Ontario

OMAF *Virtual Beef*

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Need to Custom Feed?

Dennis Martin, Feedlot Specialist

What can I do to survive ?

Is this the right time to own cattle?

What does the future hold for this industry?

These are some common questions asked by beef producers these days. Profit or loss is a return to risk and depending on your circumstances the level of risk may vary from one producer to the next… and for good reason.

The secret is to manage risk, not necessarily to avoid it. Custom feeding cattle might be a safe and more comfortable alternative for some to help manage risk and also market home grown crops.

The bottom line is to **make decisions** based on what your financial and production **records** are telling you, as well as your personal goals and comfort level - **not** on **speculation**.

Custom feeding cattle is one way to spread out risk …. and may be a viable option for some feedlot operators and cow-calf producers

…… continued next page

Virtual Beef is a technology transfer vehicle of the Ontario Ministry of Agriculture and Food.

This publication is available in electronic format at http://www.gov.on.ca/OMAF/english/newsletters.html

Single paper copies may be obtained by calling 1-877-424-1300

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Custom Feeding Analysis

Concerned about the uncertainty of cattle prices and past losses, a feedlot producer sat down with me recently to discuss his options.

One consideration was a combination of custom feeding and owning cattle. As this producer said - custom feeding some cattle is one way to spread out his risk. To help him with his

decision making exercise, and determine his feed and yardage costs, we used a simple one-page spreadsheet.

Table 1 highlights his feeding program and projected costs of production based on an average daily gain of 3 lbs. per head per day. You can see, in this example, his feed costs per lb. of gain is 64¢. Feed and yardage combined is 74¢ per lb. of gain. The value of feed, whether home grown or purchased, along with average daily gain of cattle, has a huge impact on cost of gain. Using the example in Table 1, **if ADG drops by 1/4 lb. per day** (from 3 lbs. to 2.75 lbs.) **THEN FEED COST PER LB. OF GAIN INCREASES SUBSTANTIALLY**. Costs can, and do vary greatly, from one producer to the next, and for this reason, knowing your cost of production is essential for decision making.

Retained Ownership and Custom Feeding

Cow-calf producers or backgrounders who are concerned about market uncertainties this fall may consider retaining ownership and having their calves custom fed. This group needs to carefully consider how much their stockers will gain/day, what their health costs will be, and what the sale price will be when the cattle are finished. The budget (Table 1) will also assist cattle owners to assess their options, whether to custom feed or market their stockers. As noted for the feedlots, it is very important to understand the cost of production and make decisions based on your operation's financial and production records, as well as your tolerance of risk.

Summary

If you are considering custom feeding cattle or having your cattle custom fed, then feeding agreements between the feeder and the owner of the cattle should be clear and understood by both parties. Assess risk and benefit before entering into any agreement.

For a review of various agreement considerations and types of agreements, see OMAF Infosheet, **Custom Feeding - Make Sure It's In Writing:**
http://www.gov.on.ca/OMAFRA/english/livestock/beef/facts/info_custom.htm

OMAF Factsheet, Publication #600**, Cattle Feeding Agreements**, provides detailed information about feeding agreements:
http://www.gov.on.ca/OMAFRA/english/busdev/facts/pub600.htm

It also contains a sample agreement as a guide to help the owner and feeder to develop an agreement that fits their individual situation.

For **livestock budgets** to assess your cost of production access:
http://www.gov.on.ca/OMAFRA/english/busdev/bear2000/Budgets/budgettools.htm

For those without Internet access call the Agricultural Information Contact Centre at 1-877-424-1300 to request a copy of the above resources.

Table 1: Ontario Feedlot Cost of Production Budget

Calf Information

Sale Weight (lbs)	1,350
Purchase Weight (lbs)	800
Days on Feed	180
Death Loss %	-

	$/Head	$/lb
Sale Value	$ 1,148	
Purchase Value	$ 680	
Death Loss Value	$ -	
Margin	$ 468	$ 0.85

Expected Cost of Gain

Feed ($/lb of gain)	$ 0.64
Health & Vet. Expenses ($/hd)	$ 15
Marketing/Trucking ($/hd)	$ 25
** Yardage ($/hd/day)	$ 0.30
Interest Rate %	5

