

LIVESTOCK & FORAGE GAZETTE



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Silvopasture taking root in Saskatchewan
 (See page 2)

EDITOR'S NOTE

Fall is here! It's that time of year again when we plan and prepare for the upcoming winter feeding and grazing periods and anticipate the growing season that will follow. In this issue of the Livestock & Forage Gazette we focus on some practical aspects of managing through the winter months including stock watering options and low cost feeding alternatives. Also included is a comparison of perennial and annual forages and an update on the Environmental Farm Plan Program. Appreciation is extended to all our contributors.

As always, feel free to pass along your questions or comments to members of the editorial committee. To be added to our mailing list, please contact the Saskatchewan Forage Council at 306.966.2148 or jbruynoooghe@saskforage.ca.

Photo credits for this issue go to Bob Springer, Marg and Bill Sullivan and Bart Lardner.

Until next time,
 Janice Bruynoooghe
 Livestock & Forage Gazette Editor

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PRODUCER PERSPECTIVE: *Silvopasture Taking Root In Saskatchewan*

Submitted By: Saskatchewan Agriculture and Food

What if you could be good to your land while adding one or two new sources of income to the farm?

This may sound too good to be true, but for Marg and Bill Sullivan, members of Parkland Agroforestry Inc., and a growing number of producers, it is reality.

They are practitioners of silvopasture.

Silvopasture is a new approach to pasture management that involves growing trees and forage on the same parcel of land. A silvopasture requires more work than a simple pasture but, with good management, it produces three marketable end-products: forage, livestock and timber. The forage provides food for the livestock and, once established, the trees provide shelter and shade until they are harvested. In addition, by situating the trees and forage stands to take advantage of



Bare rooted Walker poplars for seeding.

ground water, run-off and prevailing winds, silvopasture will also stabilize and regenerate the soil. It can also help to cut the wind and control run-off on adjacent cropland.

The Sullivans and approximately 30 other producers from around Nipawin, Naicam, Tisdale and Prince Albert formed Parkland Agro-forestry

Inc. in 2000. For the Sullivans, who run 48 head of Black Angus on a half section south of Melfort, the impetus was economic.

“We’re pretty efficient,” says Marg. “We rotate the cows on four paddocks and have several water sources. We wanted to set up a tree plantation but couldn’t afford to reduce the cow herd. We chose silvopasture because it works with the cows.”

In 2000, the Sullivans established a one-acre stooling bed from plant materials obtained from the AAFC-PFRA Shelterbelt Centre in Indian Head. The

Sullivans began propagating hybrid poplar cuttings from this stooling bed that were then sold to other producers who wanted to establish silvopasture systems. These cottonwood/poplar hybrids are hardy and well-suited to the local environment. They grow straight and fast, and can reach maturity in 15 years.

The Sullivans found that there are some challenges to pioneering new types of agriculture.

“In most cases, you start with an assessment of what you have, and then design and implement a management plan,” says Sullivan. “But silvopasture is a new thing for this area and most available information is based on experiences elsewhere.”

In an effort to meet the need for local data on silvopasture, the Greencover Canada Technical Assistance Program - a federal initiative to help producers improve their grassland management practices, protect water quality, reduce greenhouse gas emissions, and enhance biodiversity and wildlife habitat - is funding a silvopasture demonstration project along the Carrot River. The information will be very valuable to other northeast Saskatchewan producers who are considering silvopasture.

Silvopasture is neither simple nor easy. The full benefits of silvopasture may be achieved only

For continuation of this article please see page 11.

ANNUAL OR PERENNIAL FORAGE: WHICH IS BEST?

Submitted By: Lorne Klein, PAg,

Forage Industry Development Specialist, Saskatchewan Agriculture and Food, Weyburn, SK

I recall a producer's question 12 years ago when I first began working in the forage industry: What is the best and cheapest way to grow forage - is it annuals or perennials? At the time I didn't know the answer, but thought I could find someone who certainly would. I'm still looking.

