

The Saskatchewan Livestock & Forage Gazette

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From the Editor...

These are challenging times in the livestock industry and producers are always looking for ways to reduce costs. One area to focus on is the grazing segment of your operation. Since grazing is the cheapest way to feed a cow it follows that the longer that we can extend the grazing season, the more we can reduce our winter feeding costs – the most expensive part of keeping the cow. Almost all of the articles in this issue focus on approaches that can help you keep your pastures as productive as they can possibly be. In the Producer Perspective article, producer Duane Thompson focuses on how he works with other landowners for mutual benefit. His story reminds us that effective partnerships are the key to achieving our long term goals – no one is usually successful solely on their own!

Best regards,
Chris Nykoluk
Livestock & Forage Gazette Editor



Producers examine an infestation of leafy spurge – turn to page 5 to find out more about weed control. Photo credit: Julie Mackenzie.

In This Issue...

Producer Perspective – Duane
Thompson – **2**

ADOPT Program Details – **4**

What is a Weed Control
Problem? – **5**

Utilizing Crop Residues in Beef
Cow Diets – **7**

Early Grazing – Is It Worth
It? – **9**

Litter in Your Pasture? – **10**

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Negotiating Successful Partnerships

Producer Perspective – Duane Thompson, Tee Two Land & Cattle Company, Kelliher, SK
Submitted by Janice Bruynooghe, Saskatchewan Forage Council



In January 2010 Duane was awarded the Producer Extension Award at the Saskatchewan Beef & Forage Symposium. Photo credit: Marina Holtzman.

Q: Duane, please briefly describe your operation. What do you feel are some of the greatest opportunities and greatest challenges in your operation?

Tee Two Land & Cattle Company is a family operation and includes myself, my wife Paula, our children Cole, Shelagh, Holly and Adam plus my parents David and Carol. We are located in the Aspen Parkland approximately 50 km north of Fort Qu'Apelle. Our mixed operation totals 5900 acres including 2500 acres of cropland with the remainder in forage production.

We run 650-700 cows plus a small feedlot with a one-time capacity of 2000 head. Our grazing management is based on an intensive rotational system. Calving begins at the end of April on stockpiled grass with the entire cow herd going to grass between May 20 and June 5. We graze all our cows and first-calf heifers in one herd as a mob grazing unit, with the exception of our breeding heifers

which are managed in a separate system. During the entire year our cows are only around the yard for one week to 10 days at weaning time.

Our entire operation is a systems approach - all enterprises are linked together and compliment each other. Land used to grow feed becomes grazing land followed by cropping these acres. We optimize nutrient cycling with nitrogen added back to the cropland during grazing.

Truly our greatest opportunities are this combination of enterprises working together. I like to say that a '1+1 = 4' scenario is created. In addition, the combination of cropping and livestock means that our operation can employ two full time employees year round.

Right now a challenge is that we are very busy. Our demanding seasons overlap in spring - this means that we are calving and seeding all in one go. Keeping qualified help is a challenge as well.

Q: How long you have been utilizing grain crop residues in your winter management?

My dad always had his land fenced and our cattle made use of the farmland. We've now extended that and rent other grain farmers' land.

Q: What do you feel are some of the essential components you need to address when negotiating to graze crop residue on other people's land?

It is absolutely essential to come up with a win-win agreement. As livestock producers we need to be certain that we don't assume that grain land is not worth anything to the grain farmer during the winter months. Don't have the attitude that it's not costing them anything. That's not win-win. Rather as a livestock producer, I take the attitude that if I can have cattle grazing residue on cropland for a quarter to one-third of the cash costs that it would cost me to feed them, I am more than happy to pay that. I started all my projects using temporary fence with no long-term commitment. I put up the fence and took it down every year. And I made sure the arrangement created no nuisance. With that accomplished, after a couple of years farmers were happy to allow my fences to stay up and I was happy to pay a nickel more a day for grazing.

Q: What works really well and what is a challenge when grazing/feeding crop residue?

It means a lot of fence! I currently have more than 25 quarters of neighbors' land fenced which means 50 miles of fence on other people's land.

