Pig Production in Canada

The majority of pigs in Canada are raised in indoor barns where the producer can control feed, temperature, lighting and ventilation. Raising pigs for meat production includes the following stages of production:

1. Breeding
2. Gestation (pregnancy)
3. Farrowing (giving birth to piglets)
4. Alternative housing for sows
5. Newborn piglets
6. Nursery (newly weaned piglets)
7. Grow-finish (growth and fattening of pigs to slaughter weight)
8. Feed
9. Transport

There are various housing systems associated with each stage of production. Confinement housing, which includes the use of individual pens or stalls, or group housing indoors, has advantages in terms of disease control, increased control of feed intake and survival of unborn piglets, but it also has welfare implications.

Many farmers raise their pigs from farrow to finish, which includes all the above listed stages of production. Some farmers may only raise the piglets until they are weaned. Then the piglets are shipped to another producer who finishes them until they reach market weight.

1. Breeding

In the breeding area, sows and gilts (young females who will be first time mothers) are housed in groups or in individual stalls, with sexually mature boars in close proximity. When the females are in estrus (in heat), the boar is released into the pen for breeding. Most farms keep one boar for every 20 females.

Increasingly, larger farms are practicing artificial insemination – impregnating females manually with semen collected from a boar.

2. Gestation

The gestation period of a pig is 115 days (approximately 3 months, 3 weeks and 3 days).

Currently, most sows (female breeding pigs) in Canada are kept in gestation stalls, which are chosen by farmers because they allow for increased control over individual feed intake, disease transmission and reduced early pregnancy losses (i.e. more piglets are born per litter).

Individual stalls measure approximately 60 cm wide by 213 cm long (2 ft x 7 ft) and have metal side bars and slatted concrete or metal floors. The slatted flooring allows manure and urine to fall through into a collection pit.

Sows can lie down, stand up or sit, and may be able to walk a couple steps forward and backward when housed in a stall, but they do not have enough room to turn around.

Because they have very little control over their environment, sows may experience frustration and distress from a number of factors, including inability to avoid a wet, cold or drafty lying area, being housed next to an aggressive neighbour, and inability to avoid insects.

Sows may also become stressed because they are deprived of the ability to express important natural behaviours, like socialization, exploration, rooting, wallowing and nest building; all of which are behaviours that sows are highly motivated to perform. As a result, sows may develop:

- Abnormal behaviours, called stereotypies, which are repetitive, fixed and apparently functionless behaviours such as bar-biting
- Lameness, which is the inability to walk properly due to joint inflammation and/or foot or leg lesions (sores) from constant rubbing against bare flooring
- Reduced muscle and bone strength
- Chronic stress

The majority of farmers use gestation stalls while others may keep their sows in some form of group housing system (indoor or outdoor). Concerns about aggression and cost of infrastructure changes tend to be major barriers to adopting alternative systems such as group housing; however, most of the challenges associated with aggression in groups can be resolved with management practices.

Use of environmental enrichment, provision of adequate space to allow sows the ability to escape or avoid aggression, housing sows with penmates of similar size and age, and use of enclosed feeding systems that reduce competition (e.g. Electronic Sow Feeding systems) are ways of managing group housed sows in order to mitigate aggressive behaviour. More on this in section 4. Alternative Housing for Sows, below.

The most recent national Code of Practice for the Care and Handling of Pigs (2014) requires that:

- All new pig production facilities built after July 1, 2014 use group housing for sows, except for during the first 28-35 days of gestation, at which time gestation stalls may still be used
- New installations/replacements of stalls in existing barns must meet new space provisions to allow for greater freedom of movement and exercise
- By July 1, 2024, mated females must be housed in groups, in individual pens, or may be in stalls if they are allowed to turn around or exercise periodically

3. Farrowing

Sows are moved into the farrowing (birthing) facility a few days before farrowing is expected. The size of the farrowing crate is similar to the gestation stall (60cm x 213 cm; or 2 ft x 7 ft) but has separate areas along the sides of the crate for piglets only. Farrowing crates also typically have adjustable guardrails to protect piglets from being crushed by the sow.

The average litter size is 10-12 piglets, and sows usually have 2-3 litters of piglets per year. A heat lamp or pad is provided to keep the piglets warm (32-38˚C / 89-100˚F). In the photo on the right, a white heat pad place on the floor is being used to keep the piglets warm.

Piglets nurse from the sow for 14-28 days before being abruptly weaned off milk. At weaning, piglets are typically moved directly into the nursery (see 6) while the sows are moved back into the breeding area.

4. Alternative Housing for Sows

Group gestation housing with good management can provide a more humane environment for sows, including allowing for greater expression of natural behaviours. However, the social stress induced at various times can cause aggression (e.g. when unfamiliar animals are grouped together, and at feeding time when competition for feed may be high).

Management practices such as selecting an appropriate group size, using protected feeding stations, ensuring enough space per pig, including space to allow sows to escape or avoid aggression, and providing environmental enrichment (e.g. providing sows with adequate substrates such as straw for nest building) may reduce the risk of aggression and decrease the incidence of abnormal, repetitive behaviours.

Alternative housing options for lactating sows (those nursing piglets) and their piglets also exist, and may improve the welfare of the pigs when designed to actually meet their behavioural needs. For example, sow-controlled housing enables a sow to leave her piglets when she so desires, and group-housing after several weeks of lactation minimizes the length of time the animals are kept in confinement.

In addition to the benefit of reducing sow stress, it has been suggested that piglets develop better social skills when raised in an enriched environment rather than in barren pens.

5. Newborn Piglets

Producers generally make sure that all piglets receive enough colostrum (i.e. the first milk the sow produces after giving birth), which contains high concentrations of nutrients and antibodies to ensure good piglet immune system development.

