

Beef and Forage Technical Bulletin 20th Edition



Nutrition - Post Calving Rations

Adequate nutrition after calving is essential to ensure timely rebreeding and long term herd productivity.

- After calving, **nutrient requirements increase by ~25%** compared to late pregnancy.
- **Milk production peaks at 8 weeks**, and feed intake increases until about **12 weeks postpartum**.
- Requirements for **energy, protein, calcium, and vitamin A** rise sharply compared to the last trimester.
- If a cow's diet doesn't meet these needs, she will **lose body condition** as she prioritizes milk production.
- This period of high nutrient demand overlaps with the **start of breeding season**.
- Cows in poor condition after calving will:
 - Return to estrus **later**, have **lower conception rates** and risk **prolonging the calving season** or failing to rebreed.

There are many different feeds available for cattle rations and factors to consider when selecting feeds for lactation rations. Using the Cowbytes nutritional program as a guide is a great place to start planning a suitable nutrition program to meet the needs of your herd at their highest peak of nutrition. Below are some general examples for lactating cows.

Cow Ration Options for Post Calving*

44 lbs Alfalfa Grass Hay 5 lbs Barley Grain	20 lbs Alfalfa Grass Hay 16 lbs Barley Greenfeed 32 lbs Barley Grain	20 lbs Alfalfa Grass Hay 8 lbs Barley Grain 40 lbs Corn Silage
12 lbs Barley Straw 45 lbs Barley Silage 12 lbs Barley Grain	12 lbs Barley Straw 48 lbs Corn Silage 7 lbs Barley Grain 2.0 lbs 32% Feedlot Supplement	15 lbs Alfalfa Grass Hay 11 lbs Barley Straw 15 lbs 20% Pro. Pellets

* Based on 1400 lbs cow. Rations will also need to be balanced with salt, mineral and possibly limestone.
For cost estimates and further details, visit [2026 Cost of Production Beef Cow-Calf](#)

Considerations:

Energy Requirements

- Late pregnancy: ~60% TDN diet vs. 2 months post-calving: ~65% TDN diet.
- Increased intake and higher energy density are essential. Most forages require energy supplementation (e.g., cereal grains) to meet these needs.

Protein Requirements

- Post-calving diets should contain 11-12% crude protein.
- Good-quality hay, legume silages, and some cereal silages can meet this need.
- Protein supplements are necessary when feeding corn silage or low-quality forages, such as DDG's or Canola meal.

Minerals and Vitamins

- Lactation increases demand for calcium, phosphorus, magnesium, and trace minerals (copper, manganese, zinc, selenium). Failure to supplement can result in milk fever, winter tetany and reduce post calving conception
- Imbalances (e.g., excess sulfur or molybdenum) can induce deficiencies.
- Vitamin A requirements rise by ~40%; supplementation is cost-effective.

Feed tests are essential to ensure the feed is providing what is required by the lactating animal.

Hay and silage quality is affected by crop or forage type, maturity at harvest, insect damage, plant diseases and environmental factors. Soil fertility and available moisture are also important. One factor that greatly influences quality is plant maturity, especially when the crop is cut past the flowering stage. Higher fibre content reduces energy density, forage digestibility and voluntary feed intake.

Grains are a good source of energy, or total digestible nutrients (TDN), and are usually required in lactating rations. Cereal grains range from 73 to 88 per cent TDN, with oats having the lowest energy density, with corn, rye, triticale and wheat having the highest. Grain is not typically used for supplementing protein deficiencies.

Straw, forage seed aftermath, and corn residue generally do not have enough energy or protein to be included in a lactation ration. On a dry matter basis, these feeds contain approximately 4.5 per cent protein and 45 per cent TDN. Neutral detergent fibre content often is above 60 per cent. These lower-quality feeds take longer to digest which limits the intake of other higher-quality ingredients.

