

Introduction

The goal of a grain-fed veal farmer is to achieve the desired finish on veal cattle at the right weight and age. Ideally, market-ready grain-fed veal cattle should weigh between 295 to 320 kg (650 to 705 lbs.) at 28 to 32 weeks (seven to eight months) of age. To achieve this goal, it is critical to have the right feed rations and ratios.

Veal is defined as cattle of any dairy breed or dairy crossbreed dressing no more than 190 kg (419 lbs.). This converts to a live weight of roughly 349 kg (769 lbs.), which is reached at approximately eight months of age. Producers are strongly encouraged to target a dress weight of 180 kg (397 lbs.) to maintain some flexibility within the system to manage veal carcass weights.

- Average daily gain (ADG) should be 1.2 kg (2.6 lbs.) or better. Targeting daily gains above 1.5 kg (3.3 lbs.) may require additional nutrient requirements.

Grain-fed veal cattle are fed a balanced ration based of grain (usually clean, whole-shelled corn) and pellets made of protein, vitamins, and minerals. A small amount of fibre should be offered daily to maintain rumen health. Cattle should also have continuous access to their feed, to encourage slower eating and stimulate chewing. Ensure there is adequate bunk space for each animal.

Clostridium perfringens

All too often when a young calf dies everyone is left wondering what happened? The calf appeared fine at last check but then it dies. Upon post-mortem it is discovered the calf died from enterotoxaemia, referring to a systemic disease caused by the absorption of a toxin from the intestine. The term gastroenteritis is also used as a diagnosis. Gastroenteritis is primarily caused from a bacterium causing an infection in the gut, mostly resulting from poor hygiene. Infection can also be a result of the toxin the bacteria produce. Regardless of the term used, the cause is most always *Clostridium perfringens*.

What is it?

Clostridium perfringens (*C. perfringens*) is a bacterium in the gastrointestinal tract of calves. It is anaerobic, meaning it does not need oxygen to survive and it is passed through the feces.

It is naturally occurring, always present in the gastrointestinal (GI) tract, and can rapidly reproduce and produce toxins in the gut, which can lead to shock when absorbed into the bloodstream.

C. perfringens can occur in calves less than two weeks of age up to two months of age, when calves are fed primarily milk.

Identification

Early detection of *C. perfringens* can be difficult. Sometimes the calf looks “off” during feeding. In some cases, dark bloody feces are observed, but not always. The abdomen can be distended (swelled from internal pressure, like gas). This pressure/pain could cause the calf to kick at their belly and there may be a reluctance for the calf to lie down. In some cases, the calf refuses to eat and may be off feed. In most cases, these signs are subtle and hard to detect.

There are five types of *C. perfringens* A, B, C, D and E, categorized for the toxin they produce. *C. perfringens* type B and C are the most common bacterium in calves.

Cultures alone are not enough to diagnose because *C. perfringens* because it is naturally occurring in the gastrointestinal tract, so the results should be used in combination with clinical signs and the presence of lesions in the tissues. For a true diagnosis, toxin identification should be performed.

Prevention

Work with the herd veterinarian for proper diagnosis as the symptoms can present like other diseases.

It is all about balance. It is a safe assumption most calves have one form or another in their GI tract and every effort must be made to keep the bacteria from multiplying and causing death.

- Minimize exposure!
 - Sanitation is key to reducing a buildup of pathogens, reducing challenges for calves will keep the toxins in check, not tipping the scale in their favour.
- Enhance immunity!
 - If purchasing calves directly from dairy farmers, ask if the cows have been vaccinated.
 - Ensure the calves have received four litres of colostrum within six hours of birth, *C. perfringens* antibodies are passed through colostrum.
 - Vaccination programs.
- Mange feeding practices!
 - **Calves like consistency.**
 - Every effort should be made to maintain consistent feeding schedules and diets.
 - Milk should be fed at the same temperature (39 degrees C) each feeding, avoid feeding cold milk.
 - If a new feed is introduced, it is important that it is gradually introduced at increments of 25 per cent, 50 per cent, and 75 per cent then complete change over several feedings.

Treatment

Treatment is challenging because the symptoms are most likely because of the toxins produced vs. the bacteria itself. Antibiotics only work on bacteria and not the toxins so treating with antibiotics are most likely not going to be successful.

Early detection is key if any treatment is to be successful. Supportive care with oral or IV fluids and anti-inflammatory products may be prescribed by the herd veterinarian.

Vaccination

It is highly recommended that a treatment plan be developed with the herd veterinarian in the event it may be needed.

Getting calves off to a healthy start includes purchasing calves from vaccinated dry cows that have had four litres of colostrum within six hours of birth. With young calves, a vaccination plan will need to be developed with the herd veterinarian to ensure the calves are vaccinated at the appropriate age and boosted when needed with products that will help calves stay healthy and not let *C. perfringens* take over.

If *C. perfringens* is a problem on your farm, talk to your herd veterinarian about ways to support the calf's immune development and reduce the risk of disease.

Conclusion

Clostridium perfringens is a challenge for some farms. The bacteria are already present in the GI tract, keeping them in check is the trick. The best way to do that is by ensuring a positive environment for the calves which includes cleaning and disinfecting the feeding equipment regularly and maintaining a regular feeding schedule. A few minutes extra each feeding could pay back in folds.

For more information:

As part of your research into starting a grain-fed veal farm, you are encouraged to talk to experienced veal producers, visit their farms (while following strict biosecurity protocols), and attend industry events and meetings. No two veal farms are the same and a lot of valuable information will be learned from each visit and event.

Find VFO website producer resources here: <https://bit.ly/VFOProdResources>

Find the *Code of Practice for the Care and Handling of Veal Cattle* here: <http://bit.ly/theVealCode>

Find Ontario Ministry of Agriculture, Food and Rural Affairs veal resources here: <https://bit.ly/OMAFRAVealBusiness>

References available upon request.

Veal Farmers of Ontario

449 Laird Road, Unit 12, Guelph, Ontario N1G 4W1

Tel: 519-824-2942 Fax: 519-824-2534

E-mail: info@vealfarmers.ca

Find us online:

www.vealfarmers.ca

www.calfcare.ca

Find us on social:

Twitter: [@OntarioVeal](https://twitter.com/OntarioVeal)

[@CalfCareCorner](https://twitter.com/CalfCareCorner)

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[@Finishing grain-fed veal in Ontario](https://www.facebook.com/Finishing-grain-fed-veal-in-Ontario)

[@Marketing of male dairy calves in Ontario](https://www.facebook.com/Marketing-of-male-dairy-calves-in-Ontario)

YouTube: [Calf Care Corner](https://www.youtube.com/Calf-Care-Corner)

[OntarioVeal](https://www.youtube.com/OntarioVeal)

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