these disastrous days, a hundred years after the Homestead Act on June 23, 1960, the National Grasslands were born.

Grass is the key to maintaining the productivity of these areas. Remove it, and the soil blows away. When rain falls, the barren ground can't absorb water and it runs off quickly carrying silt into streams and ponds. These grasslands must be used wisely for the benefit of the land and its inhabitants.

Our nation's 20 National Grasslands are an outstanding conservation success story. They are examples of progressive agriculture in arid grass country. Revegetated to provide for soil and water conservation, these intermingled public and private lands are managed to complement each other and to conserve the natural resources of grass, water and wildlife habitat.

Clean water flows off restored watersheds to be used miles downstream.

Wildlife, including many declining, threatened or endangered species, thrives in reborn habitats.

And, under a nurturing shield of vegetation, once wounded soil rebuilds its fertility. The construction of livestock ponds has expanded the range of many wildlife species by providing water where none existed before. The scattered watering ponds allow more cattle grazing throughout the grassland and also benefit wildlife habitat. Private farmlands within the National Grasslands boundaries add diversity to the prairie habitat.

The presence of prairie dog colonies creates habitat favorable for such wildlife as burrowing owls, which use the abandoned burrows. The almost extinct black footed ferret used to prey on the prairie dogs and use their

burrows, as well. Rattlesnakes are the only poisonous snakes found in the grassland. They are seldom seen during the heat of the day.

National Grasslands are rich in mineral, oil and gas resources. They also provide diverse recreational uses, such as mountain bicycling, hiking, hunting, fishing, photographing, birding and just sightseeing. Fossils, prehistoric and historic resources, as well as many cultural sites are being discovered. The National Grasslands are being managed to protect these important legacy resources. The National Grasslands are important lands managed for sustainable multiple uses as part of the National Forest System. They have made important contributions to conserving grassland ecosystems while producing a variety of goods and services, which in turn, have helped to maintain rural economies and lifestyles.

Editor's Note: For information on the Oglala National Grassland and other units associated with the Nebraska National Forest, see the NNF Visitors Center Web site, svinet2.fs.fed.us:80/r2/nebraska/vvc.html.

CGS 2002 Seminar Series

The theme for the Fall 2002 Center for Grassland Studies Seminar Series is "Impacts of Grasslands on Soil, Water and Air Quality." All seminars, which are open to the public, will be 3:00-4:00 p.m. on most Mondays September 10 through December 10 in the East Campus Union. Students interested in taking the course for credit should contact the CGS office. When the list of speakers and topics is finalized this summer, it will be available on the CGS Web site, or call the CGS office for a copy.

Space Still Available in Nebraska Range Shortcourse

In the last issue of this newsletter you read about the 2002 Nebraska Range Shortcourse to be held June 23-28 at Chadron State College. The main areas of emphasis are:

(1) Rangeland resources — plant function and identification, and range soils and geology;
(2) Ecology — ecological principles for grasslands, monitoring range ecosystems, and determination of range condition;
(3) Management of public and private lands — emphasizes fire, revegetation, and multiple use of rangelands for livestock, wildlife, or environmental protection;
(4) Grazing and livestock production — determining stocking rates and establishing grazing systems;
(5) Fitting livestock to the production system.

This shortcourse, offered every even-numbered year since 1978, has been successful in attracting those who are involved directly with management of range, such as ranchers and other range managers, as well as persons who serve in advisory roles through agencies and educational institutions. It also attracts persons with little or no range training or background.

The registration fee is $135 and covers all materials and transportation for field trips (additional tuition fees apply if taking the course for credit). For more information see www.ianr.unl.edu/ianr/agronomy/rangeshortcourse/, or contact the shortcourse coordinator, Lowell Moser, 402-472-1558, lmoser1@unl.edu, or the CGS office to receive a brochure.

Turf in the Landscape (continued from page 3)

an open area that makes the space appear larger than if the vertical plane were broken up with plantings of trees, shrubs and flowers.

Connects the landscape. Located throughout the landscape, the repetition of turf visually connects otherwise unlinked areas into a unified whole.

