

Guide to

Small Scale Pig Production

for Saskatchewan farms

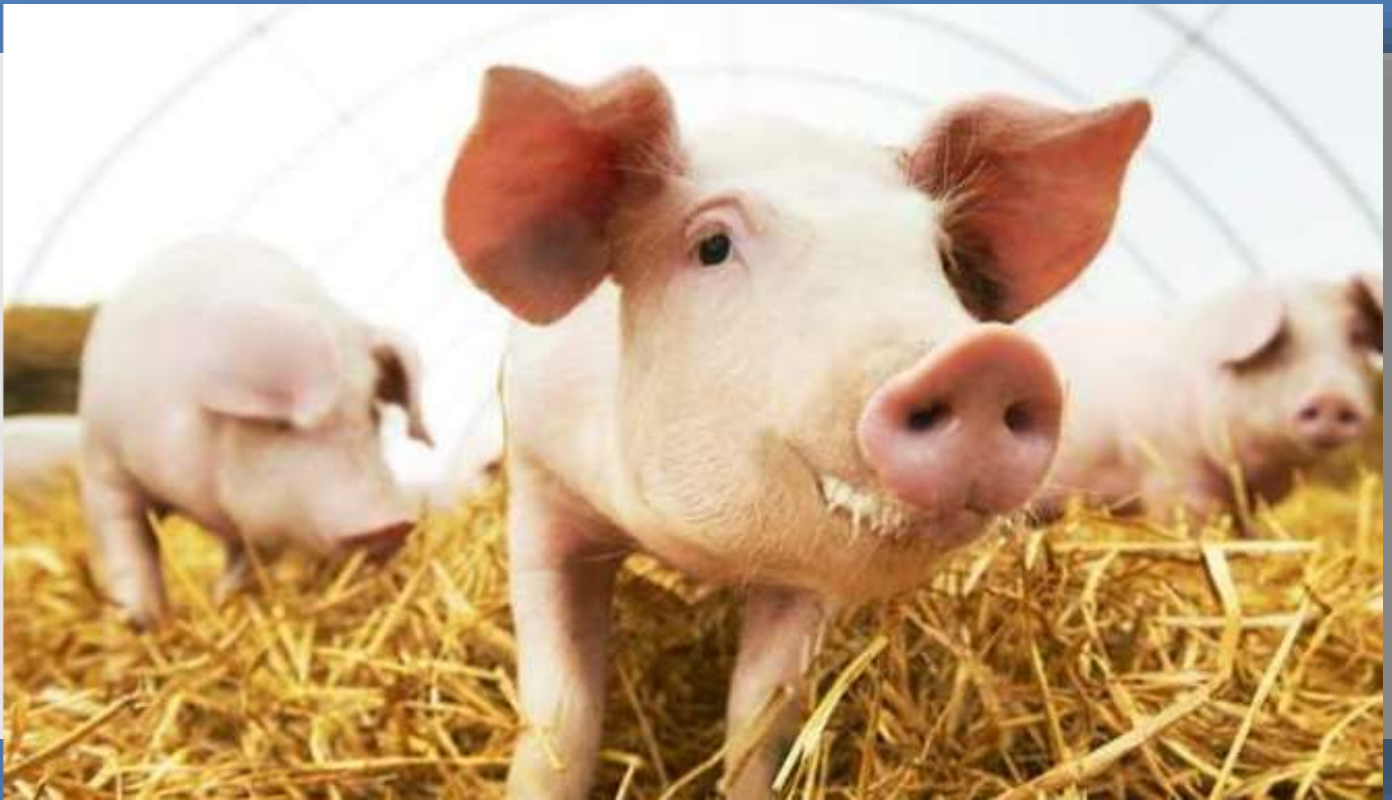


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Introduction

Bringing a new animal home is an exciting time! If you have never raised pigs before, you may be thinking, “What do I do with them now?” Even if this isn’t your first time raising pigs, you may have questions about feeding or management.

Take some time to review the information in this guide. It focuses on raising weaned pigs through the growing and finishing stages to slaughter weight. It does not contain extensive information on the management of sows, breeding or farrowing. More on these topics is available from a variety of organizations, or you may contact Sask Pork.