	$/Head	$/lb
Feed	$ 355	$ 0.64
Health & Vet. Expenses ($/hd)	$ 15	$ 0.03
Marketing/Trucking ($/hd)	$ 25	$ 0.05
Yardage	$ 54	$ 0.10
Interest	$ 23	$ 0.04
Expected Cost of Gain	$ 471	$ 0.86
Net Return	$ (4)	$ (0.01)

Expected Market Situation

Sale Price ($/lb)	$ 0.85
Purchase Price ($/lb)	$ 0.85
Total Gain (lbs.)	550

	$/Head	$/lb
Breakeven Sale Price	$ 1,151	$ 0.85
Breakeven Purchase Price	$ 676	$ 0.85
A.D.G. (lbs./day)	3.06	

Feed Requirements	$/tonne	Lbs. per Head/Day		Percent DM
Hay	$ 80	1.0	$ 7	90%
Haylage	$ -	-	$ -	45%
CORN SILAGE	$ 30	8.0	$ 20	30%
Dry Corn	$ 150	12.5	$ 153	86%
H. M. CORN	$ 120	12.5	$ 122	70%
Beef Supplement	$ 400	1.5	$ 49	90%
PREMIX	$ 500	0.10	$ 4	100%
Total Feed Cost			**$ 355**	
Feed Cost per lb of Gain			**$ 0.64**	

** *Yardage is hydro, telephone, taxes & insurance, bedding, manure removal, housing, equip. repairs*

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Reducing Cattle Shrink

Craig Richardson, Animal Care Specialist

The term **shrink** refers to the body **weight lost** by cattle when their normal intake of feed and/or water is disrupted. The stress cattle experience during processing, transporting and marketing is a common cause of shrink. Shrink costs the buyer and the seller but it can be managed. Reducing cattle stress will help producers reduce lost value on marketed cattle.

Cattle in all age, weight and finish ranges may experience the two kinds of shrink—fill shrink and tissue shrink. **Fill shrink**, also know as excretory shrink, is the loss of digestive system contents, manure and urine. This type of shrink can be caused by the stress of change or the withholding of feed and water. Cattle normally lose 2% of their body weight at night but if feed and water are withheld overnight this increases to 6% loss in weight. This weight loss is quickly recovered in a day or two once cattle are back on feed and water. **Tissue shrink** is the loss of fluids from body tissues. This occurs when cattle go long periods without feed and water and then are subject to other types of stress. Stress can be caused by events such as long distance trucking or rough handling. Tissue shrink has occurred when cattle experience over 6% weight loss. Cattle experiencing tissue shrink may take from 10 to 36 days to recover their selling weight. Excessive shrink can affect finished cattle by increasing the number of dark cutters on a load or decreasing dressing percentage. It also has a detrimental effect on marbling and tenderness.

Shrink – Causes and Cures

Handling

Just the act of weighing cattle causes some shrink. Calves can lose 3% of their weight during sorting and loading. Every 30 minutes spent moving cattle around in handling facilities will reduce their weight by 0.5%. Use quiet handling methods for moving and processing cattle to lessen this effect. Well designed handling facilities will allow animals to be processed quickly while experiencing minimal stress. Do not yell or whistle at cattle. Avoid the use of electric prods, canes, whips, and dogs. If not all animals are to be sold, then sort cattle one to two weeks before weighing and selling. Design facilities to allow cattle to move directly onto trailers without any delays after being weighed.

Transporting

Compared to cattle standing in a pen without feed and water, transported cattle will shrink 2% more over the same time period. For the first 3 to 4 hours during travel cattle lose 1% of their weight per hour. Over the next 8 to 10 hours they lose 0.25% per hour. Cattle lose an additional 0.61% weight for every 160 km (100 miles) they are shipped. On long hauls feeder cattle shrink 25% more than finished cattle.

Example:

600 lb calf is penned, sorted, weighed and transported for 8 hours over 640 km.

Factor	% shrink	lbs of shrink
30 minutes of preliminary sorting	0.5	3
Weighing and loading	3.0	18
First 4 hours trucking	4.0	24
Second 4 hours trucking	1.0	6
Distance traveled = 640 km	2.5	14.6
Total Shrink	11.0	66

The 600 lb calf weighs only 534 lb at sale time!