The debate of annuals or perennials is ongoing. It has to factor in a large number of physical and economic variables. The decision making process can become so complex and cumbersome that a person hardly knows where to begin. The starting point is to have financial and production records as a basis for the choice. From there, the following are ideas and concepts that I like to raise with producers who are considering either annuals or perennials. Some I learned from others and some are from my own experience.

Cost and Production Comparison

Annuals require an outlay of cash each spring to seed the crop, whereas once established, perennials do not. However, annuals can produce a higher yield to offset this cost. So the questions are: How much greater cost? How much higher yield?

Soil and Land Quality

Are you working with below average soil or land quality? The soil profile can be marginal due to salinity, physical structure (solonchic, internal drainage), texture (sand, gravel), low fertility, and thin topsoil. On a landscape basis, land can be marginal due to periodic flooding, eroded knolls, excessive stones, steep topography, and fragmentation due to sloughs, trees, water runs, and other obstacles. Fragmentation can result in excessive overlap of machinery, increasing input costs.

Today the profit margin for annual cropping is relatively small. There is no line drawn in the sand, but is your soil and land quality in the bottom third for your soil zone? If it is, annual forages will likely be relatively expensive to grow. Your best alternative may be perennials. On good quality land and soils, annuals have a better chance of being economical to grow.

Cropping Options

Is the annual forage needed in a cropping rotation where oilseeds, pulses, or other crops are generating a profit? The profits from other annual crops may override the forage economics of annuals compared to perennials.

Producer Preference

Some producers have annual cropping machinery, and they don't mind using it. Others have a goal of reducing machinery requirements, so they prefer perennials. People have a greater chance of success in ventures and production systems when they are doing what they prefer.

Drought Proofing

Producers in the Brown soil zone will comment that annuals can produce a harvestable crop in dry years when perennials may not. Seeding annuals on summerfallow can be added insurance.

The debate between annuals and perennials will likely never end. Every operation has a unique set of land, labour, and financial resources and a unique set of circumstances to consider when choosing between annuals and perennials. Each producer must weigh the considerations for their situation and make a choice.

For more information on this topic, the author may be contacted at (306) 848-2382. Information on calculating your production costs is available on the Saskatchewan Agriculture and Food website at <http://www.agr.gov.sk.ca>.

NOVEMBER 2005 Trivia Question

"Based on Western Beef Development Centre cost of production work, in 2004, what was the Average Total Production Cost per Cow for a surveyed group of top 25% low-cost producers in Saskatchewan?"

Look for the answer in the Spring 2006 issue of the Livestock & Forage Gazette.

EFFECT OF WINTER FEEDING SYSTEMS ON BEEF COW PERFORMANCE

*Submitted By: Dr. Bart Lardner, PAg,
Research Scientist, Western Beef Development Centre*

Introduction

Beef cattle producers in Western Canada compete at an economic disadvantage relative to other regions in North America due to high winter feeding costs. Producers are seeking ways to effectively reduce these costs by managing manure nutrients more efficiently yet still maintain acceptable levels of beef cattle production. Producers are moving from drylot wintering systems where cattle are housed in pens and manure is hauled out, to systems where cattle are wintered on feeding sites and the manure nutrients are distributed over the site. However, beef cattle typically do not utilize the majority of feed nitrogen, as a significant amount is expelled in the urine or fecal material. This study compared drylot versus field wintering systems, primarily evaluating cow gain and performance and feed system economics.