Back to the win-win, I get grazing resources and the grain producers get more dollars out of their acres than ever before. One fellow I work with uses a chaff collector to gather chaff for his sheep and then my cows come behind and clean up. My cattle benefit, often from acres of marginal land which are not being cropped. In our area many quarters have a significant area that is marginal for grain and not cultivated. Cows grazing have stimulated the marginal land to grow more grass and farmers are getting more value out of these areas.

Q: What are the economic aspects of using crop residue as a source of feed? Do you have an estimate of your daily cost/head?

I pay land owners \$0.20/head/day if I have to put fence up and take down. If they allow me

to leave my fence up, I up the rate to \$0.25/head/day. This doesn't seem like big money but truly there is zero risk for the land owner. If someone could invest in a stock market fund with no input and guaranteed return, I'm sure there would be many takers!

No doubt grazing crop residue has reduced our costs but it is important to note that we have focused on developing cows that are efficient in this system. We've chosen a cow that I call a 'barrel on legs' - a factory that converts low quality roughage into maintenance and a calf. We cull any cows that do not fit our system. And our cows are getting better and better each year at doing their job. I caution producers not to go out and expect results immediately - it takes time to reach this goal.

Monitoring is so important. I check the cows daily to ensure that an adequate and relatively stable plane of nutrition is achieved. Our cows are on the move steady, often moving every three days to a new quarter of land. We make certain that the size of the herd matches the acres provided. Cows use snow as their water source. If weather challenges are extreme we alter our plans. If we get a thaw followed by icing, then grazing is finished. Or if we have cattle on a piece of ground which they opened up and then we get a wind that closes everything up, we consider a field finished. And my rule of thumb is that if temperatures fall below -28 to -30°C then we provide feed. We always have a backup plan and an adequate feed supply is our insurance policy. I watch closely and if it gets nasty I take care of them and the rest of the time they take care of me!

Editor's Note: Thanks to Duane for sharing his story. As a true innovator and leader in the industry, Duane was recently recognized for his efforts in the extension of information to other producers when he was awarded the 2010 Producer Extension Award at the Saskatchewan Beef & Forage Symposium. Congratulations Duane!

Agricultural Demonstration of Practices and Technologies Program (ADOPT)

Submitted by Stacey Gulka, AAg, Saskatchewan Watershed Authority and Al Foster, PAg,
Saskatchewan Ministry of Agriculture



The Agricultural Demonstration of Practices and Technologies (ADOPT) program is a Saskatchewan Ministry of Agriculture initiative. It is a component of the jointly funded provincial and federal Growing Forward Program.

The goal of the ADOPT program is to demonstrate new agricultural practices for local and regional producers to consider. Producer field days will be offered so that producers can assess the possibility of incorporating new practices into their operation. Any Saskatchewan based producer group is eligible under the ADOPT program. Individual producers are not eligible to receive funding, but are encouraged to bring project ideas forward through a local producer group. Application deadline dates are July and January.

Overall, 19 projects were approved for a total of over \$100,000.00 in funding under the July 31, 2009 deadline. Forage projects underway include direct seeding of annuals into sod, development of a new fall rye variety for fall and spring grazing, establishing cicer milkvetch using trampling from bale grazing, bale grazing on hay fields, stockpiling perennial forages, and re-establishing alfalfa into existing stands.

For information on any of the projects listed or demonstration days in your region, contact your Ministry of Agriculture Regional Services office or visit www.agriculture.gov.sk.ca.

Demonstration Dates (completed and upcoming) Include:

Saskatchewan Forage Council, Saskatchewan Agriculture and Hershel & Biggar Grazing Clubs

Biggar, SK - January 13, 2010.
Stockpiling Perennial Forages.

Western Beef Development Centre
Spring Valley, SK – February 11, 2010.
Extending the Grazing Season and Research Update.

Saskatchewan Forage Council
Ituna, SK - February 18, 2010.
Stockpiling Perennial Forages.

Western Beef Development Centre and Saskatchewan Forage Council
Lanigan, SK – June 22, 2010.
New Fall Rye Variety for Fall and Spring Grazing, Re-establishing Alfalfa in Existing Stands, & Stockpiling Perennial Forages.

