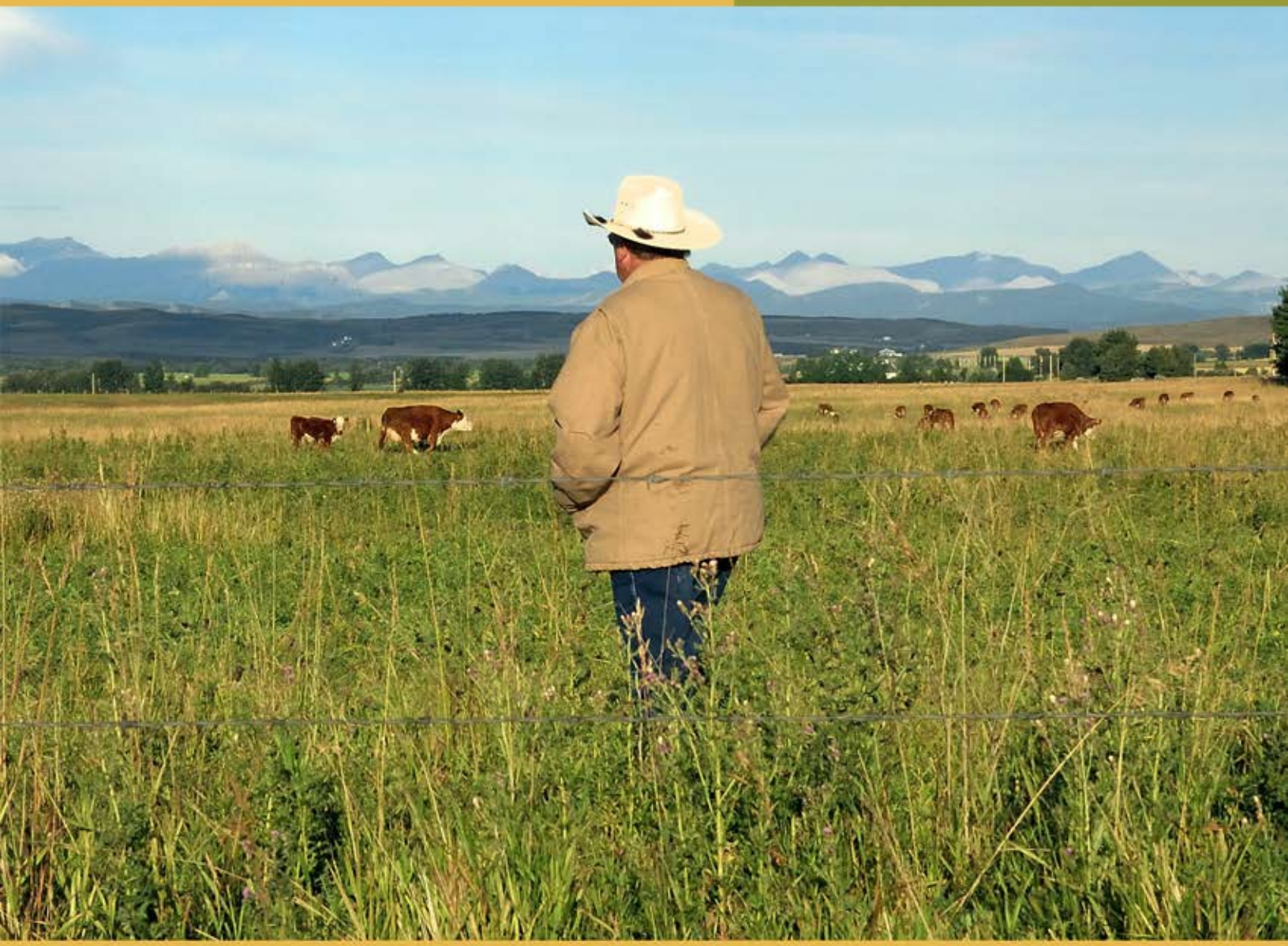
organic ALBERTA

Finishing Organic Beef Producer Guide



"A useful guide for both experienced and new organic beef producers interested in learning finishing options."

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Guide Credits

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Introduction

This guide provides organic beef producers with smart management practices for the finishing of organic beef. It synthesizes current knowledge and trends into a practical and easy to read reference. A producer interested in finishing organic beef must begin with and continue to raise their herd according to the Canadian Organic Standards. Two approaches to beef finishing are explored: grass fed and grain fed.

Tips specific to grass finishing (per Organic Alberta definition) are accompanied by a grass icon
Tips specific to grain finishing (per Canada Organic Standards) are accompanied by a grain icon

Although this guide looks only at production practices, one of the most important steps in any business is to know who your customers are and what they want. Before getting into the details of this guide, ask yourself the following questions:

- Do you already have an alliance with a buyer/marketer/ customer?

- Do you know what qualities they look for in their beef?
- What production practices, i.e. organic, grass fed, grain fed do they prefer?

The answers to these questions will help you figure out what production practices you will want to pursue.

This guide will be useful for experienced organic beef producers as well as those just beginning to explore organic beef production. Raising healthier animals produces the best quality beef, which will ensure a stronger organic beef industry.

Canada Organic Standard

The Canadian Organic Standard, Section 6, Livestock Production includes many details regarding raising and finishing cattle. The Standard should be referenced prior to setting up your production system. For a link to the Standard go to Organic Alberta's website's Resources for Producers page (www.organicalberta.org/resources-for-producers).

Note: *This guide is not intended to be a comprehensive manual on livestock management but a presentation of practical knowledge to support the finishing of organic beef. It is also not intended to be the final word on organic livestock standards. Producers should always refer to the Canadian Organic Standard and their certification body when making production decisions.*

Acknowledgements

Literature review, web-based research, stakeholder meetings, individual interviews and consultations were the major sources of information for this guide. We wish to acknowledge the following experts for their knowledge, wisdom, time and dedication to developing a stronger organic beef industry in Alberta:

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Definitions

Canadian Organic Sandard: a set of criteria for all methods and practices for producing and handling crops, livestock and processed products.

