

CALF IN A BOX: INDIVIDUAL CONFINEMENT HOUSING USED IN VEAL PRODUCTION

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In 2011, 235,037 veal calves were raised on 1,235 Canadian farms. Within Canada, 52% of veal production occurs in Quebec, 45% in Ontario, and the remaining 3% within Alberta and B.C. Of these veal calves, 30% are milk-fed calves raised until approximately 5 months of age. Milk-fed veal calves are slaughtered at weights between 182-205 kg and produce what is called *white veal*. The remaining 70% of production is *red veal*, which are grain-fed calves raised to 272-319 kg and typically 6-7 months of age. There is a third category known as *bob veal* (a specialty meat product), which are calves less than 4 weeks old and generally under 80kg.

The vast majority of veal comes from purebred Holstein bull calves that are considered a by-product of the dairy industry to many farmers. Male calves born onto a dairy farm have very little value as they do not produce milk and few have the genetic potential to achieve a career as a breeding bull. As a result, bulls are sold to veal or beef producers to enter the meat industry. Veal calves are raised in a number of different housing systems across Canada, one of which is a veal crate. Tremendous concern arises regarding the use of veal crates as they can highly compromise the welfare of calves. This system is slowly being phased out or banned across the world (see below for details).

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What is a veal crate?

Traditionally veal calves have been housed indoors, alone, in small wooden or metal crates. A fibre or metal tether may be used to tie the calf at the front of the stall. The use of a tether has been criticized due to the movement and social restrictions that it can impose. Calves may or may not be tethered depending on the housing system.

In Canada the current *Recommended codes of practice for the care and handling of farm animals: veal calves* (1998) (referred to as “the Code” throughout this article) suggests that individual crate sizes be determined by finished calf weight with stall widths of 70 cm and 80 cm for untethered and tethered calves, respectively. It recommends that new and renovated facilities have a minimum pen size of 90 cm x 165 cm for calves weighing up to 200 kg. Within these space allowances, the calf can lie down, stand up, and walk a step or two backward or forward inside the crate; however, it does not have enough room to turn around or engage in many other natural behaviours (e.g. roaming, playing, exploring). The Code broadly states that individual stalls should be “large enough to provide normal resting postures and allow a calf to get up and lie down”, with no mention given to the ability of the calf to turn around or perform any other natural behaviours.



Veal calf in a wooden crate. Photo source: Farm Sanctuary.

Floors are commonly slatted and sloped allowing urine and manure to fall below the crate to maintain a clean dry environment for the calf. Organic material (e.g. straw or wood shavings) or rubber mattresses may also be used as covers over solid crate floors. Although these surfaces provide a softer base for the calves, they also require more management to maintain hygienic and comfortable conditions.

Crates are normally designed to prevent any physical contact between adjacent calves. In some situations visual contact may also be blocked; however, the Code recommends that calves always be able to see other animals. It is important to remember that the Canadian *Recommended codes of practice* are voluntary suggestions to promote good calf care. Ultimately, calf management decisions (e.g. housing) are left to the discretion of individual farmers. Interestingly, in Ontario the term “stall” has predominantly replaced the word “crate” when discussing individual calf housing. Indeed, the traditional wooden crate-style housing is very rare in Canada.

The veal calf’s life

Calves purchased for veal production are bought either directly from individual dairy farms and auctions/stockyards or from cattle dealers who assemble groups of calves from a variety of sources. Calves are usually attained shortly after birth (7-10 days) and weighing around 50 kg. The Code recommends that calves less than 7 days of age not be transported.

Upon arrival to a veal farm, calves are processed (which can involve things such as inspection for injuries and the application of farm identification, vaccinations,

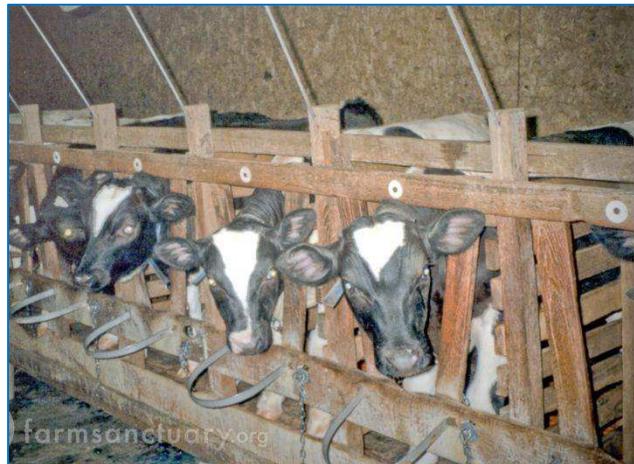
parasite control or vitamin supplementation) and placed in one of several possible housing systems (depending on the farm), one of which is a veal crate. Crates can be a physically and visually barren environment. Interactions with other calves are prohibited and the size of the crate dictates the type of movement and lying behaviours that a calf can perform. Overall, there is little in a crate that can stimulate a calf beyond meal times (e.g. no straw for a calf to investigate or lie in when slatted floors are used).