Indian Head Agricultural Research Foundation
Indian Head, SK – July 20, 2010.
Determining Best Camelina Seeding Depths.

Trivia Question

**What is the average total value
of annual forage seed
production in Saskatchewan?**

Turn to page 8 to find out.

What is a Weed Control Problem?

Stacey Gulka, A.Ag., Saskatchewan Watershed Authority



As a land manager, it is important to be aware of any undesirable, or invasive plant species growing on your land base. An invasive species is one that poses a threat of invasion by being very difficult to control and spreading rapidly. Whether it is cropland, pasture, or hay land, invasive plant species can be detrimental to your operation. Infestations of invasive or noxious plant species can be economically debilitating to a producer grazing livestock. The carrying capacity of a grazed pasture can decrease exponentially in the presence of an infestation of noxious weeds. In Saskatchewan, there are several invasive species that pose ecological and economic risk to grazing and forage production. It is important to be able to recognize these

invasive species and be informed on how to control them.

If an invasive plant is identified, a risk assessment should be completed to determine the extent of the infestation and the most appropriate control strategy. Understanding the characteristics of the weed infestation is necessary to determine control methods. Factors to consider include how long has the plant or patch been present, the size of the patch, in what location is the infestation? If the weed has been present long enough to set seed and reproduce, ongoing control will be necessary to control existing plants, and to control any plants that will arise from the seed present at the site. The size of the patch of invasive plants can determine what



Infestation of leafy spurge on pasture. Photo credit: Julie Mackenzie

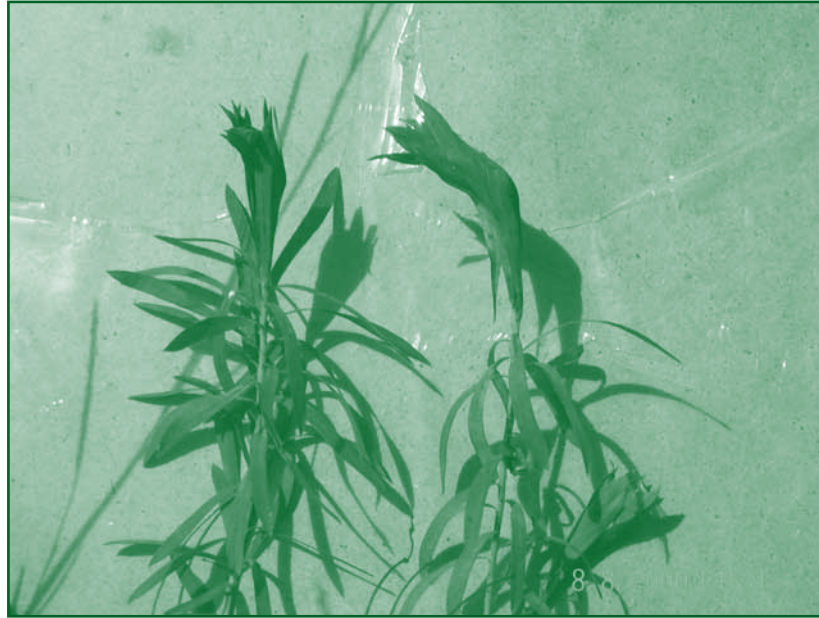
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control method is appropriate to control it. If the size of the patches are small enough, spot application of herbicides and hand picking may control or eradicate the infestation.

Larger patches may need to be cultivated and sprayed, depending on the time of year and whether seed set has occurred. Where is the infestation located? Soil type, presence of water, and type of vegetation adjacent to the patch are important considerations when deciding to use herbicides or other methods of removal. If the infestation impacts surrounding land, collaboration with neighbors could be important in successfully controlling the further spread of the invasive and also complying with municipal and provincial weed regulations. Eradicating the species on one location may prove unsuccessful if the species is able to move back in from adjacent locations.

