

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.

Why feed fibre?

Feeding fibre can improve feed efficiency and rumen function and reduce the occurrence of abnormal oral behaviours (oral stereotypies) like tongue rolling and sucking on inanimate objects like pen bars. It can also reduce the risk of ruminal acidosis and bloat.

Fibre decreases the rate of fermentation and increases rumen motility, chewing duration, and saliva production, which acts as a buffer to acidity in the rumen.

Poor rumen function can lead to ruminal acidosis. Veal cattle with ruminal acidosis may go off-feed or show large day-to-day variation in feed intake, and/or their manure may appear grey. See the factsheet on ruminal acidosis (<https://bit.ly/GFV-Acidosis>).

Rumen

The rumen is made up of two layers: the epithelial layer and the muscular layer. The muscular layer is responsible for rumen contractions and gives support to the epithelial layer, which in turn provides absorption of nutrients. The end products of rumen fermentation, particularly volatile fatty acids (VFAs) like propionate and butyrate, provide the stimulus needed for development of the epithelial layer. These VFAs are produced when grain is consumed.

Prior to weaning the rumen must develop to be able to absorb and metabolize VFAs. Calves that do not eat dry feed will not develop a functional rumen. It is the grain that develops the rumen and allows the calf to transition from a milk-based to a corn-based diet.

Rumen papillae

Papillae are finger-like projections used for absorption of nutrients by the calf. Milk or hay do little to develop the papillae of the rumen. Grain is key to the development of rumen papillae.

Feeding hay decreases the amount of grain a calf will consume and slows the rate the rumen will develop papillae. With a good starter management program papillae development can occur by three to four weeks of age and takes three weeks to develop fully.

Why hay is not a good option for grain-fed veal cattle

Feeding hay to veal cattle is not a good use of hay. In general, veal that are on a finishing ration are not adapted to digesting cellulose which comes from hay. This leads to feed inefficiencies and affects the bottom line.

Not only does hay take up rumen capacity it hinders the development of the rumen. Hay is also lot more expensive than chopped straw and can further increase cost of production by reducing feed efficiencies.

The Code requirement

The *Code of Practice for the Care and Handling of Veal Cattle* (the Code) is the Canadian veal industry's standard of care. The requirement in the Code for fibre states:

If a significant number of cattle in a cycle are performing oral stereotypies or showing signs of ruminal acidosis, the feeding program must be adjusted in terms of provision of fibre and/or method of milk delivery.

The Code recommended practices are:

- a. when appropriate (based on consultation with a nutritionist or veterinarian), offer fibrous feeds to calves from two weeks of age
- b. provide fibre as long forage or chopped to not less than 1 cm (0.39 in) particle length
- c. feed fibre off the ground to prevent contamination
- d. whenever possible, assess the occurrence of abomasal ulcers. When these are found to occur, adjust the feed program in consultation with a nutritionist or veterinarian

Fibre sources

Not a lot of research has been completed in this area; what is known is primarily based off beef and dairy research. In the Code there is a listing of potential fibre sources in Appendix E (<https://bit.ly/CodeAppendE>), examples of Fibre Sources and their Relative Abilities to Stimulate Chewing. Long straw is the most suitable to stimulate chewing.

Conclusion

Feeding veal cattle is a challenge. It is part of veal management that needs daily attention to ensure there is enough feed and the right kind of feed. When the feed ration is not balanced, it can lead to unrealized losses both economically and through average daily gain.

It is important if you are not already working with a veal nutritionist that you consult with one to ensure feed efficiencies are being maximized and rumen health maintained.

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/VFOProducerResources>

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.

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[@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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