Finishing: final stages of conditioning an animal for slaughter to ensure adequate muscle and fat development.

Grain Finished: animals are fed grain during the final, or "finishing" stage of their lives. This allows them to gain weight faster than if they were just fed grass. The Canadian Organic Standard allows no more than 40% grain (Section 6.4.3 b for ruminants, that at least 60% of dry matter in daily rations consists of hay, fresh/dried fodder or silage).

Grass Finished (Organic Alberta Definition): grass finished cattle have been raised and finished on forages. They have not been fed grain at any stage of their lives.

Organic: an ecological method of agricultural production that respects the natural environment. Organics focuses on enhancing the health and vitality of the soil, preserving biodiversity, promoting animal welfare and preserving the ecological integrity of our environment. No synthetic fertilizers, synthetic pesticides or genetically modified organisms are permitted in organics. Organic foodstuffs along with livestock feed are inter-provincially regulated in Canada under the Canadian Organic Regime and must meet all requirements as set out in the Canadian Organic Standard.

Organic Certification: the consumer's guarantee that all food products using the term organic, actually are. In order to be certified organic all producers and processors must meet all requirements as set out in the Canadian Organic Standard, must apply to a CFIA (Canadian Food Inspection Agency) Accredited Certification Body, be able to show complete traceability of their products and be inspected by an independent third party. Once a farmer or business is certified it can use the term organic and the Canadian Organic Logo.

Please refer to the Organic Alberta website for other current definitions: *www.organicalberta.org/about-organics/organic-definitions*

An additional resources and good reads section is included at the back of this guide for more information.

1. Year Round Planning

However you plan to produce and market your organic beef you must have a “road map” outlining where you are going and how you will get there. A continual process of planning, monitoring and system evaluation must occur in order to achieve a consistent supply of the top quality product you have promised your customers.

It is important to include your entire team (family members, board of directors, staff, veterinarian, nutritionist, marketer, and financier) in the planning process so they can support and facilitate your intentions for finishing organic beef. Your veterinarian and nutritionist help to keep your animals healthy and growing properly. Work with your buyer or marketer to help plan your schedules and targets.

Always be sure to understand and maintain adequate records for your own system evaluation, monitoring and improvement as well as for your organic certifier.

Year round planning activities include:

- Planning your market cycles with partners including buyers, marketers, cooperative groups, farmers markets, and end users.
- Planning your pasture and feeding needs for all seasons, including having your best feed and pastures available for the finishing stages.
- Planning to sync your finishing cycle with your marketing cycle. For some that may mean year round finishing, for others it is simply taking into account when your marketing will be so that you have finished animals to sell (or vice versa).
- Planning and coordinating calving season for year round supply and replacements in your feeding station.
- Planning for productivity and efficiency.
- Planning for profitability. This can include things like knowing the stocking rate or stock density of your pastures, as well as the typical rate of weight gain you can expect from your animals.
- Do you know when your animals are finished growing? Plan to have adequate frame development before you start finishing, as you will end up with a superior product.
- Knowing and understanding the rate of weight gain of your animals at each stage of growth is of top importance when predicting when your animals will be ready and in predicting cost per pound of gain.

Always remember to have a backup, or “Plan B”. Mother Nature and markets sometimes throw unexpected challenges at us. Ensure you have alternatives in mind if things do not go as you had hoped. For example: Do you have access to extra feed stocks if needed in the winter? Do you have alternative pasture if your rotation is not going as anticipated or if faced with drought?

Planning and budgeting tools

Most producers use some form of planning and budgeting tool. Some use a paper-based system, while others have developed Excel spreadsheets to plan and keep track of their operations.

There are various customizable software tools available which may also be an effective fit for your operation. Several producers find it most effective to combine two or more approaches to get all of the information they need for their business.

Before investing in a software system it is important to know how to use it, but it is more important to know what the numbers mean in the context of how your operation is performing. This information will allow you to set targets, compare your operations with averages, identify and correct problem areas and increase the financial profitability of your herd.

Suggested software tools include:

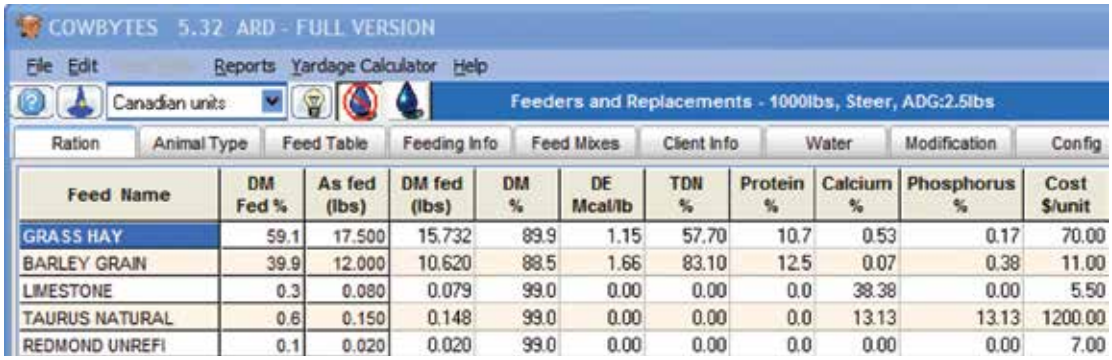
- CowBytes Computer Software;
- Forage Fed Beef Model; and
- Rancher's Return Spreadsheet.

CowBytes Computer Software: $50 for the CD

CowBytes is an easy-to-use beef ration balancing software package. It allows you to balance all the major nutrients and most of the micronutrients. The program calculates the nutrient values of the rations based on the amount of each feed selected.