Key Takeaways:

- After calving, beef cows face increased nutritional demands for lactation and recovery. Meeting these requirements while maintaining rumen health is essential for productivity and timely rebreeding.
- Balance energy and protein while considering grain type for energy deficiencies
- Maintain/Increase mineral and vitamin supplementation to support lactation and reproduction.
- Additional supplementation may be required when wind and colder conditions prevail.

The Importance of Record Keeping

(Adapted from the Beef Cattle Research Council)

Why keep records?

A good record-keeping system helps take the guesswork out of management decisions. Farm managers who have high-quality records become more efficient and profitable.

Which system should you use?

The best record-keeping system is the one you will actually use. Any system from low-tech pen and paper to a higher tech software program can help with decision making.

Set goals and level up.

From a management perspective, having goals is like following a road map - they help farm managers plan how to get to where they want to go. Using data to identify and reach goals for your cow-calf operation is one way to assess the impact of management decisions and have production records pre and post changes. By comparing against your operation's own history, you can identify the key factors that influence profit and concentrate on improving those areas.

The Beef Cattle Research Council has a number of free online Cow-Calf record keeping courses that are designed for beef producers working to strengthen their farm record-keeping and analysis skills for profitable decisions, these free courses deliver valuable information to your inbox in digestible bites every few days. You can register here: <https://www.beefresearch.ca/blog/courses/>



We are collaborating with participating producers across the Prairies to convert weedy, saline and/or low-producing areas within cropland to forage and study the benefits

- ✓ FREE PROFITABILITY MAPPING
- ✓ REIMBURSED SEED COSTS
- ✓ SIGNING BONUS
- ✓ CUSTOMIZED SEEDING PLAN
- ✓ \$75/ ACRE PER YEAR
- ✓ HAY/GRAZE/RESTORE

APPLICATIONS OPEN UNTIL MARCH 31, 2026

The Prairie Precision Sustainability Network is looking for Manitoba growers interested in converting marginal acres within cropland. Producers need to have precision yield data in order to participate and this is used to help identify the areas to take out of production. They will work with the growers to map out the conversion areas and this spring baseline testing would be done on the field as they crop it as normal, converting to forage in spring 2027. Producers are paid \$75/ acre per year. Applications are open until March 31, 2026. For more Information go to <https://www.prairiepsn.ca> or call 306-381-6732.

Spring Vaccinations - One of Many

Blackleg is an infectious, non-contagious disease of cattle caused by *Clostridium chauvoei* and is relatively common. Infection occurs when animals ingest anaerobic bacterial spores while grazing. The disease is characterized by muscle swellings containing pockets of trapped gas that produce a crackling sound when pressed. After ingestion, the spores penetrate the intestine and are carried through the bloodstream to skeletal muscle, where they can remain dormant until activated.

Blackleg can be associated with drought. As cattle graze shorter forage, they are more likely to ingest *C. chauvoei*, a soil-borne pathogen. Any activity that disturbs the soil (flooding, excavation) can also precipitate infections. Following an event that causes low oxygen conditions (i.e. bruising or damage to the muscle) in infected tissue, the spores germinate, multiply and produce toxin that results in muscle necrosis and hemorrhage.

Cattle affected by blackleg are usually well fed animals between 6 months and 2 years of age. The cause of death in affected cattle is usually acute toxemia. The course of the disease is often between 12-48 hours and clinical signs are often absent; however, animals may exhibit signs of lameness, fever, anorexia, rumen stasis and become lethargic. Blackleg is primarily a disease of pastured cattle with the majority of the cases occurring during the summer months.

Vaccinating cattle against blackleg and the other major clostridial diseases is the most effective way to prevent outbreaks. Calves require two doses of blackleg vaccine, ideally one month apart, but at least in the spring and at weaning. It is desirable to give the initial two doses of vaccine before young cattle reach their most susceptible age of six months. Because all blackleg vaccines are killed or inactivated vaccines rather than live vaccines the second shot is essential to ensure the vaccine's effectiveness. First-calf heifers should receive a third vaccination for blackleg the following spring to provide the best protection. The third vaccination should provide lifelong immunity to blackleg.