The majority of red veal calves are moved into group housing systems at the time of weaning from milk (between 6-8 weeks of age), which provides freedom of movement and social interactions. Approximately 75% of white veal calves remain in individual housing until they go to market around 5 months of age.

A major concern about the white veal industry is the continued feeding of milk-only diets, which are low in iron, past weaning age. This practice produces the desired pale colour of meat but predisposes calves to anaemia due to lack of iron in the diet. Liquid-only diets also prevent sufficient rumen development, possibly causing problems with metabolic disease and/or digestion.

Is a veal crate a box full of problems?

There is tremendous concern that a veal crate negatively impacts calf welfare. Scientific research has shown that crates obstruct calf needs by restricting normal resting postures, limiting movement and environmental exploration as well as by preventing normal grooming and social contact. Confined calves have shown prolonged inactivity, excessive licking, sucking and other oral stereotypies (i.e. repetitive tongue rolling) and tend to be more excitable than group housed calves. Balls of hair in the stomach of calves (i.e. rumen hairballs) have been found more often in individually housed veal calves as a result of excessive self-licking, and calves kept in small stalls were found to have a greater number of knee lesions than calves kept in larger pens.



Crated veal calves housed side-by-side. Photo source: Farm Sanctuary.

Individual housing allows calves to take in nutrients without competitive pressure from others, which can occur with group feeding. The greatest advantage of veal crates is that farmers can easily monitor individual calf health, a task that becomes more difficult with group housing. There is concern that group housing impedes early illness detection, allows opportunity for cross sucking (e.g. sucking other pen mates), and subjects the calves to the risk of bullying, which

can lead to injuries. However, when proper management practices are in place (e.g. not overcrowding calves, appropriate grouping based on calf size, or providing a non-nutritive teat, which is an artificial teat made of rubber that allows calves to perform sucking behaviour without providing a milk meal), group housing has been shown to improve social relationships, reduce stress and abnormal behaviours, and greatly improve growth performance of veal calves.

An interesting point to reflect on is that, due to the calf's short life span and the farmer's desire to optimize growth rate, bull veal calves are not subjected to the painful procedures of dehorning (removal of horn buds) or castration (removal of testicles). Yes, a veal crate is a box full of problems; farmer management can help reduce potential complications but cannot totally eliminate the welfare concerns of raising veal calves in an individual confinement system. There is a higher potential to meet all the welfare needs of a veal calf in a well-managed group-housing environment when compared to an individual stall.

Wave of the future?

In the past few decades, animal welfare organizations like Compassion in World Farming and the World Society for Protection of Animals have conducted campaigns for public awareness of veal crates and other confinement housing systems. The goal of these organizations is to educate the public about farming practices and promote the consumption of products raised with high welfare standards. Ultimately, these campaigns encourage public pressure on government organizations to impose regulations that phase out or ban unacceptable farming practices. The same public pressure on producer organizations provokes changes to standards for those practices. As a result of increasing public pressure to eliminate the use of traditional veal crates, producers in many countries are now switching their calf housing to group pens or individual hutches, which enable calves to turn around and adopt normal resting postures.

Below is a summary of voluntary and mandated phase-outs and bans of traditional veal crates around the world:

EUROPE

- In 1965, the Brambell report in Britain identified a number of welfare concerns with the methods used in veal production, especially the restriction of movement and lack of social contact imposed by veal crates.
- In 1987, the UK government voted to phase out veal crates with the ban coming into effect in 1990.
- In 1996, the Finnish Animal Welfare Act effectively banned veal crates in Finland and provided guidelines for the raising of these animals.



- Within the EU, the European Commission first proposed the phasing out of veal crates in 1989. In 1991, a Directive laid down minimum standards for protection of calves but failed to introduce a ban. In 1995, the Council of Agriculture Ministers published a report comprising a review of 40 years of scientific research on veal production and housing. This report led directly to the introduction of the 1997 Directive, which prohibits the use of veal crates from December 31, 2006 onwards.