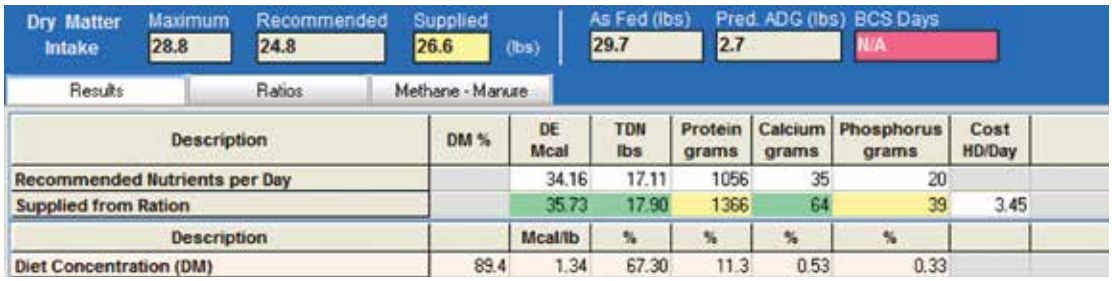
The three screen shots on the following page are from the CowBytes program to illustrate how rations would be calculated and displayed for a 1,000 pound animal, gaining 2.5 pounds a day with grass, hay and a grain ration.

Example: 1,000 pound animal, gaining 2.5 pounds a day.



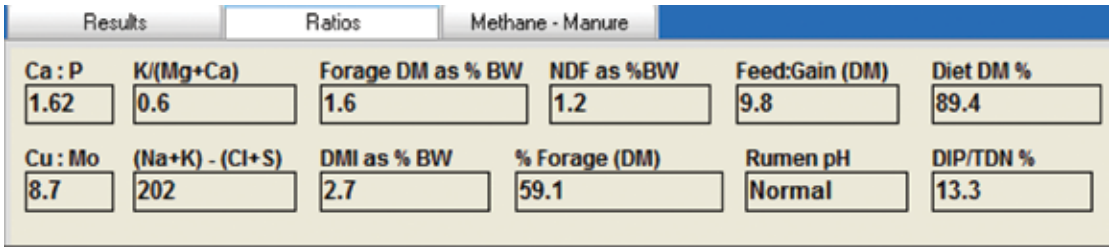
Feed Name	DM Fed %	As fed (lbs)	DM fed (lbs)	DM %	DE Mcal/lb	TDN %	Protein %	Calcium %	Phosphorus %	Cost $/unit
GRASS HAY	59.1	17.500	15.732	89.9	1.15	57.70	10.7	0.53	0.17	70.00
BARLEY GRAIN	39.9	12.000	10.620	88.5	1.66	83.10	12.5	0.07	0.38	11.00
LIMESTONE	0.3	0.080	0.079	99.0	0.00	0.00	0.0	38.38	0.00	5.50
TAURUS NATURAL	0.6	0.150	0.148	99.0	0.00	0.00	0.0	13.13	13.13	1200.00
REDMOND UNREFI	0.1	0.020	0.020	99.0	0.00	0.00	0.0	0.00	0.00	7.00

The daily ration includes: grass hay (59.1%), barley grain (39.9%) and minerals (1.0%).



Description	DM %	DE Mcal	TDN lbs	Protein grams	Calcium grams	Phosphorus grams	Cost HD/Day
Recommended Nutrients per Day		34.16	17.11	1056	35	20	
Supplied from Ration		35.73	17.90	1366	64	39	3.45
Description		Mcal/lb	%	%	%	%	
Diet Concentration (DM)	89.4	1.34	67.30	11.3	0.53	0.33	

The cells highlighted in green mean the amount of nutrients provided meets the requirement, for example calcium. Cells in red mean the amount of nutrients provided are below the requirements, and the cells in yellow mean caution, take another look.



Trace minerals and diet dry matter are illustrated for this animal In the table above.

Find out more about CowBytes at:
www.goo.gl/lQm0e (google shortened URL link)

Forage Fed Beef Model: free on Manitoba Forage Council's website

This excel based model from the Manitoba Forage Council will help you determine revenue and expenses for grass fed beef. You can input data specific to your business and calculate a net return per head. Keep in mind this model was developed using 2008 statistics.

