

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 roughage 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.

### Feeding corn

Corn is by far the most common feed for veal cattle. However, the type of corn used is key to ensuring lower feed costs and improved ADG.

As shown in the table below, whole kernel corn produces the lowest feed to gain ratio (this is an indicator of how efficiently an animal converts feed into body mass). A uniformly larger whole corn kernel works best. This requires cattle to learn to chew the grain before swallowing. This increases saliva production which can help prevent acidosis.

Processing Method	DMI (lbs.)	ADG (lbs.)	Feed/Gain (lbs.)
Whole	19.22	3.19	6.07
Dry Rolled	21.00	3.15	6.68
High Moisture	19.91	3.04	6.69
Steam Rolled	18.21	3.13	5.82

*Owens, F. et al. 1995, Oklahoma State University*

Cattle fed other grains, or combinations of grain, will not attain the desired finish at the required weight. Good-quality corn, which is air dried and free from fines, is best. Try to secure enough to take cattle up to finishing weights without having to change to different batches of corn. High moisture corn (HMC) can be fed, but caution is required. It should be fed daily because it will spoil quickly. Also, the starch in the HMC breaks down more quickly than in dry corn, which could lead to acidosis and possible bloating.

## Protein supplements

The ration should always include a high-quality protein supplement (the term supplement and concentrate are interchangeable). Least cost formulas mean cheap ingredients and should be avoided if you want to market consistent, well-finished cattle.

Typical supplements range from 32 to 40 per cent protein. Protein quality is critical for a young calf, because of its age and diet, and limited rumen capacity. Rations containing natural protein ingredients with a high by-pass value produce the best performance.

Most feeding programs involve offering a constant amount of supplement mixed with the amount of corn (or other grain) that the cattle will consume daily. As cattle size and corn intake increase, the corn to supplement ratio gradually widens.

The corn to supplement ratio for a natural protein source supplement will range from 2:1, 3:1, 4:1, to 5:1 throughout the growth of the animal. A simple guideline is to relate the feed ratio to the animal's age, i.e. 3:1 at three months of age.

Although this is the more practical method, a higher rate of gain and better feed efficiency will be obtained when requirements are more specifically met by formulating rations based on actual cattle weights and desired performance.

Returning to the example, the crude protein (CP) percentage of a 100 per cent dry matter ration will typically be 18.5 per cent for a 90 kg (200 lbs.) animal. The equivalent corn to supplement ratio would be 2.5:1 when a 36 per cent supplement and dry shell corn are used. As fed, this ration would be about 16.5 per cent CP.

As the size of the veal cattle increases, the corn to supplement ratio typically widens to a max of 5:1, resulting in a ration that has 15 per cent dry matter CP, or 13 to 14 per cent on an as-fed basis, when a 36 per cent protein supplement and dry shell corn are used.

It may seem like a lot of supplement, but protein is what adds the finish on veal cattle. Reducing the quantity of protein supplement fed will cause the quality of the finished veal to suffer.

For further information consult with a feed company specializing in veal supplements for the optimal feeding program.

## Feed additives and minerals

It is important to include ionophores (monensin) in the diet of a grain-fed veal cattle. Monensin improves feed conversion by five per cent, but more importantly, decreases the occurrence of acidosis and bloat by reducing methane production in the gut.

Free choice ionized salt and minerals should be available at all time to help with any deficiencies in the diet.

## Water

Access to fresh clean water should always be available. A 180 kg (396 lbs.) animal will require 10 to 30 litres of water daily. Research shows cattle will consume more grain and have improved ADG when they have access to fresh clean water. The *Code of Practice for the Care and Handling of Veal Cattle* (<http://bit.ly/theVealCode>) requires veal cattle to have daily access to clean water in quantities to maintain normal hydration and health, taking into consideration factors such as environmental temperatures and diet.

## Feeding veal cattle

Depending on the management program, by the time cattle go to market, each calf will have consumed approximately 750 kg (1653 lbs.) of corn, 230 kg (507 lbs.) of supplement, 20 kg (41 lbs.) of roughage, 35 kg (77 lbs.) of milk replacer, and 25 kg (55 lbs.) of calf starter. Feed is not only the most expensive input, it is the foundation to good quality finished grain-fed veal.

## For more information:

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

Find VFO website producer resources here: <http://bit.ly/VFOresources>

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

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:

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Revised: October 2020