

Introduction

The goal of a grain-fed veal farmer is to achieve the desired finish at the right weight and age when marketing veal cattle. 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.

Water

Water is one of the most important inputs into any livestock production system. Water is one the areas that crosses not only food safety, but welfare. The two main guidelines available for veal producers across Canada to follow are the *Verified Veal Program (VVP)*, Canada's veal on-farm food safety program and the *Code of Practice for the Care and Handling of Veal Cattle* (the Code).

Water quality must be tested annually however it is recommended to be tested at least in the spring and fall. Water can be tested through the local Public Health Unit for the presence of bacterial indicators of contamination such as *E. coli* and total coliforms.

Quality

Water quality is also affected by how often watering systems are cleaned and flushed. Feeding and watering equipment must be in good repair, functional, and maintained free of manure and mold.

Mandatory		
Parameter	Maximum levels	Significance for veal producers
Total coliforms	10 CT/100mL	Mostly harmless bacteria found in the digestive tract of people or animals. Indicates bacterial contamination of water.
Fecal coliforms	0 CF/100mL	Indicates level of manure contamination in water. Many strains are pathogenic. E.g. <i>E. coli</i>
Fecal streptococcus	0 SF/100mL	Bacteria typically found in the intestinal tract of people or animals. Many strains are pathogenic.
Nitrates	10 mg/L	May indicate contamination from chemical fertilizers, manure, or wastewater treatment.
Nitrites	0.1 mg/L	May indicate contamination from chemical fertilizers, manure, or wastewater treatment.
Recommended		
pH	6.5 to 8.5	Milk replacers dissolve best in neutral pH water—about 7.2. Water treatments need to be selected according to the pH of the water.
Iron	0.1 mg/L	Impacts carcass quality.
Copper	1.0 mg/L	Impacts carcass quality.
Total hardness	>200 mg/L	

Source

Water quality is impacted by the source of the water. Testing should be done whether it comes from a drilled well, a municipal source, or surface water.

Drilled wells greater than 24 metres (80 feet) usually provide good quality water. Shallow dug or bored wells are more prone to ground water contamination and higher nitrate levels.

Municipal source water is usually tested for chemicals and bacteria by the municipality according to the provincial regulations.

Surface water is another viable water source option. However, when surface water from ponds, lakes and streams is used, water treatment is necessary to ensure high quality water is being given to cattle.

pH

Water with a high pH level (alkaline) impacts the effectiveness of chlorination as well as other disinfectants. It is also important to note that some water-soluble medications are also affected by a high-water pH causing them not to go into suspension. Similarly, water-soluble medications and some disinfectants in acidic environment (low pH) have reduced effectiveness. Milk replacers dissolve the best in neutral pH of about 7.2.

Cattle requirements

Access to fresh clean water should always be available. A 180 kg (397 lbs.) calf will require 10 to 30 litres of water daily.

Water is the most important nutrient, and it is required in the greatest quantity of any nutrient. Water also plays an important role in the digestive process—cattle with an insufficient supply of water will limit their solid feed intake.

Daily water needs depend on many factors including age, diet, environmental temperature, and health status. Methods to ensure water availability during freezing temperatures include electrical heaters, non-freezing water bowls, nipple waterers, and frequent water feedings.

The *Code of Practice for the Care and Handling of Veal Cattle* water requirements are:

- Cattle must have daily access to clean water in quantities to maintain normal hydration and health, taking into consideration factors such as environmental temperature and diet.
- Neither ice nor snow are suitable as a sole source of water.
- Water quality must be tested at least annually to ensure its suitability for cattle, and corrective action must be taken if an issue is identified.
- Feeding and watering equipment must be in good repair, functional, and maintained free of manure and mold.

It is very important that water is safe and palatable not only for the animals but for the safety of family and employees. Water needs to be free of contamination and have appropriate levels of chemicals and minerals. If the results of your water quality test indicate contamination, you may wish to repeat the test. If the second test is positive you may wish to consult a water quality specialist at the Canadian Water Quality Association <https://www.cwqa.com> in order to determine the best way to address water quality issues, especially if it is the same well for the house and barn.

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

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

Find OMAFRA veal resources here: <https://bit.ly/OMAFRAVealBusiness>

References available upon request.

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

Facebook: [@CalfCareCorner](https://facebook.com/CalfCareCorner)

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

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

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

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

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