Winter Feeding Systems

A study was conducted at the Termuende Research Farm, Lanigan, SK, over two consecutive winters, 2003-2004 and 2004-2005, to evaluate three winter feeding systems for pregnant beef cows. Crossbred pregnant beef cows were allocated to three feeding systems including (1) field bale grazing (BG), round straw + grass-legume hay bales fed every 3 days; (2) field bale process feeding (BP), round straw + grass-legume hay bales processed and windrow fed every 3 days; and (3) drylot feeding (DF), round straw + barley greenfeed bales processed and bunk fed in drylot pens. Portable wind shelters were used to provide protection from the wind for animals in the field. In the BG system, bales were set out on the site in fall, in 18 rows of 8 bales each. Access to feed was controlled with

electric fence allowing 1 hay and straw bale every three days. The BP system utilized a Highline 6800 bale processor to feed 1 hay and straw bale every 3 days, with feeding in different areas of the paddock each time. In both systems the amount of feed was varied according to weather conditions.

Results

Feed ingredients and composition are summarized in Table 1. Forage quality was adequate for beef cows in the 2nd trimester of pregnancy (Table 1). Beef cows in mid pregnancy require 54% TDN and 9% CP on a daily basis (NRC 1996).

Table 1: Ingredients and chemical composition of diets for beef cows.

| <i>Ingredients, (% as fed)</i> | Drylot | Bale Process | Bale Graze |
|--|--------|--------------|------------|
| Grass-legume hay | - | 60.8 | 60.8 |
| Barley greenfeed | 56.1 | - | - |
| Oat Straw | 43.8 | 39.1 | 39.1 |
| Salt and trace minerals ^Z | 0.05 | 0.05 | 0.05 |
| <i>Chemical composition of diets (%DM)</i> | | | |
| Total digestible nutrients | 52.7 | 52.4 | 52.4 |
| Crude protein | 8.9 | 9.7 | 9.7 |



Table 2: Effect of winter feeding system on cow performance.

| | ADG ^Z | | TG | | ΔBCS | |
|--------------|------------------|---------|---------|---------|---------|---------|
| | 2003-04 | 2004-05 | 2003-04 | 2004-05 | 2003-04 | 2004-05 |
| DRYLOT | 0.27 | 1.14 | 25 | 112 | +0.08 | -0.04 |
| BALE GRAZE | 0.33 | 0.57 | 44 | 76 | +0.20 | +0.26 |
| BALE PROCESS | 0.17 | 0.77 | 23 | 103 | -0.03 | +0.17 |

^ZADG=average daily gain; TG=total gain; ΔBCS=change in body condition score

Animal Performance

Cow performance is shown in Table 2. Ninety-six (96) cross bred pregnant cows, at start of test averaged 1367 and 1331 lbs, in 2003-04 and 2004-05, respectively. Average cow weight coming off the study was 1412 and 1428 lbs in 2003-04 and 2004-05, respectively.

Costs

Costs associated with the project include labor, equipment, feed and custom work. All costs were calculated in total then reported as cost per cow per day. Feed costs including trucking were hay at \$68.95 per bale, oat straw at \$23.00 per bale, and greenfeed at \$37.70 per bale. Labour for feeding was charged at \$15.00 per hour. Equipment costs were calculated using a guide to machinery rates (Saskatchewan Agriculture & Food, 2004). Therefore, in 2003-04 system costs of DL, BP and BG were \$1.42, \$1.04 and \$1.06 per cow, respectively. In 2004-05, costs for DL, BP and BG were \$1.53, \$0.96 and \$0.95 per cow, respectively.

Conclusions

Cow body weight and condition over two years was not affected by feeding

systems. Cow cost per day was lower for field feeding than wintering cows in drylot pens. Results indicate that benefits from wintering cows on feeding sites can be managed to reduce daily costs with minimal impacts on cow performance.

Acknowledgements

Appreciation is extended to the Saskatchewan Cattle Marketing Deductions Fund for monetary support for this project. Acknowledgement is also given to Paul Jungnitsch for information provided in this article.

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- National Research Council.** 1996. Nutrient requirements of beef cattle. 7th Ed. National Academy of Sciences, Washington, D.C.
- Sask. Agriculture, Food, and Rural Revitalization. 2004.** Farm machinery custom and rental rate guide 2004. Saskatchewan Agriculture, Food, and Rural Revitalization, Regina.