Over-loading and under-loading cattle on a vehicle can increase the amount of shrink. Overloading or crowding causes stress, while underloading causes excessive movement of the unstable cattle and both situations can lead to injuries. Bedding or sand in the vehicle to improve footing will reduce shrink.

Plan ahead for the marketing of cattle. Shrink can be increased by bad storms, hot weather and long delays during the trip or while waiting for unloading. **Shrinkage doubles when groups of cattle are stressed by being mixed during marketing.**

Weaning

Weaning is one of the most stressful times in a calf's life. Weaning calves the day before the sale and shipping them to the sales barn to stand overnight creates the most shrink in calves. Additional stressors such as sorting, loading, transporting, and commingling with other groups of calves, along with the calf's decreased motivation to eat or drink, will cause additional shrink. Pre-conditioned calves will shrink less and provide a higher sale weight.

Recovery Time

Time for cattle to regain the lost weight varies depending on which type of shrink the animals have experienced. Fill shrink recovery time may be a day or two after going back on feed and water. Cattle with tissue shrink combined with ongoing stresses such as a new feed ration, commingling or sickness could take weeks to recover their sale weight. Cattle that shrink over 9% may experience increased sickness such as bovine respiratory disease and a higher mortality rate.

There is a variation in weight loss and the rate of weight recovery within a group of cattle. Cattle from sales barns generally shrink more than cattle from direct farm sales but recover their sale weights in the same length of time.

Researchers studying how shrink in finished cattle degrades meat quality have developed nutritional supplements to reduce muscle loss and retain quality grades in cattle. These products are fed during the marketing process. These supplements are used in conjunction with low stress handling methods to reduce shrink.

Summary

Shrink is a direct measure of the stress placed on cattle. It is important to identify and reduce the stressful factors associated with the marketing of the cattle you are buying or selling. You can reduce shrink by managing the level of stress throughout the marketing of the cattle to maximize their well-being and value.

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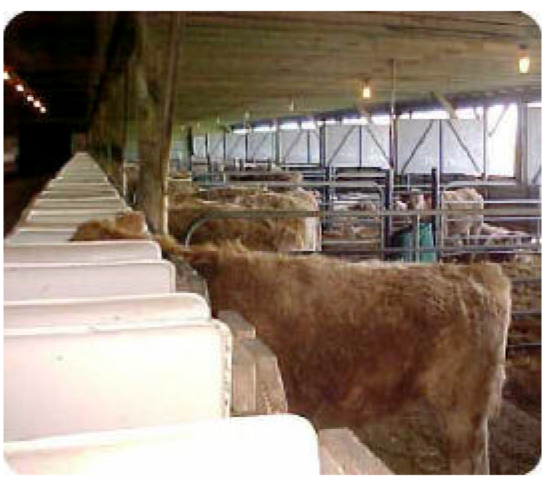
Guest Article:
Corn <u>or</u> Barley For Feeding Steers ?

Phil McEwen, Ridgetown College, University of Guelph
Ira Mandell, Department of Animal and Poultry Science, University of Guelph

The influence of grain type (barley versus corn) on carcass merit and meat quality has become an important issue for Ontario cattle producers. While beef production in **Ontario** is based on **corn**, **barley** is the primary energy source in **Western Canada**. The Ontario Cattle Feeders Association initiated an "Ontario Corn Fed" beef program. The primary goal for the program is to increase the quality, consistency and market share for Ontario "corn fed" beef. Previous trial comparisons, for finishing cattle, have primarily evaluated dietary differences in growth performance and carcass merit, while measurements of meat quality and taste have been less extensively evaluated.

Unfortunately, beef cattle prices have been greatly reduced due to an isolated case of BSE in Canada. Research is therefore needed that explores ways of reducing production costs while maintaining measurements of meat quality. The primary objective for this trial was to evaluate the effects of grain source (barley versus corn), corn silage feeding level and market weight endpoint on measurements of steer performance, carcass merit and meat quality.



Cattle were fed either rolled barley or rolled corn, with either a high level or low level of corn silage, giving a total of 4 different diets. (see Table 1)

Table 1. Diets Fed

Diet	Composition of Diet (% , Dry Matter Basis)
1	70% corn grain + 15% corn silage
2	35% corn grain + 50% corn silage
3	70% barley grain + 15% corn silage
4	35% barley grain + 50% corn silage

Two trials were conducted, one with 92 **Angus** steers and the other with 108 **Charolais** steers. Cattle were fed on a free choice basis, with the individual feed intake of each steer measured using a Calan Gate system. Angus cattle were marketed after achieving an assigned body weight at either 550 kg (1210 lbs) or 600kg (1320 lbs) Charolais cattle were marketed at either 600kg (1320 lbs), 650kg (1430 lbs) or 700kg (1540 lbs).