Summary of Grass Fed Beef Projection								
Forage Base Available								
Land Base available (acres)		**640**	**DM.**	**Total DM**		**Total Forage Tons DM**		
			T/acre	**(Tons)**				
Pasture		230	1.50	345				
Annual Pasture		150	2.00	300				
Stored Forage		260	2.00	520				
Purchased forage (Tons DM)	1.0			1				
Total		**640**		**1166**			**Total**	**1,166**
Animals Available				**Pasture**		**Stored Forage**		
			Average	**Daily Intake %**	**Forage used**	**Average**	**Intake**	**Forage used**
		#HD	**Wt(lbs)**	**& Wastage**	**Tons DM**	**Wt(lbs)**	**%**	**Tons DM**
Beef cow herd		100	1069	3.0%	221		2.5%	222
Bulls(1 bull/25 cows)	**4%**	4	1500	3.0%	12		2.5%	15
Replacement heifers(% of Cows)	**12%**	12	990	3.0%	25		3.0%	30
Extended Grazing(all animals)		116	1138	3.0%	121			
Feeder/Stockers								
Grass feeders(calves-heifers)		83	973	3.3%	80	677	3.3%	210
Grass Finishers		83	1128	3.3%	117			
Weaning Rate % (calves available)	95%	95			**576**			**477**
				(Must match production within 10%)			**Total**	**1,053**
Forage/Livestock Production Phases								
				Date on	**Date off**	**Days**	**lbs/Day**	**Cost/day**
Cow/Calf phase		**Initial**	**Final**	(Day/Mo/Year)	(Day/Mo/Year)			
Pasture - Cow/Calf (w/bulls)		1,000	1,138	15-May-08	30-Sep-08	138	1.00	$1.36
Pasture - Extended grazing		1,138	1,138	30-Sep-08	30-Nov-08	61	0.00	$1.33
Winter - Stored Forage		1,138	1,055	30-Nov-08	15-May-09	166	-0.50	$1.71
Total						**365**		
Pasture - Rep.Heifers		904	1077	15-May-09	30-Sep-09	138	1.25	$1.36
					Cost weaned calf			**$551**
Grass Feeding & Finishing								
Feeder/Stocker Phase				(Day/Mo/Year)	(Day/Mo/Year)			
Winter feeding(ST & H)		450	904	30-Sep-08	15-May-09	227	2.00	$1.50
Total					**Cost of feeder**			**$340**
Finishing Phase				(Day/Mo/Year)	(Day/Mo/Year)			
Early summer(Steers)		904	1041	15-May-09	15-Jul-09	61	2.25	$0.69
Finishing yearlings		1041	1215	15-Jul-09	30-Sep-09	77	2.25	$1.93
					Cost to Finish			**$190**
					Total cost per head			**$1,081.29**
	Total Days	**503**		**17**	**Months**			
Processing and marketing				**Total Production, processing and marketing costs**				**$1,835.66**
Potential Returns					**Total Retail Value**			**$2,244.59**
					Net Return per head			**$408.93**

Find out more about the Forage Fed Beef Model at:
http://goo.gl/E7Lt9 (google shortened URL link)

Rancher's Return Spreadsheet: free on 'Ropin the Web', Alberta Agriculture and Rural Development's website

Rancher's Return incorporates your own feeding and grazing systems with key variables such as feed prices, cattle prices, weaning rates, and selling weights.

Rancher's Return adds flexibility to the calculation process by allowing user inputs for operating cost line items and expected production results. Breakeven selling prices and return on equity (ROE) are two key results. All costs are shown in "$ per Head" and "percentage of total costs".

Find out more about Rancher's Return at: *www.goo.gl/DLu6v (google shortened URL link)*

It's All About the Timing

Timing is an important part of the process for finishing organic beef successfully. By understanding the needs of your buyer or marketer you can supply them with the right product, at the right time and the right price. This makes sense for profitable operations. What age, carcass weight, yield, quality grade, genetics, etc., does your buyer demand?

Know what is required from your abattoir, prior to and after slaughter. Ensure the abattoir has the capability to process the meat according to your specifications, including meeting organic certification requirements. What do they suggest as to the best timing for delivery of animals? Remember that slaughter times at some packing plants may have to be booked months in advance, so plan well ahead. Keep your buyer informed of your processing schedules. They will want to know when the product will be available.

Provincially inspected plants are used for meat sold within the Province of Alberta. Federally inspected plants are necessary for meat sold across Provincial borders. Each type of plant follows different protocols. Understand and be able to work with the processes and

schedules for the type of processing facility you need, and ensure they have the knowledge, ability and authority to properly process organic beef. For animal welfare reasons, stress and tenderness of the meat, it is recommended to send a minimum of two animals to the packing plant at a time. This reduces stress and anxiety in the animals, which can lead to tough meat, dark cutters, and lower profits.

Plan to market animals between 17 to 24 months of age at a finished (mature) weight of 1,100 to 1,200 pounds. Animal weight gains must be continuous throughout the life of the animal – slower gains may result in animals having to be fed over a second winter. If you find your animals are taking more than 30 months to finish, there may be a problem of genetics or inadequate nutrition with the herd.

GRASS TIP

For 100% grass fed beef there is usually a two-year cycle from start to finish. It is important to note some animals do not finish as quickly as others in a herd. In that case the animals must be held back so they can finish properly and you can get the best value for your animals. In some cases this may mean an animal is older than 30 months before it is ready for slaughter, which may trigger a deduction at the packing plant.

GRAIN TIP

Grain finished animals at the finishing stage are often separated into controlled cells or groups for grazing and supplement feeding. This makes it easier to monitor their feed as well as their supplements to ensure they are receiving adequate nutrition. Smaller pastures are helpful at this stage.

2. Which Breed of Animal Will Give You the Results You Need?

What breed is the best?" is an age-old debate. They all look the same when the hide is off. The important part is what animal will work for you on your ranch.

While there are no specific breeds of cattle recommended for organic beef production, the traditional British breeds seem to be better suited to grass finishing. Some of these breeds include: Black and Red Angus cross, Galloway, Shorthorn, Red Poll, Black Welsh, and Red Devon.

GRASS TIP

Overall, the type of animal to finish depends on the markets you are targeting. You will want to select breeds or cross breeds with the potential to provide carcasses which meet your market requirements.

2. Which Breed of Animal...

Using one particular breed will not guarantee the necessary characteristics – it is more important to select the correct animals for breeding. Work within your own herd to build genetics that will work best in your area.

GRASS TIP

If you plan to raise 100% grass finished some key genetic traits to look for include: fertility, good feet, good udder, disposition and capability of finishing on grass. The hanging weight of the carcass, pounds of meat, and the taste of the beef are three indicators of good genetics and nutrition.