MORE GRASS, FEWER GRASSHOPPERS!

Reprinted with permission from David Branson, Research Entomologist, USDA-Agricultural Research Service, Northern Plains Agricultural Research Lab (NPARL), 1500 N. Central, Sidney, MT 59270; dbranson@sidney.ars.usda.gov; 406-433-9406

In the Northern Great Plains, rangeland grasshopper populations tend to increase with both livestock stocking rates and dry conditions, and they can double, triple, or quadruple with each successive year of drought. During a severe grasshopper outbreak, grasshoppers often remove more vegetation than cattle in the same pasture. Generally, fewer than four species of grasshoppers contribute significantly to any single outbreak although up to 25 species may be found at a site. The plant community largely determines which grasshopper species are found at a given location. However, only about two dozen species are actually considered pest species capable of causing significant economic damage and a few species are even considered beneficial because they eat weeds. Grasshoppers are also a primary food source for many grassland birds.

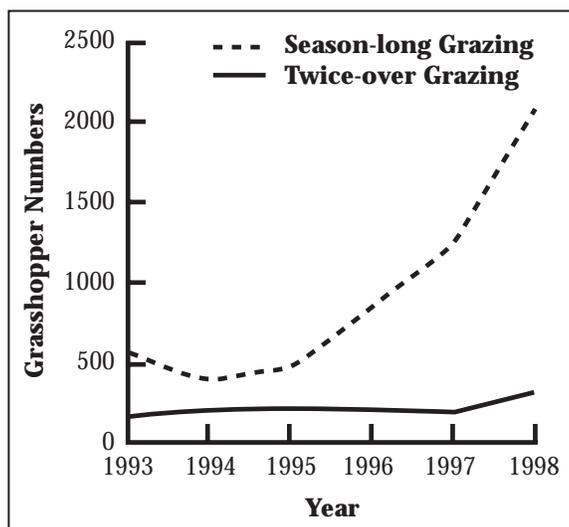
An ounce of prevention...

In the past, large-scale pesticide spray programs have been the main tools used to combat grasshopper outbreaks on rangeland. Today, increased environmental concerns combined with low livestock and commodity prices have reduced the viability of traditional control methods. In addition, chemical control can actually increase the frequency of outbreaks by reducing the ability of natural enemies to keep grasshopper populations in check. These issues have prompted researchers to look for methods that can be used to prevent grasshopper outbreaks from occurring in the first place, such as habitat manipulation through grazing management. Although we can't prevent a drought from occurring, we may be able to use grazing management to change the quality of rangeland habitat available for grasshoppers and/or their primary predators and reduce grasshopper outbreaks. We know many of the worst pest grasshopper species thrive when there is bare soil

and little shade from plants, since grasshoppers need energy from the sun to develop and process food. Less vegetation leads to increased soil and air temperatures, accelerating grasshopper egg development, growth of immature grasshoppers and egg production. Since the largest stages of grasshoppers cause the most damage to vegetation, if we can either slow development or reduce survival of grasshoppers, we can reduce vegetation consumption.

Grazing's potential for grasshopper control

Because grazing management systems differ in how they manipulate the timing, rate, or degree of plant defoliation by livestock, certain types of grazing management may create unfavorable habitats for grasshoppers or spur increases in naturally occurring grasshopper diseases and predators, such as birds, spiders or disease-causing pathogens. For example, varying the timing of grazing from year to year can prevent favoring the same pest grasshopper species for consecutive seasons. Since grasshoppers



need energy from the sun to develop and reproduce, reducing bare soil or controlling how much vegetation is removed at critical periods of the grasshopper's life cycle can conceivably decrease grasshopper development and survival rates.