What We Found

Angus

- **Corn** fed cattle had higher feed intake, **greater** daily **gain**, and required **fewer days** to **market** than barley fed cattle
- **Feed efficiency** was **similar for** grain type and market weight end point
- Silage level and market weight endpoint did not affect daily gain
- High silage level resulted greater feed intake and reduced days to market (a surprising result !), but feed efficiency (feed:gain ratio) was poorer for high silage diets
- Carcass measurements were not affected by grain type or silage level

- Cattle in the heavier market weight group had higher carcass weight, marbling and ribeye area
- **Eating quality** traits such as tenderness, flavour and juiciness **were not affected by grain source**, silage level or market weight
- Drip losses from cooking were higher for corn grain fed cattle compared with barley fed

Charolais

- Daily **gains** were **similar** for each **grain source**, silage level and market end point (Table 2)
- Corn grain fed cattle had higher feed intake than barley grain fed cattle
- Feed intake was similar for each silage level and market end point
- **Grain source and silage level did not affect feed efficiency, carcass weight, dressing %, ribeye area, backfat depth, lean rib yield or the force required to shear through the meat**
- High silage cattle were leaner, with slightly less marbling than low silage cattle.
- Cattle slaughtered at higher market weight showed increased carcass weight, dressing % and marbling, but had lower lean yield (Table 3).

Table 2. Effects of grain source and corn silage feeding level on Charolais steer growth performance, feed intake, carcass and meat quality.

	Grain Source		Silage Level (DM)	
	Rolled Corn	Rolled Barley	50% Silage + 35% grain	15% Silage + 70% grain
Growth Performance and Feed Intake				
Ave. Final Weight (kg)	669.9	668.2	668.8	669.3
Days to Market	212.3	216.1	218.0	210.3
Average Daily Gain (kg)	1.6	1.6	1.6	1.6
Average DM Intake (kg/d)	9.4[a]	8.8[b]	8.9	9.2
Feed Efficiency (DM/gain)	5.8	5.6	5.7	5.7
Carcass and Meat Quality				
Hot Carcass Wt. (kg)	374.7	376.2	374.5	376.5
Dressing Percentage	55.9	56.3	56.0	56.2
Lean % - Rib Dissection	53.2	54.1	54.8[c]	52.5[d]
Fat % - Rib Dissection	27.9	27.2	26.9[c]	28.3[d]
Marbling (four point scale)	2.7	2.6	2.5[c]	2.7[d]
Intramuscular Fat (%)	4.1	4.3	3.9[a]	4.4[b]
Warner-Bratzler Shear Force (kg)	4.9	5.2	5.1	4.9

[a,b] indicates a significant trait difference between rolled barley and corn.
[c,d] indicates a significant trait difference between 50% and 15% silage in the diet.

Table 3. Effects of market weight endpoint on Charolais steer growth performance, feed intake, carcass and meat quality.

	Weight Endpoint		
	600 kg	**650 kg**	**700 kg**
Growth Performance and Feed Intake			
Average Final Weight (kg)	621.1[a]	670.6[b]	715.3[c]
Days to Market	178.1[a]	219.5[b]	244.9[c]
Average Daily Gain (kg)	1.7	1.6	1.6
Average DM Intake (kg/d)	9.2	8.8	9.3
Feed Efficiency (DM/gain)	5.5	5.6	5.9
Carcass and Meat Quality			
Hot Carcass Wt. (kg)	345.9[a]	375.1[b]	405.4[c]
Dressing Percentage	55.8[a]	55.9[a]	56.7[b]
Lean % - Rib Dissection	54.9[a]	53.8[a]	52.2[b]
Fat % - Rib Dissection	25.5[a]	27.2[b]	30.1[c]
Marbling (four point scale)	2.3[a]	2.7[b]	2.9[b]
Intramuscular Fat (%)	3.7[a]	4.1[ab]	4.7[b]
Warner-Bratzler Shear Force (kg)	5.3	5.1	4.7

[a,b,c] indicates significant trait differences between market weight endpoints.

