

Holly McGill M.Sc., Ruminant Nutritionist  
Wallenstein Feed & Supply Ltd.

### **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.

### **Protein requirements**

It is difficult to meet the protein requirements of cattle between 90.7 and 136 kg (200 and 300 lbs.) because it is a challenge to balance consumption and nutrient requirements. That is why cattle often seem to stall during this period. As the calf grows, the protein to energy ratio lowers. Protein helps the calf grow and energy builds muscle, so maintaining the correct ration is vital. If the protein level is too high, the calf's body will use up energy to convert it to nitrate and eventually excrete it out, causing growth to stall.

### **Feeding ratios**

General recommendations state that the calves should be moved up through the ratios based on their age: a 3:1 mix fed at three months of age; 4:1 at four months; 5:1 at five months to finish. This practice is almost universally adopted among Ontario producers.

It is important to build a strong framework of bone and muscle early on for cattle to pack gain onto later in life. As a calf grows, its need for protein slowly decreases while its energy requirements increase.

## Calculating protein concentrations

Using a 36% protein pellet and corn at 7.5% protein, it is possible to calculate the final protein concentrations of the first and final mixes that will be fed to veal cattle throughout the course of their lifetime using the following method:

- A 2:1 mix contains 2 parts corn and 1 part supplement, out of a total of 3 parts to make up a mix. Taking these values and using the protein percentages above, we calculate:  
$$((2 \div 3) \times 7.5\%) + ((1 \div 3) \times 36\%) = 17\%$$
- A 5:1 mix contains 5 parts corn and 1 part supplement, out of a total of 6 parts to make up a mix. Taking these values and using the protein percentages above, we calculate:  
$$((5 \div 6) \times 7.5\%) + ((1 \div 6) \times 36\%) = 12.3\%$$

As per the calculations above, we can see that a 2:1 mix contains about 17% protein, while a 5:1 mix contains 12%.

An animal's weight gain is comprised of both protein and fat, and the composition of this gain is more in favour of protein early on in a calf's life. When high energy diets are fed too early, they will deposit more fat than protein. A slow and steady progression from a ration of 17% protein to one of 12% helps to prevent the oversupply of energy and maintain enough protein in the diet for the animal to continue to grow in frame as well as finish.

## Fibre

Fibre helps to buffer the rumen and prevent acidosis, a condition that can lead to significant health complications and increased costs. By stimulating chewing and rumination to break down the less digestible fibre particles, the animal creates more saliva, which is then swallowed back into the rumen. Saliva is a natural buffer which counters acidity in the rumen and maintains a healthier rumen pH, thereby preventing acidosis. For more information on fibre, visit feeding fibre at <https://bit.ly/GFVFibre> and for more information on acidosis visit <https://bit.ly/GFVAcidosis>.

## Veal cattle feeding guidelines

Veal Cattle Feeding Guidelines				
Age of calf	Corn	Supplement	Straw	Mix Ration & Protein %
Birth to 2 months of age	Follow milk or milk replacer and calf starter feeding guidelines from feed manufacturer(s)			
2 to 3 months	61.1 kg	30.5 kg	1.9 kg	2:1 - 17% protein
3 to 4 months	91.2 kg	30.4 kg	2.5 kg	3:1 - 14.5% protein
4 to 5 months	121.9 kg	30.5 kg	3.1 kg	4:1 - 13% protein
5 to 6 months	151.9 kg	30.4 kg	3.7 kg	5:1 - 12% protein
6 to 7 months	176.6 kg	35.3 kg	4.3 kg	5:1 - 12% protein
7 months to finish	202 kg	40.4 kg	5 kg	5:1 - 12% protein
Total amounts fed	805 kg	198 kg	20 kg	

- Target final veal finishing body weight used for calculations was 750 lbs. (341 kg)
- Supplement recommendations and protein statements are based on generic 36% protein pellet
- Amounts provided are approximations, and are values for a one-month time frame for one (1) animal based on an average dry matter intake (DMI) of 2.5% bodyweight
- Timeframe and bodyweights are used for DMI calculations based on approximate average daily gain of 2.6 lbs per day, targeting a finish by 8 months of age
- Straw inclusion is 2% of total mixed ration
- You should always consult with a professional nutritionist before making changes to your feeding program

## 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.*

### **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](mailto:info@vealfarmers.ca)

### **Find us online:**

[www.vealfarmers.ca](http://www.vealfarmers.ca)

[www.calfcare.ca](http://www.calfcare.ca)

### **Find us on social:**

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

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

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

[@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)

Disclaimer: This resource is for educational purposes only. Veal Farmers of Ontario is not responsible for any business or management decisions made by consulting this resource.

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