The vaccine should be delivered just under the skin (subcutaneously) not into the muscle. To await the occurrence of blackleg before vaccinating is unwise, as vaccines take 10 to 14 days before they begin to provide immunity. Available vaccines are typically extremely effective against blackleg - the limited research on the subject suggests these vaccines are nearly 100 percent effective against blackleg contracted from the environment. The antibodies the vaccines stimulated by vaccination help neutralize the toxins produced when spores become active within the animal's body.

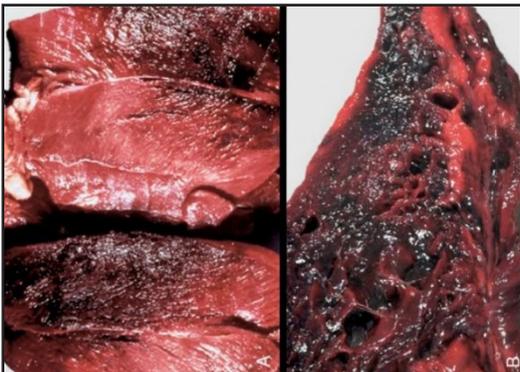


Photo Credit: Dr. Andy Allen - Western College of Veterinary Medicine

A variety of multivalent clostridial bacterin 7-way vaccines are available to livestock producers. Blackleg vaccines protect against several clostridial diseases, including *Cl. Chauvoei* (blackleg), *Cl. Novyi* (black disease), *Cl. Septicum* (malignant edema), *Cl. Sordelli* (gas gangrene), and *Cl. perfringens* types C and D (various types of enterotoxemia). An 8-way vaccine contains an additional agent, *Cl. Haemolyticum*.

It is a very inexpensive insurance policy to protect animals with vaccination. Most blackleg products will cost producers approximately \$0.75 to \$1.90 per head, plus the cost of labor, depending on the product used.

Clostridium Chauvoei from the skeletal muscle of a cow

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Consider using Annual Crops for Feed

The Manitoba Crop Variety Evaluation Team (MCVET) annual forage trials were run at four sites in 2025 across the province including Melita, Roblin, Arborg and Carberry. The objective of the program is to test different varieties of annual crops for forage yield and quality across Manitoba. Six different annual crops were compared including a cereal/pea mixture and a cover crop mix.

2025 ANNUAL FORAGE - YIELD COMPARISONS

The 2025 annual forage trial combined all crops and varieties in one trial with three replicates per site.

Quality is highly dependent on plant maturity at harvest. Barley was harvested in mid dough stage; oats & triticale at milk- early dough stage; peas at early pod wrinkle; millet and sorghum at heading.

Crop	Variety	2025 Dry Matter Yield (tonnes/acre) ¹				Manitoba Average
		Arborg	Carberry	Melita	Roblin	
Oats	CDC Arborg ☺	2.0	2.7	5.5	5.6	3.95
Oats	ORe RUMINATOR ☺ VUA	2.1	3.2	4.7	5.4	3.85
Oats	ORe BOOST ☺ VUA	2.0	2.6	5.5	5.1	3.80
Oats	CDC Westgate ☺	2.1	4.2	6.2	6.3	4.70
Oat Average						4.08
Barley	AB Advantage ☺	3.1	4.0	5.8	6.8	4.93
Barley	AB Tofield ☺	3.1	3.5	4.2	6.5	4.33
Barley	CDC Renegade ☺	3.3	4.3	5.2	6.7	4.88
Barley	CDC Harness ☺	3.3	4.3	5.5	6.9	5.00
Barley Average						4.78
Peas/Barley	CDC Lewochko ☺ - AB Advantage ☺	3.1	4.0	4.0	6.3	4.35
Peas/Oats	DL Delicious ☺ VUA - CDC Arborg ☺	1.4	3.5	4.3	4.8	3.50
Pea/cereal Average						3.93

The 2025 MCVET annual forage trial results, including yield and feed quality information can also be found in the Seed Manitoba 2026 Variety Selection Guide.