GRAIN TIP

For Grain Finishing you will look for: potential for growth, lean to fat ratio, puberty age, marbling, and calmness. Target Carcass Characteristics Include:

- **Carcass weight: 700 - 800 lbs**
- **Quality grade: AAA, AA**
- **Yield grade: 1, 2**
- **Rib Eye Area: 85-95 square cm**
- **Back fat thickness: 4-6 mm**

Common Carcass Problems to Avoid include:

- Excessive size/weight (carcass weights >900 lbs)
- Excessive external fat (fat thickness >15 mm)
- Inadequate marbling (low quality grades, B)
- Lack of uniformity (carcass weights <600 lbs)
- Dark cutters

Efforts to improve carcass quality should be focused on the previously mentioned areas unless actual carcass data proves otherwise.
D.J. Drake, University of California, Division of Agriculture and Natural Resources, Publication 8130, Understanding and Improving Beef Cattle Carcass Quality, www.anrcatalog.ucdavis.edu/

Genomic tools are available to assist in genetic selection. Go to *www.en.canadianbeefbreeds.com/index.php*, for more information.

Some of the best resource people are your neighbours. Talk to a successful producer in your area to see what they do and learn from them. Your buyer is a good source of feedback on your animals. At the end of the day, the red meat yield on your animals will be what brings your buyer back for more.

For additional information a table of North American breed crosses showing breed by growth rate, lean to fat, puberty age, milk production and marbling score is reproduced in the appendix.

3. Quality of Feed

Canada Organic Standard Clause 6.4.3b

for ruminants, at least 60% of dry matter in daily rations consists of hay, fresh/dried fodder or silage.

The quality of feed for organic beef should be a high priority at all times during the entire process, not just at the finishing stage. The nutritional quality delivered in the feed provides the building blocks to produce a healthy, strong animal. Proper nutrition starts with the health of the mother, through calving, backgrounding, and finishing. Any nutritional shortfalls during any phase of this process will have a negative effect on the bottom line of your operations.

It is detrimental to your operations to finish animals that are stunted in growth and development because of prior lack of proper nutrition. Having access to a weigh scale to weigh the animals to determine if growth targets are being met is important at various points of development of the animal. Having an over-finished or an under-finished animal will affect meat quality and cut into the bottom line of all parties.

It is highly recommended to have a feed test or nutritional analysis done of your feed. Knowing the actual quality of your feed will provide

you with the information needed to provide a balanced ration for energy, protein, major minerals, trace minerals and vitamins for the types of animals you are finishing.

A nutritional analysis of your feed can be facilitated by your local feed salesman, feed mill, or local forage association. Often there is no charge, or a minimal charge, for this service, and nutritionists on staff at the feed mill can work with you to identify deficiencies and develop a balanced ration program for your operations. In addition there are a number of feed and water testing laboratories offering services in Alberta: *www.goo.gl/DDBF0 (Google shortened URL link)*

Canada Organic Standard Clause 6.3.3

During the final year of transition, animal feed and pasture of the enterprise can be used as organic by the production unit of the enterprise. The feed shall not be considered as organic outside of this unit.

Several software programs are available to assist the organic beef producer with managing their feeding plans. Some software programs are illustrated in the chapter on Planning. These programs will allow you to determine if your feed is within the range of averages for the desired weight gain of your herd. The rate of gain required to meet your marketing time lines can then be formulated.

Good nutrition allows the animal to develop a sturdy frame, which is then built upon and filled out during the finishing period. Good nutrition also promotes the growth of a healthy coat of hair, which will provide protection during the winter months.

Determine the quality of forages in your area. What energy can these forages provide and what is the diversity/mix of the pasture are two important pieces of information. In addition to having a nutritional analysis done of your feed, several other things can be done to know more about the quality of feed in your area:

- Speak to neighbouring producers to see what's working for them.
- Understand the condition of your soil. Healthy soil produces healthy plants.

- If required supplements, minerals and mineral blocks can be added to the daily rations to ensure a high quality diet (just remember to have them approved by your organic certification body BEFORE use to preserve your organic integrity).

Canada Organic Standard Clause 6.1.3a

Herbivores shall have access to pasture during the grazing season and access to the open air at other times whenever weather conditions permit. Calculated on the basis of dry matter intake, the consumption of grazed forage during the grazing season of the region shall represent a minimum of 30% of the total forage intake during this period for ruminants that have reached sexual maturity. On all farms a minimum of 0.13 ha (1/3 acre) per animal unit must be devoted to grazing.

Forage Quality

Variation in forage quality depends on several things: the forage species, time of cutting and harvest condition. With forages, key points to consider are: colour (should be green), leafiness (adequate leaf production), smell (fresh smell) and maturity. As outlined previously, the true measure of the quality of your forage is to have it tested.

A preferred forage variety for finishing organic beef is a grass/legume mixture. Aim for high energy and nutrient dense feedstocks. There are some non-bloating legumes such as Cicer Mild Vetch and Sanfoin that have similar nutrient content as alfalfa. Sanfoin contains tannins which help to prevent bloat, so including at least 20% Sanfoin in a stand with alfalfa can help minimize bloat. Rough fescue is a good native grass found in southern Alberta adapted to grazing in the fall and winter.

Generally, young plants have the best nutrition and energy value for finishing organic beef. Look at your crop rotation plan and consider moving the cattle to a young pasture during their finishing stage. As plants mature, they deposit more fibre in the stems and the energy level available from the plant decreases.

Forages have a higher “brix” value in mid afternoon, so this is a good time to move cattle in a rotational system, as they eat with more vigor and gain more.

Forages come in three types: pasture, hay and silage. These types of forages are briefly discussed below:

Pasture

With pasture, it's most important to consider: the health of the pasture and soil conditions; the mix of plant species; and rotation of the herd, to end up with the most energy when at the finishing stage.

Studies have shown a planned grazing system will:

- allow for a healthy plant stand
- increase forage production
- increase utilization of each acre
- prevent the loss of higher production forage species
- provide a highly productive pasture for years
- allow rest periods for the pasture

For more information on holistic management and planned grazing models check out: *www.holisticmanagement.org/*

Canada Organic Standard Clause 6.8.7b

The final finishing phase – when cattle are confined for finishing, there shall be at least 23 m^2/ animal.