Comparing two livestock grazing systems

To test that hypothesis, Montana researchers have been studying two common grazing systems to compare their impacts on grasshopper populations. The first, season-long grazing (SL), involves a consistent pattern and timing of grazing each year which favors the same species of grasshoppers year after year, aiding in the buildup of grasshopper populations. It typically results in an uneven plant canopy with significant bare

ground. In contrast, the second system studied - twice over rotational grazing (TOR) - involves sequentially rotating livestock through multiple pastures, where the first rotation is shorter than the second. Since the entry pasture is rotated yearly, the timing of grazing does not consistently favor a particular species of grasshopper. The concept is that the grazing cycles appear to leave a consistent canopy height; which, over a number of years, leads to increased grass tillering and reductions in bare ground.



The results...more grass, fewer grasshoppers

Study results show that twice-over rotational (TOR) grazing management suppressed grasshopper populations (see graph). During a grasshopper outbreak in 1997 and 1998, grasshopper densities were five to nine times lower and the amount of grass consumed (by grasshoppers) was six to nine times less in twice

over rotational grazing pastures than in season-long grazing pastures. For the most common pest species, TOR grazing resulted in slower grasshopper development, lower survival rates, fewer adults, and less time for surviving adults to lay eggs for the next year. Slower grasshopper development also reduces the amount of vegetation consumed by grasshoppers. Grasshopper species hatching late in the summer were major contributors to the grasshopper outbreak in the season-long pastures, but did very poorly under the TOR system.

Additionally, preliminary data indicates that TOR grazing may lead to an increase in the abundance of grasshopper pathogens. Early or heavy grazing favors grasshopper development while later grazing, which leaves more grass early in the summer, slows their growth. Ongoing research continues to investigate the impact of grazing management upon grasshopper populations.

ENVIRONMENTAL FARM PLANNING (EFP) Now Underway in Saskatchewan

Submitted By: Shelanne Wiles Longley, AAg, Provincial Council of ADD Boards

Saskatchewan's voluntary, confidential Environmental Farm Plan (EFP) Program is underway and quickly becoming a growing practice for producers in the province. EFP's are developed to be incorporated into farming operations as a management tool creating awareness of environmental issues facing agriculture. Producers assess their farming operations identifying environmental strengths and weaknesses, and then develop an action plan which outlines management practices to help minimize risk.

The Provincial Council of Agriculture Development and Diversification Boards of Saskatchewan (PCAB) is the delivery agent for the on-farm portion of the EFP Program. EFPs are delivered through a series of workshops and a Peer Review Process. Producers interested in completing an EFP will attend two workshops where a facilitator will guide them through the process and the development of their action plan. Upon completion of the program, producers are issued a Certificate of Endorsement from PCAB and will

then qualify to apply for financial assistance to implement environmentally sustainable practices through the Canada-Saskatchewan Farm Stewardship Program.

PCAB has 17 trained facilitators organizing and delivering EFP workshops for producers around the province. Workshops are delivered year round, with the majority of workshops occurring in the winter months between November and April. PCAB facilitators have delivered over 150 workshops since December 2004. With approximately 1300 producers currently participating in the EFP program, facilitators can anticipate another busy season.

For further information on the delivery of the Environmental Farm Plan, upcoming workshops, and facilitator contacts, please visit our website www.saskpcab.com or contact Shelanne Wiles Longley, EFP Program Coordinator: email efpcoordinator@saskpcab.com; phone (306) 955-5477.

PCAB is a non-profit organization representing grassroots agriculture from around Saskatchewan. We work closely with industry and government to ensure timely and effective delivery of agriculture programs in Saskatchewan. For more information on PCAB and its programs, please visit www.saskpcab.com.