Overall across all four sites on average, sorghum was the highest yielding at seven tonne/acre of dry matter, followed by barley at 4.78, triticale at 4.33, oats at 4.08, the pea/cereal mix at 3.93, cover crop at 3.78 and millet at 3.65. In 2024 sorghum and barley were the top two yielding crops. Barley had the highest overall relative feed value and energy and the cover crop mix had the highest protein at 11.6 percent followed by the pea/cereal mix at 10.5 percent.

The 2025 trials are sponsored by the Manitoba Crop Variety Evaluation Team (MCVET), Manitoba Seed Growers Association, Manitoba Beef Producers and Manitoba Agriculture. We would like to thank the staff at each of the four Diversification Centers for conducting the trials.



2025 Feed Quality Comparisons

Crop	Variety	Forage Quality ¹				
		RFV (%) ²				
		Arborg	Carberry	Melita	Roblin	Average
Oats	CDC Arborg ⊕	139	149	117	96	
Oats	ORe RUMINATOR ⊕ VUA	127	134	97	123	
Oats	ORe BOOST ⊕ VUA	147	118	99	93	
Oats	CDC Westgate ⊕	132	132	95	86	
	Oat Average	133	133	103	102	123
Barley	AB Advantage ⊕	175	221	147	95	
Barley	AB Tofield ⊕	215	280	155	121	
Barley	CDC Harness ⊕	207	216	136	144	
Barley	CDC Renegade ⊕	174	235	134	106	
	Barley Average	193	238	143	117	191
Peas/Barley	CDC Lewochko ⊕ - AB Advantage ⊕	162	285	151	108	
Peas/Oats	DL Delicious ⊕ VUA - CDC Arborg ⊕	135	156	112	87	
	Pea/cereal Average	149	221	132	98	167
Spring Triticale	WCI Widdicombe ⊕	148	166	121	75	128
Proso Millet	Crown ⁵	137	103	104	101	
Foxtail Millet	Siberian ⁵	105	76	85	139	
	Millet Average	121	90	95	120	102
Sorghum Sudangrass	common ⁵	104	94	96	112	
Forage Sorghum	common ⁵	103	114	125	114	
	Sorghum Average	114	95	101	117	103
Cover crop	blend	147	170	102	103	131

¹ Quality tests were done by wet chemistry and were a composite of the three plots/site.

² Relative feed value (RFV)

³ Crude protein (CP)

⁴ Total Digestive Nutrients (TDN)

⁵ Due to lack of availability, common seed was used.