Canada Organic Standard Clause

For feeding of animals during a farm-scale catastrophic event, or during a regional forage shortage, see **6.4.1** *in the Canadian Organic Standard.*

Hay

Canada Organic Standard Clause 6.4.3c

for ruminant animals, when silage is fed, at least 15% of the total dry matter in daily rations shall consist of long-fiber forage (>10cm stem length).

Like pasture, when finishing with hay, consider the age and plant species. Typically the younger the hay is cut, the better the quality. In other words, hay quality is affected by plant maturity (lignification).

Silage

Silage is made from crops such as barley, oats, triticale, hay crops or salvaged crops that are chopped, compacted in a bunker or pit silo, covered in plastic and allowed to ferment. Once silage is produced, weather is typically not an issue and weed control can be successfully managed.

Silage can be fed during winter months when pasture is not available or in poor growing conditions.

Grain Quality

If feeding no more than 40% grain when you are finishing your organic beef cattle, follow the grass protocol and introduce grain at the finishing stage. This would typically be in the last three to five months.

When finishing with grain, key factors to consider are:

- weight (high bushel weight, which generally indicates a higher energy content)
- plump kernels, which make it easier to roll the grain uniformly
- smell (no musty smell)
- percent of moisture (13% for oats and 14% for barley)

For Beef Ration Rules of Thumb see: www.goo.gl/h5aCp *(Google Shortened URL link)*

GRAIN TIP

4. Winter Effects

During winter, all animals require an increase in energy to maintain good health and proper weight gain. Plan on, and have a budget in place, to feed your animals more in the winter. It is especially important to have stress free and easy access to shelter/wind breaks, top quality feed, minerals, vitamins and water during this season.

When winter temperatures reach -20 Celsius (combined temperature and wind chill reading), increase feed rations by 5 to 10% to ensure the animals are gaining weight.

Work with the facilities you have on your farm for feeding and use feed bunks and bale feeders whenever possible to reduce feed wastage.

Shelter and bedding

Finishing organic beef in the winter requires having shelter and fresh bedding available to ensure your animals have an escape from the elements. Wind, cold, snowstorms, rain and mud can cause stress in herds. Adequate shelter/wind breaks and bedding can reduce feed requirements by up to 20%.

Some ideas for winter shelter and bedding include:

- Stands of trees/forest/shelterbelts, which provide protection from the weather in all directions.
- Free standing panels.
- Wind fences.
- Round bale shelter, with electric fence.
- Portable windbreaks *www.goo.gl/O8gqt (Google shortened URL link)*
- Wood chips make great bedding mounds and wick up less moisture in wet conditions. They can be topped up with straw when the temperature drops below -20 degrees Celsius.

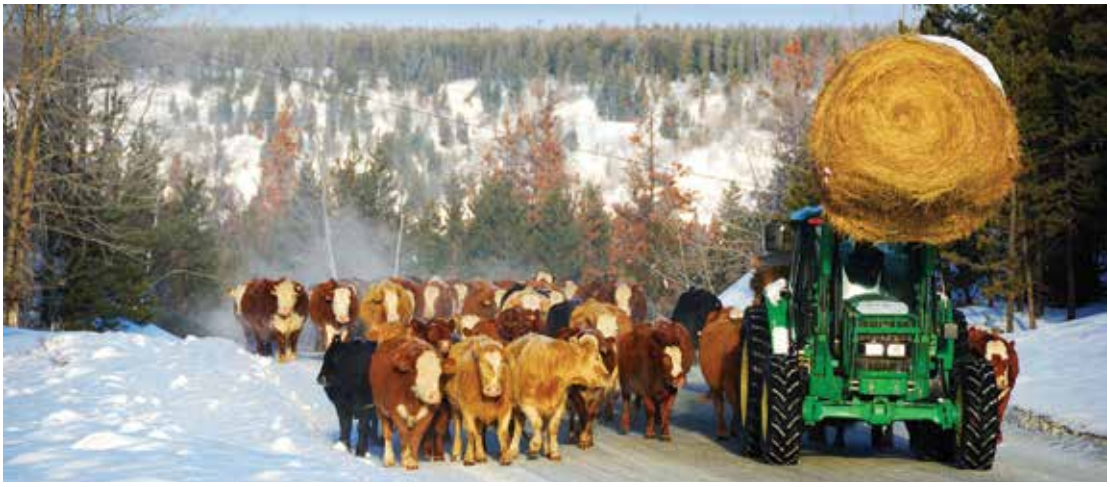
- Bedding mounds can generate heat as they compost to help keep cattle warm.
- Refresh the bedding area regularly during winter to maintain a stress free environment.

Water

Stress free and easy access to fresh, clean water will keep your herd thriving and gaining. Some options available for providing water to animals include: a drilled well with water going into a trough, frost-free stock waterers, remote solar powered watering system, or a dug out. Use caution if your herd is using a dug out as their primary water source. The animals may ingest a parasite from fecal contamination, and become sick.

Many producers use snow for their herd's winter water requirements. This is suitable as long as there is adequate snow available. Always have a back up plan for access to water as the snow may become trampled, iced up, melt, or blow away.

Winter Observation



During the winter months it is especially important to observe your herd to ensure the animals are eating and drinking enough to keep them as stress-free as possible and having positive weight gain.

Some things to watch for:

- Snow more than eight inches high and/or crusted over.
- Dirty snow.
- Tender noses and hair being rubbed off their legs from working hard to get through the snow to find food.
- Not gaining weight.

If you notice any of these things, plan on moving your animals to an alternate location where they don't have to work as hard to eat or drink.

Have a plan and a back-up plan in place to check your herd, during daylight hours, on a daily basis. With this practice, you will have the ability to note changes to body condition and behaviour efficiently and effectively, and react quickly if changes need to be made.