'REMOTE' WINTER STOCK-WATERING SYSTEMS

*Submitted By: Bob Springer, PAg,
Saskatchewan Watershed Authority, Swift Current, SK*



*Ian Barns, Bindloss, AB (403-379-2516)
Solar-powered winter stock water system from shallow well
using a motion detector and self-draining bowl.*



*Kornfeld Ranch, Val Marie, SK (306-298-4629)
Thermosink Energy-Free water trough using pressurized
waterline.*

WINTER WATERING SYSTEMS

- Powered by: solar, wind, gravity, water circulation, livestock, propane.
- Requires a source of water that is frost free: well, dugout, spring, buried water line.
- Cost of system and installation ranges from \$2000 to \$8000 depending on system type and number of head watered.

BENEFITS

- Allows producer to feed/graze livestock away from traditional feeding areas, spreading nutrients where needed in the field/pasture and away from riparian areas, protecting water quality and riparian area health.
- Provides a source of water when snow is not available.
- Avoids the labour and risks associated with chopping ice on a dugout/dam/river.
- Improved water quality compared to direct access to spring, dugout or dam.
- Low operational cost, low maintenance.

RISKS

- Systems need to be checked regularly.
- Some systems can freeze if conditions are extreme and not enough cattle are being watered.
- Most systems cannot be moved once installed.
- Some systems require a large capital investment with payback over 2-10 years.

For more information contact the author at 306.778.8301



*Tom Hougham, Frenchman Butte, SK
(306-344-4993) Spring-fed, gravity
powered winter stock water system.*



*Colin Schmaltz, Eatonia, SK
(306-967-2664) Frost-free nose pump
using a shallow well.*



*Barry Cocks, Empress, AB
(403-565-2191) Solar/propane-powered
winter stock water system from shallow well
using shelter to house the water trough.*

WINTERING COWS - LOW COST FEEDING

*Submitted By: Bryan Doig, PAg,
Livestock Development Specialist, Saskatchewan Agriculture and Food, North Battleford, SK*

Most winter feeding programs start in October and last until May. That is a 200 day period where the cows are fed hay, straw and grain or pellets. The value of feed used during this time can account for over 60 per cent of the total cash cost of maintaining a cow for an entire year. A beef producer can do a number of things to

straw, chaff and slough hay. These commodities are commonly available and are usually inexpensive. The key is to know how much energy (TDN) and protein is contained in each feedstuff. A feed analysis will pay large dividends when the results are used to formulate properly balanced rations. Save the better quality forages

Table 1: Relative Feed Values of Damaged Cereal Grains

| Crop | Type of Damage | Weight lbs. Per Bushel | Composition | | | | Feed Value Relative to #1 Feed Barley (100) | |
|--------|---------------------|------------------------------|--------------|----------|------------|----------|---|--------|
| | | | Protein % | Fat % | Fibre % | Ash % | Swine | Cattle |
| Wheat | Not damaged | 62 | 14.8 | 1.8 | 2.6 | 1.5 | 105 | 105 |
| Wheat | Slightly frozen | 56 | 14.3 | 1.9 | 3.5 | 1.7 | 104 | 102 |
| Wheat | Frozen or sprouted | 50 | 14.7 | 2.1 | 4.0 | 1.9 | 102 | 100 |
| Wheat | Frozen or sprouted | 40 | 14.9 | 2.6 | 4.6 | 2.0 | 90 | 90 |
| Wheat | Burnt (20% Charred) | 54 | 12.1 | 1.9 | 4.5 | 2.1 | 92 | 94 |
| Barley | No Damage | 50 | 11.9 | 2.1 | 6.0 | 2.6 | 100 | 100 |
| Barley | Frozen or sprouted | 44 | 11.8 | 2.1 | 6.6 | 2.5 | 94 | 95 |
| Barley | Frozen or sprouted | 36 | 11.8 | 1.9 | 7.8 | 3.0 | 86 | 90 |
| Oats | Frozen or sprouted | 32 | 13.8 | 5.1 | 11.1 | 2.9 | 89 | 89 |
| Oats | Frozen or sprouted | 28 | 13.4 | 4.6 | 13.9 | 2.9 | 85 | 80 |

Adapted from Ag. Canada publication #1277 "Problem Feeds"

reduce or minimize these costs and maintain a healthy and productive cow.