Defines Landscape Space. Well-designed turf areas contrast with adjacent plant heights, textures and color that can define "rooms" in the landscape. Landscape rooms with turf "floors" can vary in size and relative scale, but in all cases the turf should have simple straight or curved edges and be of sufficient size to simplify maintenance, allow equipment access, and use standard irrigation components. Turf, because of its accessibility, also provides a strong invitation to enter and experience a landscape, especially if a sense of flow is established with interesting and maintainable turf shapes.

Enforces line/form of other landscape features. Turf edges can be used to enforce other groundplane lines/forms that are created by paths and other hardscape elements (pools, planters, etc.). Turf edges with tight curves and odd angles should not be used because they detract from the landscape and make it very hard to mow and water. Turf should meet beds and hardscape objects at ninety degrees.

Softens hardscape surfaces. Including decks, patios, benches, pavers and other hardscape elements is important to complete the design of a landscape. But, using hardscape elements on the ground plane can become overwhelming when used over large areas. Turf provides one alternative in breaking up and softening the ground plane.

Summary

Used effectively, turf is an important component of the landscape. It provides many environmental, functional and design benefits in the landscape. Effective use depends on proper species and cultivar selection, appropriate match to landscape conditions (soils, available water, etc.), integration of turf areas from both form and function perspectives, and a clear maintenance level commitment. Rather than reduce or eliminate turf areas, use turf to create a more aesthetically pleasing, functional and environmentally friendly landscape.

Global Virtual Conference on Organic Beef Production

The main objective of the first Virtual Global Conference on Organic Beef Cattle Production is the interchange of information and the integration of research centers recognized for their experience in the area. An additional objective is to promote the development of the international scientific community in the area of sustainable development and organic food production. The lectures/papers will be divided into six forums that will be moderated by one or more coordinators of all participant countries: Agroecology and Sustainable Production; Welfare and Animal Health; Grassland; Meat Quality and Rastreability; Social Aspects and Economy; and Organic Production. Each forum will have five or six lecturers and will be available for discussions during one week. The first forum will begin on September 2 and the last one October 15.

The conference is a partnership among Embrapa Pantanal, Distance Learning Nucleos and Data Processing Nucleos of University of Contestado - Concordia Campus, Brazil. It is free of charge and open to the public. To learn more or to subscribe, see the conference site, www.conferencia.uncnet.br/pantanal/.

CGS Associates

Two Associates have been awarded Charles Bessey and Willa Cather professorships. **Svata Louda's** research has revolutionized understanding of the impact of herbivorous insects on plant populations and communities, including the effect of non-native insects that have been released for weed control (see Winter and Spring 1998 issues of this newsletter). **Shashi Verma** has a reputation for excellence in micrometeorology research and has studied the greenhouse effect and its potential impact on agriculture.

James Schepers accepted the Water Guardian Award from the Mid America Crop Protection Association at a meeting of the Nebraska Agri-Business Association earlier this year.

Rick Rasby was one of the recipients of a "Certificate of Recognition for Contributions to Students" awarded annually by the UNL Teaching Council and UNL Parents Association.

James Gosey and **Lowell Moser** were among those receiving this year's UNL Senior Faculty Teaching Excellence Awards, which include $5,000 stipends.

Resources

Integrating Management Objectives and Grazing Strategies on Semi-arid Rangeland. $2.00 + $2.00 s&h. This 24-page NU Cooperative Extension publication (EC01-158) describes management practices that optimize the sustainability of rangeland-based operations and discusses how environmental, economic and resource factors can affect the selection of a grazing system. Readers can learn how to develop and prioritize the livestock production and natural resource management objectives needed to select the system most likely to accomplish their goals. Order from Extension Publications, IANR Communications & Information Technology, Box 830918, Lincoln, NE 68583-0918. Also online at www.ianr.unl.edu/pubs/range/ec158.htm.

Grazing Systems Planning Guide (BU-07606). $3.00. The 45-page guide helps livestock producers (and those who advise them) develop a customized farm-specific grazing plan to reduce feed costs and add to profitability. It focuses on management and control of pasture resources. Order from University of Minnesota Extension Service, 1-800-876-8636. Also online at www.extension.umn.edu/distribution/livestocksystems//components/DI7606.pdf.