5. Average Daily Gains

Typically organically grown beef cattle do not grow as quickly as conventionally raised beef cattle that receive higher grain rations, implants, ionophores, and beta-agonists as these products improve gains and efficiency of production. Organic standards limit the amount of grain to be fed to no more than 40% of the total ration dry matter. Therefore it is very important to provide a high quality, balanced diet to the organic animals throughout their entire life, so they can gain at the proper rate to meet your marketing plans.

GRASS TIP

With grass finished, you want to see positive weight gain throughout the process. A good rule of thumb for gain is 2.0 to 2.5 pounds a day. This rate of gain is important for proper marbling, flavouring and tenderness to develop in the meat.

5. Average Daily Gains

For good gains during the finishing period, when cattle weigh about 1,050 pounds the ration should contain a minimum of 10% crude protein.

See Beef Ration Rules of Thumb Agri-Facts Agdex 420/52-4 : *http://goo.gl/rrLsb (Google shortened URL link)*

Other notable "rules of thumb" for crude protein with feeder calves is 14-12-10. This means a feeder calf from 550 to 800 pounds needs a ration of 14% protein, from 800 to 1,050 pounds needs 12% protein and from 1,050 pounds to finish needs 10% protein.

Feed testing at this stage will give you values to enter into a software program, making it easy to review recommended targets for daily rates of gain. Access to a weigh scale is also important to determine which animals are gaining properly. Keeping the cattle calm by using low stress handling systems and techniques is not only an inherent organic principle, it is important to your bottom line as well.

Genetics, poor quality feeds and health history prior to finishing may interfere with an animal's ability to gain weight as planned. If an animal is not performing up to your standards it should be culled from the herd so you can focus on those that will finish according to your plan.

5. Average Daily Gains

GRAIN TIP

Producers using the no more than 40% grain finished model for their organic cattle should not feed grain during the animals' first winter. Grain may be added to the rations in the animals' second winter. These animals may finish a bit quicker than forage only fed animals. A 2.5 to 3.0 pound per day, weight gain, should be achievable. It is advisable to weigh half way through production to know what your animals are doing. Any animal not performing to your standard should be evaluated and either sold on the conventional market or put back onto grass for further pasture growth. There is no use feeding expensive feed if the animal is not performing.

Processing Feed Grains:
The recommended method of processing grain for cattle is dry rolling. It has been found that rolling of grain leads to better digestion and reduction of fecal waste by the animals, as opposed to feeding whole grain kernels. Whole grains cannot be digested properly by the animal and therefore have higher feed wastage.

All kernels in dry-rolled barley grain should be broken and fines (particles less than 1 mm in diameter) should be less than 3%.

For more information see: http://goo.gl/U9Nnj *(Google shortened URL link)*

or contact the Feeder Associations of Alberta Ltd. to order a copy of Alberta Feedlot Management Guide.

organic ALBERTA

6. Determining Market Readiness

As you are finishing organic beef cattle certain visual cues can be observed to help determine market readiness of your animals.

The term “cutability” refers to visually identifying a good or poor cutting animal without the use of special tools, ensuring your animals are ready for slaughter and meet the requirements of your customers.

The following section outlines tips and best practices for visually determining what your customer is asking for.

With beef, three components influence cutability. They are bone, fat and muscle.

Of the three, bone changes the least in animals that are of similar weight. Percent of bone in an animal seldom varies more than 2 to 3% of the total body weight. Our knowledge of the skeleton’s structure increases our accuracy in evaluating finish in live animals.

The second area that influences cutability is fat. Areas on the animal which can be visually monitored for fat are:

- The brisket area. The breastbone or sternum is located about ¾ of the distance up from the knee joint to the top of the forearm bone. The breastbone has almost no muscle attached therefore, if the bottom of the brisket hangs lower than one-fourth of the distance down on the forearm bone toward the knee, we know this area is filled with fat. If this area is viewed from the front and looks full, it is fat. In other words, deep, full, prominent briskets point to an over fat animal and indicate fat deposits in other areas of the animal.
- The flank area. The flank is located in the area between the back legs and the ribs and has very little muscle. If this area is filled in, it is filled in with fat.
- Back and loin area. A wide and flat back is showing excessive fat.
- Stifle area. Thickness is desirable low in the stifle area, while the top line is curved or rounded.
- Cod and twist area. Deep full twist and cod indicates more fat, not muscle.

The third area influencing cutability is muscle. Areas on an animal that can be visually monitored for muscle mass:

- Forearm area. The bones in this region are fused together to produce a cylindrical looking bone that is almost the same circumference from top to bottom. The thickness over and above the bone is muscle. A thick, bulging forearm indicates heavy muscling and therefore excellent muscling throughout the rest of the carcass.
- Stance or leg placement of the animal. Viewed from the front, if the muscles between the foreleg and the rib cage are large the animal would stand wide. Similarly, when viewed from behind, the size or thickness of the muscle between the femur or thighbones, should provide a wider stance.

- View from behind. A well-muscled animal, when viewed from behind, should expose only the hindquarter. Nothing else of the animal should be in view.

Animals that have gained too much fat during the finishing stage will penalize the producer at the packing plant. History has shown packing plants may deduct between $.50 to $1.00 per pound for overweight animals. This can be the difference between success and failure for an organic beef operator.

Organic beef is slotted into the same grading categories as conventionally raised animals. This grading system has been in use by the Canadian Food Inspection Agency (CFIA) for many years and is now privatized in the Canadian Beef Grading Agency.
See: *www.beefgradingagency.ca/index.html*

With grass-finished beef, this grading system is not usually appropriate. Most grass finishing producers work with processors, marketers, buyers and customers who understand this and look for other qualities, such as taste, health benefits, etc.

GRASS TIP

The next stage for your animals is taking them to slaughter. Refer to the Canadian Organic Standard and your certifying body for all details regarding transportation and processing.