Shortly after birth, piglets may also be ‘cross-fostered’ (switching piglets from one sow to another) in order to balance out litter sizes and ensure that all piglets receive adequate access to milk.

Within the first week of life, piglets may be given an injection of an iron solution to prevent anemia.

Identification

On many commercial farms, piglets receive an ear tattoo at birth. The tattoo device contains multiple sharp pins arranged to create a series of numbers. The numbers are pressed into the ear then ink is rubbed in. This serves to identify the piglet. Sometimes ear tags are used instead. These are applied like an earring.

A more invasive identification technique involves ear notching, which is removal of specific chunks of the ear to form an identifying pattern. The piglet in the photo on the right is having his ear notched.

Tail Docking

Piglets are motivated to suckle and chew. Without appropriate enrichment materials, these behaviours are commonly directed towards the bellies and tails of their littermates.

In order to prevent the injuries and infections that may result, piglets' tails are routinely cut short at a young age. This painful procedure is not generally performed with any pain medication, such as a local anesthetic or pain killer for after the procedure has been performed.

Piglets that are provided with suitable environmental enrichment have an outlet for their chewing behaviours and therefore direct less sucking and biting behaviours towards their penmates.

Teeth Clipping

Piglets are born with sharp 'needle teeth' which are used to establish dominance among littermates. These teeth (the teeth that would grow into tusks) can cause significant injuries to littermates as well as to the teats of the sow during suckling.

To prevent these injuries, the piglets' needle teeth are commonly clipped (shortened or removed) soon after birth. Complete removal of the tooth is painful and can lead to infection; however, grinding or clipping off just the tip can serve as a less invasive alternative. Fortunately, some producers are now opting to leave needle teeth intact and use different management techniques to reduce piglet fighting.

The piglet in the photo on the right is having her teeth clipped.

Castration

Male piglets (boars) are typically castrated (neutered) within the first few weeks of life to address meat quality concerns that some consumers may have regarding boar taint (an odour or taste associated with cooked meat from uncastrated male pigs).

Generally, castration is performed using a blade (e.g. scalpel) and without the use of any pain medications. The procedure causes lasting pain and stress, which can be minimized by using a combination of a local anesthetic and a pain killer for after the procedure has been performed. It also poses a risk of infection in the open wound, which is not typically stitched up.

In Canada, the national Code of Practice for the Care and Handling of Pigs (2014) allows producers to perform surgical castration without any pain medications if done before 10 days of age. After 10 days of age, anesthetics and analgesics must be used to help alleviate pain. By July 1, 2016, analgesics must be used at any age to help alleviate long-term pain after surgical castration. Anesthetics will only remain mandatory for pigs castrated past 10 days of age.

Fortunately, some producers are now opting to leave males intact and market them before they become sexually mature.

6. Nursery

In commercial pig production, piglets are abruptly weaned from their mother between 14-28 days of age; a much younger age than would occur naturally. This practice causes significant stress for both the sow and her piglets. Furthermore, an increase in problem behaviours like belly sucking and tail biting by littermates has been observed in early-weaned piglets.

Weaned piglets are sorted by weight and housed in nursery pens until they are 8-10 weeks of age. Feed and water are provided at all times while these piglets complete the transition from milk to solid foods. The temperature is kept warm (typically 24-30˚C / 75-86˚F) because young piglets are prone to chilling.

7. Grow-Finish

Grow-finish pigs are housed in groups; not in stalls or crates. Some producers may provide straw, rope, chain or other items in attempt to prevent problem behaviours (e.g. tail biting). Pens are usually fitted with slatted floors to prevent manure buildup. Manure and urine are collected in a pit below the flooring.

The grow-finish stage begins after the piglets' stay in the nursery. These 8-10 week-old piglets are separated into similar-sized groups and are given a high energy feed until they reach market weight (about 115-125 kg (255-275 lb) in Canada).

It takes approximately 5-6 months to raise a pig from birth to market weight. Once the pigs have reached market weight they are transported to an abattoir for slaughter. There, their carcasses are processed and packaged for distribution to food retailers (e.g. grocery stores) where the meat is sold to the public.

8. Feed

Feed is supplied by feed companies or prepared by on-farm feed mills. It consists of a mix of grains such as barley, wheat, corn, canola meal, as well as legumes like peas, soybeans or lentils.

Breeding and gestating sows are fed limited amounts of feed, typically once a day, to control their weight. This helps to prevent farrowing difficulty. Once they have given birth, sows are usually given a less restrictive diet.

Nursery piglets are provided with 'creep feed,' which is more palatable, to encourage a smooth transition from a milk diet to solid food. Nursery feeds may contain some antibiotics in addition to vitamins and mineral supplements to help protect young piglets from illnesses.

Grow-finish pigs are provided with high-energy feed at all times to maximize weight gain. In Canada, feed rations for grow-finish pigs do not contain antibiotics, but they may contain added vitamins and minerals.

9. Transport

There are many factors during transport that cause stress for pigs:

In Canada, Federal Animal Transportation Regulations permit pigs to be transported for up to 36 hours without food, water or rest.

Mixing of unfamiliar pigs and loading on to the truck are considered to be the most stressful part of transportation. Regular handling pre-transport to allow pigs to get used to human contact may alleviate some of the stress associated with human handling at loading.

Pigs are also sensitive to changes in temperature, vibration, acceleration and deceleration during transport. These factors are known to cause nausea (motion sickness) in pigs.

Use of low-stress handling techniques, limited mixing of unfamiliar pigs, and keeping journeys short are ways of mitigating stress at transport.