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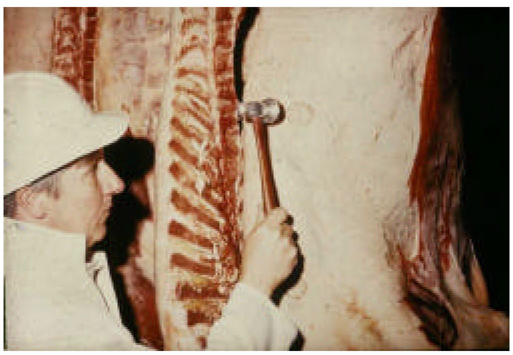
Building the Brand

Barry Potter, Livestock Specialist

The meat counter at the local grocery store is changing its look rapidly. Beef retailing is moving away from generic marketing to specific **branded products**. As we continue to descend the BSE reality precipice, producers are analyzing ways and means to change the way they conduct business. Many are interested in building a branded beef program to capture more of the value of the animals they are producing.



The retail industry is rapidly consolidating and changing. Wal Mart is the largest food retailer in the world, and despite entering the industry just a short time ago, has over 17 % of the U.S. business. In Canada, there are four large retailers with approximately 65% of the industry. In order to do business with major retailers, producers must be marketing large volumes, or part of a supply chain which organizes production on a large scale. However, opportunities exist to break into branded programs with alliances with smaller butcher shops and delis that will focus some of their retail shelf space on regional foods.

The U.S. branded beef phenomenon keeps developing quickly. In 2003 there were over **52 USDA certified programs** from 26 companies. Forty of these programs use Angus based genetics. Seven of the top ten breeds of cattle have at least considered a branded beef program. What are the producer components of a branded program? For USDA certification, the building block specs of various programs may include: genetics; quality factors (U.S. Prime, Choice, Select); and yield factors such as grade, fat thickness, and ribeye area.

Why are producers interested in branded programs? They hope to retain more money from the beef processing and marketing system. Why are consumers interested? They hope to enjoy a "guaranteed tender" steak. An important issue is whether or not consumers are prepared to pay a premium for an enhanced eating experience. A recent study in the U.S. found that consumers in Chicago and San Francisco would pay an average of $1.61 per lb ($3.54 per kg) more for a domestic grain fed steak as compared to an Argentinean, grass fed steak. Interestingly, however, 23% of those surveyed preferred the grass fed beef and were willing to pay an average of $1.36 per pound ($2.99 per pound) more for their choice. The key to making more money from your beef is to **differentiate** the **product** and retail it to the **correct market**.

Participation in a branded program will mean some additional costs. For cattle producers, this will include at least a participation fee, and may involve some changes in production practices, which may cost money. Processors, wholesalers and retailers incur extra costs in maintaining product identity during handling, and from extra labeling and promotion. To make branded programs profitable for cattle producers, the premium they receive must exceed all of their additional costs.

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Maximizing Your Calf Crop's Value

Nancy Noecker, Beef Cow-Calf Specialist

With the fall markets looking very volatile, producers need to maximize the value of their calves.

Maximizing the value of your calves will bring the best bottom line. During volatile or low markets the discounts are very large on poorly prepared or off type calves. There will likely be a market for unvaccinated, unprocessed, light or tough looking calves. However the buyers of these types of cattle will only pay bargain basement prices to offset the risk involved with these calves. This is why it is important that you make the most of what you have.

Castrating and de-horning are basic requirements that take more time than money, but will give buyers two fewer reasons to discount your package of calves.

Proper vaccinating will require the cost of the vaccine and time, but again create a much more desirable package for the market. Check for local preferences, but usually a **Modified Live Vaccine** (MLV), is preferred by most feedlots. If this is a change to your vaccination program, check with your veterinarian before implementing the change. However, if you use MLV already for your calves and your cowherd, be sure to advertise the fact.

Sort the calves into the most attractive package for buyers. Try to keep the weight ranges within 100 lbs in any group. Pay more attention to matching the type rather than the colours, although colour can be a sort option. **Sell the off type calves separately**, whether they are too big, too small, too good, or too poor. **Sort and price the sexes separately** even if you are selling at home.