NEW ZEALAND & AUSTRALIA

- The New Zealand *Code of Welfare for Sheep and Beef Cattle* (2010) states that any housed cattle must be kept in groups with confinement restricted to only those animals requiring treatment. All cattle entering the beef industry are included in this Code, regardless of origin (e.g. dairy farm) or breed. Despite the lack of a regulatory ban on veal crates, this housing system is no longer used in New Zealand.
- Similar to the situation in New Zealand, veal crates are not used in Australia, although individual housing of calves may occur to control disease. The *Model Code of Practice for the Welfare of Animals: Cattle* includes guidelines on the housing and care of artificially reared calves.



THE UNITED STATES

- In 2007, the American Veal Association made a commitment to transition all veal farms to group housing by 2017. Many veal farms have accomplished this change. However, as this is not a law or regulation, some have yet to phase-out the crates.
- The top 11 veal-producing states are Wisconsin, Indiana, California, Florida, Georgia, Washington, Texas, Ohio, Michigan, New York and Pennsylvania.
- Although no federally legislated phase-out of veal crates has been established, several states have implemented a ban or committed to phasing out this housing system. Of note, only three are among the top veal producing states in the US (denoted by *):
 - Arizona - vote passed in 2006, ban by 2012
 - Colorado - vote passed in 2008, ban by 2012
 - California* - vote passed in 2008, ban by 2013
 - Maine - vote passed in 2009, ban by 2011
 - Michigan* - vote passed in 2009, ban by 2013
 - Ohio* - vote passed in 2010, ban by 2017



CANADA

- There is no federal ban on veal crates in place in Canada at this time.
- The *Recommended codes of practice for the care and handling of farm animals: veal calves* (1998) recommends minimum stall sizes for veal calves based on



finished calf weights, and states that stalls must be large enough to permit normal resting postures and allow the calf to get up and lie down without difficulty. It also contains guidelines for group-housing of veal calves.

- Many veal producers in Canada are voluntarily moving to group housing systems as their current stall systems fall into disrepair or require upgrading.
 - The British Columbia Society for Prevention of Cruelty to Animals (BC SPCA) operates a humane food labelling and farm certification program called *SPCA Certified*. This program prohibits the use of veal crates in veal production as this housing system violates the '5 Freedoms' by restricting freedom of movement.
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- Other farm certification programs also exist in Canada that do not allow the use of veal crates. The Canada Organic Regime is among them.
 - The *SPCA Certified* program and the Canada Organic Regime state that calves may be housed in individual pens and hutches up to three months of age providing that they are not tethered and have enough room to turn around, lie down, stretch out when lying down, get up, rest and groom themselves. Additionally, calves must be able to see, smell, and hear other calves. Following weaning, all calves must be group-housed and have access to pasture in appropriate seasons, weather permitting.

Alternatives to veal crates

The European Commission's Scientific Veterinary Committee's report published in 1995 identified the following as basic needs of veal calves:

- A nutritionally balanced digestible diet
- Rest and sleep
- Exercise and exploration
- Avoidance of disease and parasitism
- Social interaction with other calves

It is clear that some of these needs cannot be met when veal crates are utilized. In addition, calves reared in crates often develop stereotyped and abnormal behaviours that are not shown by calves housed in groups.

There are a few alternative housing options for veal calves, including both extensive and intensive systems.

Suckler herds. In this system, the calf is reared with its mother in a herd and may be weaned before slaughter. This system is often viewed as having the highest level of welfare as these calves are not separated from their mothers or transported to be raised on another farm.

Group housing. Group pens are becoming increasingly popular for veal production in Canada. According to the Ontario Veal Association, they are less expensive to build,

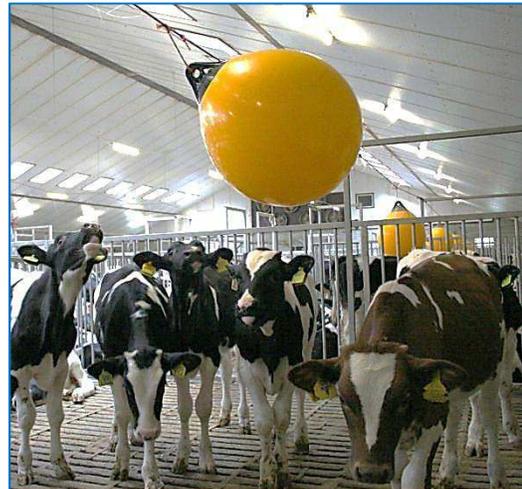
ventilate, and operate. The calves have freedom to move around, engage in normal activities (including play behaviour), and interact with other individuals. These systems are often harder to keep clean because more animals use the same area. As a result, disease transmission can be a problem, but diligent management can overcome it.