Make sure your cows are in good condition before winter. It is easier to maintain a cow in good body condition than trying to have a thin cow gain weight in the cold winter months. Early weaning, creep feeding calves and supplemental feeding on late pasture are tools that will improve a cow's body condition in the fall. For example, swath grazing extends the lower cost grazing season. Many producers use this effective management tool to reduce winter feed costs. Cows often graze on swaths well into late December or January.

Cows do not require superior quality feed for the entire winter. They have the ability to effectively utilize low quality roughages such as

for the last six weeks of pregnancy and lactation.

This year there will be large volumes of sprouted feed grains available in Saskatchewan. A significant percentage will be tough and damp. As long as storage molds are not present, these grains offer an opportunity to reduce winter feed costs. Table 1 shows that there is little difference in the feed value of badly sprouted (or frozen) grain compared to unaffected grain. Barley and wheat should be processed to expose the starch for fermentation and digestion. It is usually unnecessary to process oats.

There is a host of resource material available. Check out the feeds and nutrition section on the Saskatchewan Agriculture and Food's website using the following link: www.agr.gov.sk.ca/livestock/beef/feedsandnutrition OR contact the Agriculture Knowledge Centre toll free at 1-866-457-2377

Research Roundup

Short-Lived Grasses as Companion Crops

Submitted By: Dr. Bruce Coulman, Agriculture & Agri-Food Canada - Saskatoon Research Centre

Cereal companion crops are often seeded with perennial forage species to provide production in the year of establishment. Rapid establishing annual or short-lived perennial grasses may also have potential as high quality companion crops, but they have not been tested for this purpose in western Canada. Experiments were seeded at Saskatoon and Melfort in 2003 and 2004 to study the effect of the westerwolds ryegrass and festulolium on the yield and establishment of mixtures and pure stands of alfalfa, crested wheatgrass and meadow brome grass. Preliminary results showed that stands with a westerwolds ryegrass companion crop yielded from 22-89% higher than those with no companion crop in the year of establishment. Stands with a festulolium companion crop showed a maximum establishment year yield advantage of 24%. The presence of either

companion crop reduced the number of established plants of the perennial forages, although all stands were still adequate. No plants of westerwolds ryegrass or festulolium survived the winter. In the year following establishment, first cut hay yields for the stands established with a companion crop the year before ranged from 31-85% of those established without a companion crop. Yields of meadow brome grass were reduced the most, and those of alfalfa the least. **These initial results indicate that, although these short-lived grasses increase establishment year yields, they are quite competitive with the establishing perennial forages and reduce yields the year following establishment.** Further data are being collected on additional seedings, forage quality, and yields in the second year following seeding.

MARCH 2005 TRIVIA QUESTION:

“How much water does it take to produce a pound of finished beef?”

ANSWER:

In order to estimate the amount of water required to produce a pound of beef, there are a number of assumptions that must be made. In this example, estimated water consumption (gallons/head/day) was based upon a calf gaining 3 lbs/day and reaching a mature finished weight at 1350 lbs. Environmental conditions included a summer period where maximum temperatures of 30°C were reached. Abattoir estimates included between 450 and 650 gallons of water per head to slaughter an animal while meat processing is estimated at one gallon of water to process one pound of meat. Note that the cow's water consumption and contribution to calf growth during pregnancy and lactation were not accounted for in this example.

Nearly seven gallons (31 litres) of water are required to produce a pound of beef (5531 total gallons of water to produce 810 pounds of beef).

Thanks to Wendi Dehod, Environmental Engineer, Saskatchewan Agriculture and Food, for researching and providing this information.

Sources included the “Alberta Feedlot Management Guide”, Saskatchewan Agriculture and Food staff, Larson's Abattoir Ltd. and Thompson Meats.