Know when the calf sales are and **when and where** your type of calves will **sell best**. Then time your processing and vaccinating to ensure the calves are at their best for those sales. Be flexible in your marketing plan, as some feedlots may be looking for calves later than usual if they have finished steers waiting to go to slaughter. Conversely, some feedlots may look for calves earlier if they are switching from feeding yearlings to calves. Volatile markets are also an issue. Be prepared to adjust your chosen sale time based on market signals and prices.

Other selling strategies listed here may work in individual situations but consider carefully the dollars, facilities, feed and risk involved:

- **Split marketing of the calf crop by size and weight or maybe by sex**
- **Having your calves custom fed in a feedlot**
- **Backgrounding or feeding-out your own calves**
- **Selling cows and keeping heifer calves**
- **Reducing the herd and selling hay**

What ever your plan, a little thought and effort before marketing will help you to make the most of what you already have. This in turn should help when it comes to maximizing the possible returns on your calves this fall.

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Fall Pasture Management Tips

Jack Kyle, Grazier Specialist

Late summer is not the time to neglect your pastures. How you manage your pastures during this period will affect their productivity for the remainder of this year and next.
Extending the **grazing** season until **Christmas** is an achievable goal for anyone, but there are a few important steps to follow if you want to achieve this.

The fields that are to be pastured after the end of the growing season need to be given time to grow and accumulate forage for late season grazing. Choosing the right fields is important.

The plants need ample opportunity to grow and accumulate forage for the fall. During August and early September, there is still sufficient day length and heat to promote good forage growth, but once we get to late September, the days are shorter and the night time temperatures low enough that very little growth will occur.

What steps can you take now to ensure that there will be forage for the November-December period? The first is to select the fields that you want to use for stockpiled forage. Choose fields that have a good forage stand and are reasonably well drained. Grazing during **wet fall** conditions can damage the plants if the livestock are **pugging** (leaving deep hoof prints). Stockpile grazing is best achieved in fields where animal movement can be controlled and fresh strips of forage or new paddocks can be provided at least every week, preferably every few days. If the livestock have uncontrolled access to the entire area they will selectively graze and after a couple of weeks the forage quality will be greatly diminished.

The second step is to stop grazing the fields that you want to use for late fall grazing and allow the forage growth to accumulate. This is an important step in the process of setting up a stockpiling system. There must be sufficient volume of standing forage to provide the livestock with their feed requirements for the intended period.

The third step applies to grass based stands. Nitrogen applied in the late summer will stimulate fall growth and allow the plant to develop a strong root system for the fall. Nitrogen at this time will also promote top growth that will provide feed for the fall grazing. An application of 50-60- kg/ha of nitrogen will give a positive response. By following these three steps you will provide the late summer forage management that will give you the opportunity to graze until Christmas.

Trefoil is one of the better legumes for stockpile grazing as it holds its quality well into the late fall and early winter. Trefoil is a short-lived perennial that can re-seed itself if allowed to flower and fully develop the seedpods. If you have trefoil in your pasture it should be allowed to flower and set seed at sometime during the year. If the trefoil has not had the opportunity to do so up to this point in time, then give it a fall rest to allow seed set. The trefoil can then be grazed later in the season after all growth has ceased.

There are several other ideas that will provide forage for your livestock during the later part of the grazing season. Crop residues can provide excellent quality forage. Don't over look cereal stubble, as there will be some volunteer grain in these fields that can be grazed, or they can be seeded with oats or barley immediately after the cereal harvest. If clover was broadcast in the spring for a plow down/cover crop, consider grazing this growth as livestock feed. As well, corn stalks can provide a great deal of forage after the grain has been harvested.

With some planning and action in August there can be lots of opportunity to extend the grazing season through to early winter or in some cases late winter.

For more information go to the OMAF_Website: www.gov.on.ca/OMAFRA/english/index.html and search for "stockpile grazing" or "late season grazing"

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Pasture Manual Now Online

The latest edition of OMAF's booklet **Pasture Production** (Publication 19) is now available online. This manual provides information on improving pastures, including species selection, fertility, rejuvenation and renovation, weed control, and renovation, weed control, grazing systems, fencing and watering. It also provides insight into animal pasture management, budgeting, and managing different types of livestock on pasture.

http://www.gov.on.ca/omafra/english/crops/pub19/pub19toc.htm

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