Avoid driving through or mowing patches that have set seed. A regional agrologist or weed specialist can be contacted to help determine the time of seed set for most invasive plants species. This can allow you to know when it's safe to cut the weeds without further seed dispersal. Clean equipment that has been through areas where invasive weeds are present. Transport of the seed can occur through any type of machinery or vehicle, as well as wildlife and livestock. When moving animals from an infested area, consider quarantining the animals for 4-5 days to allow

for seed to move through their system. In any case, measures to control the transport of forage from the land are very important to avoid the dispersal of weeds from the site.



Leafy spurge plant in the vegetative stage. Photo credit: AESB file photo.

Prevention of the spread of invasive plants is perhaps the most important step in infestation prevention. Assessing your land base for the presence of invasive plants in each growing season and starting a control program quickly if a plant is found is important in eliminating the spread of the weed, and to reduce economic losses and control

costs low. Acquiring a list or booklet of Saskatchewan's invasive species is important to assist in identifying undesirable plants on your operation. These lists can be acquired through the Saskatchewan Invasive Species Council or by visiting www.saskinvasives.ca.

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Saskatchewan Ministry of Agriculture
Provincial Weed Control Specialist

Utilizing Crop Residues in Beef Cow Diets

Submitted by Ashley Krause, Department of Animal & Poultry Science, University of Saskatchewan, and Dr. H.A. (Bart) Lardner, Western Beef Development Centre



Winter feeding beef cows is a major cost of production for cow-calf producers. In order to reduce this cost, cow-calf producers have become interested in including crop residues in beef cow diets. Crop residues are the materials left after a crop has been harvested and include straw, leaves, unthreshed heads, glumes, hulls, and kernels. Since they are a low quality feed, crop residues are only suitable for mature beef cows. Feeding crop residues has both advantages and disadvantages, which will be discussed in this article.

The main advantage of feeding crop residues is the reduction in feeding costs. These decreased costs are associated with being able to feed cows the residue from an annual

crop which a producer has already grown, and therefore, there are no additional costs to produce these residues. Crop residues may be baled or piled and left on fields where cows can be moved to graze. Thus, there are reduced costs associated with transporting bales from the field to the dry lot location. In dry lot pens, crop residues may be mixed with other feeds to reduce costs by stretching out feed resources, while still meeting the cows' requirements.

Another advantage is that the manure nutrients are deposited in the field by the cattle since they are naturally spreading manure and urine as they graze, and then the nutrients are immediately available on site for the subsequent crop. There is also the reduced

cost associated with the conventional approach of pen cleaning and then spreading the manure on neighbouring fields.

Cows are able to graze different types of crop residue including annual cereal, legume and oilseed crops. This permits producers to rotate their crops and still be able to winter graze their cows.

The main disadvantage associated with



Grazing crop residues are an effective way to reduce feeding costs. Photo credit: Bart Lardner, WBDC.

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grazing crop residue is the initial start up cost for purchasing equipment to bale, pile, or bunch the chaff and straw. There are several different options, depending on the type of combine used and whether or not the chaff will be piled or baled. Some combines will separate the straw from the chaff, while others release the chaff and straw together. If the chaff is separated from the straw, it may be collected in a 'chaff box' or the 'Redekop chaff blower and wagon' behind the combine and dropped in piles. If the chaff and straw are combined, the 'Whole Buncher®' or the 'Redekop MAV and wagon' may be used to collect and pile the crop residue. Each piece of equipment has an initial cost, which may be discouraging to producers interested in starting crop residue grazing.

Another disadvantage is that if grazing crop residue directly in the field is not an option for a producer, the cost of transporting chaff bales to the location where cows will be winter-fed can be quite costly. This is especially true in situations where producers have only beef cattle and do not grow their own crops. Other costs that need to be considered include providing water in the winter, fencing, and portable windbreaks.

Since crop residues are a low quality feed, it is important to balance the rations by adding supplements to meet the cows' nutritional needs. Another important consideration is that the feed quality will vary depending on

the type of crop, maturity, and harvesting procedure, which makes it important to test the feed.

Finally, if crop residues are available for beef cows to winter graze, the overall farm costs of production can be reduced significantly. This may encourage producers to consider integrating their cropping and livestock enterprises in order to reduce their overall production costs as opposed to only operating a more specialized production stream.