Group housed calves. Photo source: Christine Murray, University of Guelph.

As calves are free to interact with each other, there are occasional issues with bullying, cross-sucking, and dominance behaviours. Changing the design of each pen to provide escape areas (e.g. adding partial walls) for calves to get away from pen-mates may surmount these problems.

Pens must be large enough for all individuals to lie down together as this is a natural behaviour in young cattle. Peter's Farm® is a group housing system developed by a feed company in the Netherlands where calves are housed in large groups from the first day they arrive at the veal farm. Automatic milk feeders are used, environmental enrichments are provided in the pen (i.e. artificial teats, toys, rubbing/grooming brushes), and a large amount of floor space is allocated to each calf. One study found that calves housed in Peter's Farm® conditions spent more time lying, showed less abnormal oral behaviours, and their activity levels were evenly distributed over the day compared to calves in individual stalls or other group housing systems. These results indicated an improvement to calf welfare when calves were housed in the Peters Farm® system compared to other systems.



Veal calves in the Peter's Farm® system. Photo source: Peter's Farm.

Overall, group housing systems provide greater comfort and better opportunities for natural behaviour, social interaction and exercise.

Hutches. This system uses individual calf 'houses' (called hutches) that keep calves isolated from each other while providing more space per individual. In addition to usually being deeply bedded with straw, hutches act like incubators to keep the calf warm. Calves have the freedom to move around within the hutch but are either tethered or given a small, enclosed outdoor yard to prevent escape. Water and feed are provided within the hutch or in the outdoor enclosure. Calves are sometimes moved from these systems into group pens as they mature (usually at weaning).

The hutch system allows farmers to give each calf individual attention and also prevents disease transmission due to lack of contact between calves. However, this system also prevents social interaction and normal play behaviours that would be seen in group-housed calves.

Individual housing in stalls. Individual stalls are one step up from the traditional veal crate because they provide slightly more space per animal. Calves are able to stand up, lie down, stretch out a little, groom themselves and interact with others through the front opening



Calves in individual stalls. Photo source: Léna Levison, University of Guelph.



Outdoor calf hutches using penning (left) or a tether (right) to confine the calves to the hutch. Photo source: Léna Levison, University of Guelph.

of their stall. However, the limited space still prevents calves from turning around, exercising freely or playing with other calves. This is because stall width is based on calf weight (as outlined in the *Recommended Code of Practice for veal calves; 1998*) rather than physical body size.

Individual stalls also allow for a cleaner environment as flooring is typically slatted so waste falls through to a gutter below, thus keeping the calf clean. Furthermore, because the calves cannot turn around, they cannot urinate or defecate in their feed, resulting in less feeder contamination.

Important considerations for alternative housing systems

When producers choose a housing system, they take into account many factors such as practicality, labour required, sanitation, cost and animal welfare. The benefits of group housing, for example, may not be fully realized if individuals in a pen are becoming injured or ill. Thus, regardless of the housing system chosen, good management is essential to ensuring well cared for and healthy calves.

Getting a leg (or a hoof) up on the market

More and more consumers expect high welfare standards for farm animals raised in large-scale production systems. Often, instituting these more welfare-friendly management practices results in an increased cost of production for farmers. Studies have shown that consumers are willing to pay more for welfare-friendly animal products, but that the extent of their willingness is influenced by factors such as region, education level and economic status. When looking at veal specifically,

consumers have expressed concern over many aspects of the production system, especially the crate environment that restricts movement.

The Canadian *Recommended code of practice for the care and handling of farm animals: veal calves* was developed in 1988 with only one revision occurring since then, in 1998. The National Farm Animal Care Council (NFACC), which is the Canadian body leading the revision process for all farm animal codes, does not initiate the revision of a Code until an industry or specialty group identifies the need for it. As of April 2012, NFACC had not yet scheduled the veal Code for revision.

According to Kendra Keels, Industry Development Manager at Ontario Veal, it has long been the mandate of the Canadian veal industry to be a leader in the area of veal calf welfare. As such, there are very few veal crates in operation. As those veal crates reach a need for repair, they are being replaced with group housing. This is occurring within the industry voluntarily, and not through government legislation.

Despite advancements in the housing systems and management practices used to produce veal, there will likely always be controversy surrounding the industry. Indeed, it is tough to erase the image of a cute calf from the mind of consumers. The veal industry needs to continue to implement more humane production practices and strive to create a transparent system that enables consumers to have confidence in veal production.