Practical Guide to Prairie Reconstruction. $12.95. Carl Kurtz, a professional writer, teacher, naturalist, and photographer, provides this step-by-step guide to prairie restoration, from site selection through burning. It contains 20 color photographs, conservation guidelines from The Nature Conservancy, and a reference list of Midwest seed sources and services and books on prairie plant restoration and identification. It was published for the Leopold Center for Sustainable Agriculture, the Iowa Chapter of The Nature Conservancy, and the Iowa Natural Heritage Foundation. More description and online ordering is available at www.uiowa.edu/uiowapress/kurpragui.htm. You can also order by contacting University of Iowa Press, 100 Kuhl House, Iowa City, IA 52242-1000, 773-568-1550, uipress@uiowa.edu.

Eighty Years of Vegetation and Landscape Changes in the Northern Great Plains: A Photographic Record. A free copy (while supply lasts) of this December 2001 report from the USDA-ARS Livestock and Range Research Lab (LRRL) is available by e-mailing reprints@larrl.ars.usda.gov. It is also online at www.larrl.ars.usda.gov/80years.pdf (check out the rest of the LLRL site while you're there).

The *2002 Nebraska Beef Cattle Report* is now available in hard copy and online. It contains 33 research articles on a variety of topics related to beef production. You can obtain a copy from the Center for Grassland Studies, or print from www.ianr.unl.edu/pubs/beef/beefrpt.htm.

Reader Feedback Still Requested

Thanks to those who took the time to tell us how they use this newsletter. As explained in the previous issue, we are assessing the usefulness of the various activities in which the Center for Grassland Studies engages and where to direct our limited resources in the future. It would be helpful to know the impact of our newsletters. We would greatly appreciate your taking a moment to contact us with information about how you use the newsletter, including: whether you post/forward/circulate it; if you have used information from one or more articles, and if so, how (e.g., reprinted an article, incorporated into teaching or extension materials — printed or electronic, used in a talk, contacted an author or the CGS for more information, used a practice or method described in an article, etc.); whether you receive the printed version or read it on the Web; and for those who receive a printed copy, whether you would access the Web if it were only available online. Also, any suggestions about improvements in content or format and topics you would like to see covered would be most welcomed. You can provide your feedback to Pam Murray, CGS Coordinator and newsletter editor, in one of three ways: e-mail pmurray1@unl.edu; call 402-472-4101; or write to her at the CGS office.

Info Tufts

More than 150 species of birds can be found in the sandhill prairies of western Nebraska.

About 50% of Nebraska's rangeland is the unique Sandhills, which is the largest stabilized sand-dune complex in the Western Hemisphere, and one of the finest cattle producing areas of the world. Rangeland combined with the 835,000 ha of seeded pastureland accounts for 50% of the total land area in the state. Including cropland harvested for hay or silage, more than 57% of Nebraska is devoted directly to grasslands and forage crops.

Calendar

Contact CGS for more information on these upcoming events:

2002

June 23-27:	Promoting Prairie, 18th North American Prairie Conference, Kirksville, MO, www.napc2002.org
July 11-14:	Wild Ones 2002 National Conference: Low-Maintenance Landscaping With Native Plants, Columbus, OH, www.for-wild.org/conference/am02.html
July 14-17:	American Forage and Grassland Council annual meeting, Bloomington, MN, www1.umn.edu/mfgc/afgc.htm
July 22-25:	UNL Summer Water and Natural Resources Tour, follows North Platte River basin in CO, WY and NE, beginning and ending in Kearney, NE
Aug. 12-13:	2nd annual Nebraska Grazing Conference, Kearney, NE, www.grassland.unl.edu/grazeconf.htm

We can't seem to stop congratulating Frank Bruning! This is the fourth newsletter in which we're telling you about some award or accomplishment of Frank, who is a member of the CGS Citizens Advisory Council. First it was the outstanding agricultural leader award from the American Bankers Association. Then Frank and his wife, Mary, were honored for outstanding service to agriculture by the Nebraska Bankers Association. Next it was being named 2001 Nebraska Cattleman of the Year by the Nebraska Cattlemen. Now it's for being the 2002 Block & Bridle/Animal Science Honoree, which means he is being inducted into the UNL Animal Science Hall of Fame. So once again, Frank, congratulations!

If you have articles, events, resources, CGS Associate News, or other items you would like to submit for inclusion in future issues of this newsletter, please contact the editor, Pam Murray, at the CGS office.

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