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- Karn, J.F., Tanaka, D.L., Liebig, M.A., Ries, R.E., Kronberg, S.L., and Hanson, J.D.** An integrated approach to crop/livestock systems: Wintering beef cows on swathed crops. *Renewable Agriculture and Food Systems*. 20: 232-242. 2005.
- McCartney, D., Fraser, J., and Ohama, A.** Annual cool season crops for grazing by beef cattle. *A Canadian Review*. *Canadian Journal of Animal Science*. 88: 517-533. 2008.
- Saskatchewan Ministry of Agriculture.** Crop residue collection for field grazing and the crop residue calculator. www.agriculture.gov.sk.ca. 2009.

Dear readers.....

Please ensure that we have your complete and correct mailing address! We still are getting a fair amount of returned mail and many of them are to General Delivery addresses. Some of them are getting through but we need people to contact us and give us a PO Box number. Also please let us know if you have moved. Otherwise we may have no choice but to remove you from our mailing list.

Trivia Answer
\$7.3 million

Source: Saskatchewan Forage Council - Forage Industry Assessment Project; Saskatchewan Forage Seed Development Commission Annual Reports, 2006-2008.

Early Grazing.....Is It Worth It?

Submitted by Trevor Lennox, Saskatchewan Ministry of Agriculture



As the winter days start to lengthen, producers are reminded that the 2010 growing season will be right around the corner. Unfortunately, the lingering effects of last years' drought still weigh heavily upon the minds of many producers.

Dry conditions in 2009 over much of the province reduced forage production significantly, forcing many producers to graze their pastures heavier than normal. This higher than normal utilization resulted in many pastures going into winter with minimal litter cover and reduced carbohydrate reserves.

Looking ahead to the future, something that you can control on your livestock operation is the date of turn-out on pastures, with considerable impact on pasture health.

To maintain healthy tame or native pasture, spring grazing should only begin after the 3 to 3.5 leaf stage has been attained by grasses. On native range, this stage usually equates with mid to late June. Tame grasses reach this stage much earlier. Another way to look at pasture readiness is to monitor the height of the key grasses. Taller growing grasses, such as meadow brome or orchard grass, are ready to be grazed when they are about 6 to 8 inches tall, while shorter growing grasses, such as Kentucky bluegrass, are ready at 4 to 6 inches.

If you cannot delay grazing on all your pastures, then alternate the pastures or paddocks that are grazed first in spring each year (i.e. start grazing in a different paddock each year). Allowing the early grazed pasture a longer rest period after grazing will also help it recover quicker.



*Forage production will be maximized on pastures that are not grazed too early in spring.
Photo credit: Naomi Paley.*

The concept of starting grazing at the right time is important from both an economic and a forage productivity standpoint. Early grazing can reduce forage production significantly for the rest of the growing season. As a rule of

thumb, a one day delay in spring grazing can add three days of grazing in the fall. Since grazing is the cheapest way to feed a cow, it makes economic sense for producers to do those things that will increase the forage production of their land.

Rest in spring is essential for pastures that were grazed heavily last year, and rest is one of the cheapest ways to rejuvenate a pasture. Rest is effective for rejuvenating pastures damaged by drought, grasshoppers and overgrazing. As a rule of thumb, these pastures should be grazed 2 to 4 weeks later in spring than normal and then only lightly. This will mean that another source of feed (i.e. hay or rented pasture) will have to be sourced in order to delay the date of turn-out.

Plant species vary greatly in their ability to withstand early grazing. Native rangeland is the most sensitive to early grazing, whereas crested wheatgrass is much more tolerant.

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Fertilizing tame forage in the early spring has been found to stimulate earlier growth, resulting in a greater amount of forage early in the growing season.

In summary, date of turnout in spring is one factor that you can control and this management decision will influence both your short term and long term pasture productivity, and therefore, economic viability.