Crop	Variety	CP (%) ³					TDN (%) ⁴				
		Arborg	Carberry	Melita	Roblin	Average	Arborg	Carberry	Melita	Roblin	Average
		Oats	CDC Arborg ⊕	8.1	9.9	11.4	10.8	71.3	71.9	63.1	60.2
Oats	ORe RUMINATOR ⊕ VUA	8.7	9.8	11.2	8.3	68.9	69.8	60.6	67.4		
Oats	ORe BOOST ⊕ VUA	8.0	9.9	12.2	11.2	71.1	66.5	61.1	60.2		
Oats	CDC Westgate ⊕	8.1	8.9	10.9	9.0	71.2	67.7	59.9	58.3		
	Oat Average	8.2	9.6	11.4	9.8	9.8	70.6	101.0	61.2	61.5	73.6
Barley	AB Advantage ⊕	7.5	10.0	13.1	12.5	76.1	79.7	70.7	60.3		
Barley	AB Tofield ⊕	7.5	9.8	11.5	10.4	81.0	83.8	72.6	66.4		
Barley	CDC Harness ⊕	8.8	10.5	11.0	6.1	80.0	77.7	69.8	70.3		
Barley	CDC Renegade ⊕	7.2	10.2	11.6	11.4	76.0	81.0	70.5	62.7		
	Barley Average	7.8	10.1	11.8	10.1	10.0	78.3	80.5	70.9	64.9	73.7
Peas/Barley	CDC Lewochko ⊕ - AB Advantage ⊕	7.7	13.9	14.6	5.9	74.8	82.4	71.2	63.8		
Peas/Oats	DL Delicious ⊕ VUA - CDC Arborg ⊕	9.6	12.9	12.7	6.4	68.5	74.5	63.9	56.5		
	Pea/cereal Average	8.7	13.4	13.6	6.2	10.5	71.6	78.4	67.5	60.1	69.4
Spring Triticale	WCI Widdicombe ⊕	8.7	11.2	12.9	5.3	9.5	73.8	73.4	65.7	52.3	66.3
Proso Millet	Crown ⁵	8.9	8.4	10.7	11.5	72.5	62.7	62.5	63.0		
Foxtail Millet	Siberian ⁵	10.6	9.2	10.9	10.5	65.1	53.6	56.0	68.8		
	Millet Average	9.8	8.8	10.8	11.0	10.1	68.8	58.1	59.3	65.9	63.0
Sorghum Sudangrass	common ⁵	10.0	10.9	8.0	11.4	66.0	60.2	58.3	63.8		
Forage Sorghum	common ⁵	12.0	12.1	6.9	5.3	66.3	66.5	65.3	66.2		
	Sorghum Average	10.2	9.8	9.5	9.9	9.9	67.7	60.2	60.3	65.5	63.4
Cover crop	blend	8.3	10.5	14.6	13.0	11.6	72.4	72.8	57.7	62.5	66.3

¹ Quality tests were done by wet chemistry and were a composite of the three plots/site.

² Relative feed value (RFV)

³ Crude protein (CP)

⁴ Total Digestive Nutrients (TDN)

⁵ Due to lack of availability, common seed was used.

Stock Talk!

Manitoba Agriculture is offering a series of interesting livestock and forage presentations, packed with information and featuring innovative leading specialists, aimed at helping Manitoba beef producers best manage their cattle operations. Find out the latest news on research and production for beef and forage management by participating in these virtual sessions.

Date: March 12 & April 9

Time: 12:30 p.m. - 1:30 p.m.

Place: Your computer, smartphone or tablet



Register for StockTalk webinar

https://us06web.zoom.us/webinar/register/WN_HIm-PWqFSJelloMpy5H5zg

Please add the webinar series to your calendar once you are registered.

Agenda

Presentations and topics will cover Cattle Nutrition & Rations, Beef Cost of Production, Agri-Stability, Cattle Marketing, Beef and Forage Days Highlights, Ask the Vet, Forage Production & Management, Pasture Forage & Water Survey Results & a chance to ask questions to the speakers and Livestock & Forage Specialists.

For more information, call Manitoba Agriculture | 1-844-769-6224

Or visit our [website](https://manitoba.ca/agriculture/online-resources/stock-talk.html) at manitoba.ca/agriculture/online-resources/stock-talk.html

Meet the new provincial Livestock and Forage Extension Specialist!

Josie Pedersen is joining the department as the Livestock and Forage Extension Specialist for southwestern Manitoba, working out of the Killarney office. She obtained an Animal Science degree with distinction from the University of Saskatchewan, where she wrote an undergraduate thesis comparing adaptive multi-paddock grazing and continuous grazing methods. Josie grew up on a commercial cow-calf operation near Neepawa, and she enjoys helping out on her partners mixed grain and Black Angus operation near Wawanesa. She spent the past two years at Manitoba Beef and Forage Initiatives as the Extension Coordinator developing youth programs, also working there as a summer student during university. Josie brings experience in herd management and agricultural research. In her free time, Josie enjoys curling with friends, baking different treats, and going for walks with her dogs.



If you would like to be added to our information-sharing list, please email or text Juanita Kopp (Juanita.Kopp@gov.mb.ca, 204-825-4302). Your input or topic ideas are always welcome.

Contact us

- [Go to manitoba.ca/agriculture](https://manitoba.ca/agriculture)
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