Conclusion

Consumer demand for organic products has increased over recent years. With the ground swell of interest in organic meats it is well worth the time and effort to produce a top quality product. As an organic beef producer, it is important to identify and work with processors and marketers who understand and support organic principles so the integrity is preserved literally from the field to the fork.

GRASS TIP

Grass finished beef has been shown to provide certain health benefits such as conjugated linoleic acid (CLA), omega-3 fatty acids and Vitamin E, leading to increased consumer demand and more rapid growth.

Conclusion

Consumer demand for grass finished beef has been rising due to perceived health benefits of linoleic acid (CLA), omega-3 fatty acids and Vitamin E.

GRASS TIP

Finishing organic beef does take longer than conventional beef but when consumers, buyers and marketers demand and are willing to pay a premium for these products, it can be financially rewarding. As we said in the introduction to this guide: “One of the most important steps in any business is to know who your customers are and what they want.” Clearly the customer is requesting beef grown according to organic principles. With the help of this guide you now have the tools to give them what they want.

Additional Resources and Good Reads

In addition to websites provided throughout the guide, supplemental resources and good reads can be found below:

Allan Nation. "*Grass-fed to Finish*". *www.stockmangrassfarmer.com*

Allan Savory. Holistic Resource Management. *www.savoryinstitute.com/*

Canadian Beef Grading Standards. *www.canadabeef.ca/us/en/quality/Standards/default.aspx*

Canadian Food Inspection Agency (CFIA): Food Labeling and Advertising. *www.inspection.gc.ca*

Canadian Organic Growers. "*Organic Livestock Handbook*". Anne Macey, Editor. 125 South Knowlesville Road, Knowlesville, NB, E7L 1B1. 2004.

Canadian Organic Growers. Canadian Organic Standards and Regulations. *www.cog.ca/about_organics/organic-standards-and-regulations/*

Deborah Krasner. Vermont. "*Good Meat: The Complete Guide to Sourcing and Cooking Sustainable Meat*".

Dr. Robert A. Long and Dr. Jack C. Everly. *Identifying the Cutability of Live Beef Cattle*. The Interstate Printers & Publishers, Inc. Danville, Illinois. 1971.

Dr. Susan Markus, Beef Research Scientist. "*Beef Meat Quality*". Alberta Agriculture and Rural Development, Research and Innovation Division.

E. Ann Clark (retired), University of Guelph. "*Grass Finishing: Tricks of the Trade*". Eaclark@uoguleph.ca. November 21, 2012.

Frasier Stewart & Michael Thiele. "*Pasture Planner: A Guide for Developing Your Grazing System*". Manitoba Forage Council. January 2008.

Gary Taubes. "*Good Calories, Bad Calories. Fats, Carbs, and the Controversial Science of Diet and Health*". *www.garytaubes.com/* 2007.

Gerald Fry. Bovine Engineering and Consulting. Rose Bud, Arkansas. *www.bovineengineering.com*

Jo Robinson. Washington State. *www.eatwild.com*

Manitoba Forage Council. "*Producing Forage Finished Beef in Manitoba*" March 2007. *www.mbforagecouncil.mb.ca*

Mark Schatzker. Toronto. "*Steak*". *www.steakthebook.com*

Patrick Ramsey, Alberta Agriculture and Rural Development. "Market Opportunity Assessment – Omega-3 Enhanced Livestock Products." October 25, 2006.

Shannon Hayes. New York. "*Grass-fed Gourmet*". *www.grassfedcooking.com*

Tom Kilcer, Advanced Ag Systems. Northern New York Agricultural Development Program. "*Hay in a Day*". *www.nnyagdev.org*

Breed crosses grouped on the basis of four major criteria* and marbling score

Sire Breed Group	Growth Rate	Lean to Fat	Puberty Age	Milk Production	Marbling Score
Jersey	X	X	X	XXXXX	13.2
Hereford-Angus	XX	XX	XXX	XX	11.3
Red Poll	XX	XX	XX	XXX	11.5
Devon	XX	XX	XXX	XX	
South Devon	XXX	XXX	XX	XXX	11.3
Tarentaise	XXX	XXX	XX	XXX	10.2
Pinzgauer	XXX	XXX	XX	XXX	10.8
Brangus	XXX	XX	XXXX	XX	
Santa Gertrudis	XXX	XX	XXXX	XX	
Sahiwal	XX	XXX	XXXXX	XXX	9.7
Brahman	XXXX	XXX	XXXXX	XXX	9.3
Brown Swiss	XXXX	XXXX	XX	XXXX	10.4
Geibvieh	XXXX	XXXX	XX	XXXX	9.6
Holstein	XXXX	XXXX	XX	XXXXX	
Simmental	XXXXX	XXXX	XXX	XXXX	9.9
Maine-Anjou	XXXXX	XXXX	XXX	XXX	10.1
Limousin	XXX	XXXXX	XXXX	X	9.0
Charolais	XXXXX	XXXXX	XXXX	X	10.3
Chianina	XXXXX	XXXXX	XXXX	X	8.3

** increasing number of X's indicate relatively higher levels of performance and older age at puberty.*

Marbling: 8 = slight, 11 = small, 14 = modest.

Source: The Relationship Between Marbling and other Expected Progeny Differences with Implications when making beef cow herd breeding and management decisions. Twig T. Marston, PhD, Extension Beef Specialist, Cow/calf Management Professor, Department of Animal Sciences and Industry, Kansas State University, Manhattan, Kansas, May 25, 2007.

Finishing Organic Beef - Producer Guide

Explore grass fed and grain fed approaches to finishing organic beef through this informative guide.

This guide will be useful for experienced organic beef producers as well as those just beginning to explore organic beef production. Raising healthier animals produces the best quality beef, which will ensure a stronger organic beef industry.

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