Author's Note:

The following information regards a WBDC fertilization project that was carried out in 1998. It is an example in which fertilizer was combined with

a rejuvenation treatment (spiking), and is a good source of information for people looking to fertilize tame forages:

http://www.wbdc.sk.ca/pdfs/fact_sheets/2002/rejuvenation_of_crested_wheatgrass.pdf

The following information regards a project undertaken by WBDC in 2004 in which Agrotain was evaluated. Agrotain is a product that is applied to urea to slow down the release of nitrogen so that less nitrogen is lost back to the environment.

http://www.wbdc.sk.ca/pdfs/fact_sheets/2005/effect_of_controlled_release_fertilizer1.pdf

Litter in Your Pasture?

Submitted by Richard McBride, Ducks Unlimited Canada



How would you like to get 1.5 inches, or maybe even 2 inches of rain while everyone else gets 1 inch? That would be nice, but we can't create rainfall. So the next best thing to do is prevent the loss of moisture that is already in your soil, or to prevent loss of rainfall from running off your land.

Leaving old grass cover, or litter, on your pasture is the easiest way to reduce evaporation and reduce runoff loss. This means more moisture for your grass to grow. Litter plays a significant role by reducing the wind velocity and heat accumulation at the surface of the soil. Both of these result in less moisture loss to the atmosphere. The light colour of the litter reflects the sun, helping to keep the soil surface cool. Litter can cool the soil surface up to 6 degrees Celsius on a hot summer day! Litter can also capture moisture that is trying to escape and leaving cover on the ground reduces the amount of bare soil

that is exposed. These bare spots can become places where weeds and other undesirable plants can establish.

Another way litter keeps moisture on the surface of the land is by reducing runoff. The litter protects the surface of the soil by reducing the speed of runoff after a rain, which could potentially cause long term damage from erosion. The presence of litter allows more time for rain to enter into the soil. In some situations, increased water infiltration can lead to a higher or perched water table, allowing plant roots to access moisture - even if there is very little rain. This can lead to better forage growth and faster pasture recovery after a period of drought.

Another benefit of litter is nutrient cycling, the process of growing plants and then having those plants break down into nutrients. These nutrients are then used in the soil profile for



*Producers learn about the benefits of pasture litter and how to assess it.
Photo credit: Richard McBride, DUC.*

future grass growth. Nutrients can originate from above the ground in the leaves and stems, but more significantly, these nutrients can come from plant roots as they die and break down over time. If nutrient cycling is occurring and more biomass is being produced, this will further increase biomass production which increases organic matter in the soil, which increases the amount of nutrients and water the soil can hold, which further increases production! As more organic matter accumulates there will be less need for artificial fertilizers over time.

Leaving some litter on your pasture can be considered as an “investment” or “savings” for the future. In a drought year, some of the old grass can be utilized if needed. There is an old rule of thumb that suggests that to maintain pasture productivity a rancher should “take half and leave half.” Don Campbell, a rancher from the Meadow Lake area, claims that by grazing and leaving half (or more than half of the grass) over time you can increase pasture

productivity by up to 200%. That would be equivalent to doubling your land base without buying more land and potentially doubling your herd!

Are there any negative consequences of accumulating litter? Typically, in the drier parts of the province it is difficult to create a problem with accumulation of too much litter. In the wetter parts of the province such as the black soil zone (where there is more rainfall and less wind) forage production may be reduced due to the shading and cooling effect of excessive litter. Also in more moist areas, excessive litter build up may potentially create an environment that encourages Canada thistle establishment.

Keeping optimal or maximum litter on the pasture soil surface maybe be a hard concept for some to swallow, especially when feed costs are high, but the economic benefits over the long term can pay off significantly!

Upcoming Events

Saskatchewan Pasture School

June 16-17, 2010

**Best Western Hotel,
Saskatoon, SK**

Contact: Saskatchewan
Forage Council at
306-966-2148

Western Beef Development Centre Field Day

June 22, 2010

**Termuende Research
Ranch, Lanigan, SK**

Contact: WBDC at
306-682-3139

Ranching from the Ground Up Society for Range Management Tour

June 23-24, 2010

Swift Current, SK

Contact: Jessica Williams at
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photo by: Tara Mulhern Davidson

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