Estimated water consumption for cattle from birth to slaughter

| Animal Weight (lbs) | Water Consumption (gal/hd/day) | Time (days) | Total Water Consumption (gal) |
|----------------------|--------------------------------|-------------|-------------------------------|
| 100-200 | 1 | 33 | 33 |
| 200-300 | 2 | 33 | 67 |
| 300-400 | 3 | 33 | 100 |
| 400-500 | 4 | 33 | 133 |
| 500-600 | 4.2 | 33 | 140 |
| 600-800 | 11 | 67 | 733 |
| 800-1000 | 14 | 67 | 933 |
| 1000-1200 | 16 | 67 | 1067 |
| 1200-1350 | 18 | 50 | 900 |
| Slaughter (810 lbs) | | | 615 |
| Processing (810 lbs) | | | 810 |
| TOTAL | | | 5531 |

Upcoming Events

Winter Feeding Seminars

November 14-18, 2005
Eastend, Beechy, Hazlet, Cadillac & Glentworth, SK
Contact: Trevor Lennox or Jim Graham
Saskatchewan Agriculture and Food
Phone: 306.778.8285
Krista Connick - Saskatchewan Watershed Authority
Phone: 306.778.8280

Western Canadian Grazing Conference

December 7-9, 2005
Radisson Hotel
Saskatoon, SK
Contact: Saskatchewan Stock Growers Association
Phone: 306.757.8523
Email: ssga@sasktel.net
www.saskatchewanstockgrowers.com

Weyburn Livestock Update

December 12, 2005
Weyburn, SK
Contact: Weyburn Agriculture Business Centre
Phone: 306.848.2857

Native Seed Production Workshop

December 14, 2005
Agriculture & Agri-Food Canada - SPARC
Swift Current, SK
Contact: Trevor Lennox
Saskatchewan Agriculture and Food
Phone: 306.778.8294
Kerry Laforge - AAFC - PFRA
Phone: 306.778.5011

Saskatchewan Stock Growers Association Saskatchewan Livestock Association Semi-Annual Meetings

January 20-21, 2006
Regina, SK
Contact: Saskatchewan Stock Growers Association
Phone: 306.757.8523

Saskatchewan Cattle Feeders Association 25th Convention and Annual Meeting

January 26-28, 2006
Saskatoon Inn
Saskatoon, SK
Contact: 306.382.2333

Saskatchewan Beef Symposium

February 8-9, 2006
Saskatoon, SK
Contact: John McKinnon
University of Saskatchewan
Phone: 306.966.4137
mckinnon@sask.usask.ca

Cow/calf Management Schools

February 21-March 2, 2006
Tisdale, Lloydminster, Swift Current,
Weyburn, SK
Contact: Western Beef Development Centre
Phone: 306.682.3139 Ext.256

PRODUCER PERSPECTIVE:

Silvopasture Taking Root In Saskatchewan (continued from page 2)

with intensive management of all three components: timber, forage and livestock. If a producer cannot provide the necessary level of management, silvopasture should probably not be considered. Silvopasture is most suitable to high-value, high-quality timber production using long rotations. As is the case with traditional pastures, overgrazing can damage both the trees and the grazing resource. Even at proper stocking rates, the trees will need to be protected from livestock until they are well established.

Despite the extra work involved in silvopasture, Marg Sullivan sees opportunities for both tree producers and the value-added wood product

industries. And she extols the benefits of having trees on the land to pull water up from deep aquifers and to provide erosion control.

"Our soil is so sandy, you would wonder how we could grow trees on it, but these hybrid poplars just take root, even through the drought," she says. She is also positive about the economic benefits, especially with good management practices.

"Admittedly, it requires more work on our part, but the same can be said of anything worthwhile."

For more information on silvopasture, contact Larry White with the Saskatchewan Forest Centre at 306-765-2860, or Leroy Bader, Agri-Business Development Specialist at the Tisdale Agriculture Business Centre at 306-878-8841.

The Livestock & Forage Gazette Committee

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