Also included is basic information on housing, management, nutrition/feeding and animal health, as well as what you need to know for transport, slaughter, including PigTrace, Canada’s national hog traceability program.

We recommend that you obtain a copy of the [Code of Practice for the Care and Handling of Pigs](#) developed by the National Farm Animal Care Council to familiarize yourself with the requirements set out in the Code. Whether your farm is large or small, it is also suggested you implement good biosecurity on the farm, to prevent the spread of unwanted diseases to the pigs.

Whether you have two pigs, twenty, or two hundred, it is important to be aware of the management and welfare requirements of the industry, and federally legislated traceability requirements for movement of animals and slaughter.



Codes of Practice for the Care and Handling of Farm Animals

The *Codes of Practice for the Care and Handling of Pigs* are nationally developed guidelines that set out animal care requirements and recommended practices for Pigs. Codes have been developed for virtually all farm animal species in Canada. We encourage you to review the Code of Practice for the Care and Handling of Pigs at <http://www.nfacc.ca/codes-of-practice/pigs>; it contains useful information for anyone raising pigs.

The Codes of Practice are intended to promote sound management and animal welfare, and contain requirements for housing, care, transportation, processing and other animal husbandry practices. The Codes serve as educational tools, reference materials for regulations, and the foundation for animal care assessment programs.

In Saskatchewan, *The Animal Protection Act and Regulations* reference the Codes of Practice and other guidelines for various species of animals. Under *The Animal Protection Act* an animal is not considered to be in distress if it is handled in a manner consistent with the listed codes or guidelines. For more information refer to *The Animal Protection Act, 2018* online at <http://www.publications.gov.sk.ca/freelaw/documents/English/Statutes/Statutes/A21-2.pdf>. <http://www.publications.gov.sk.ca/freelaw/documents/English/Regulations/Regulations/A21-2R1.pdf>.

Requirements are intended to be outcome or animal based, as they are most directly linked to animal welfare, and can be applied in a wide range of swine production systems. Since requirements will often state necessary outcomes, the pig owner has the flexibility to determine how to achieve the outcomes using individual management and husbandry practices.

Recommended practices encourage continuous improvement in animal care, however, not implementing these does not indicate animal care is not being met. We encourage every person raising pigs to review the Code and implement requirements, and to also implement the recommended practices that make sense for their individual farm. While the Codes of Practice were written to address larger scale production, the outcome of improving animal care and welfare applies whether you are raising one or many pigs.

Implementing Good Biosecurity Practices

Biosecurity Basics

Biosecurity is a set of practices that are used to minimize the transmission of an infectious agent (microorganism capable of causing disease e.g. bacteria, virus, parasite or fungus) onto, within and off of farms by new pigs, other animals, wildlife, people, equipment, feed, water, insects and pests.

It refers to the proactive measures taken to exclude threats from farms that are disease-free, and preventing spread of pathogens to other herds or flocks if/when a disease does occur. The ultimate goal of a good biosecurity plan is to implement easily attainable protocols that reduce potentially expensive problems to inexpensive and manageable regular tasks.

The TOP 3 Biosecurity Steps You Should Implement on Your Farm

- Change your boots before entering areas where pigs are housed.
- Allow no contact with strangers or persons who have had contact with other pigs or visited another pig farm in the previous 48 hours, (7 days for visitors from foreign countries).
- Do not feed swill or meat products to pigs and do not source animal feeds from outside the country.

The health of a pig is the responsibility of the pig owner. Gaining more knowledge on diseases, management practices and hazards is an important step in caring for a pig. Biosecurity helps prevent disease from entering and/or exiting a farm and from spreading among other animals on the farm. The reduction of financial losses from treating sick pigs is one of the benefits in preventing diseases, and it lessens hardships endured when losing a pig to disease.

Biosecurity improves the pig industry by promoting healthy pigs and is not limited to large scale farms. Regardless of size or production philosophy, all farms, even hobby farms, have a responsibility to prevent an outbreak or spread of animal (or plant) disease or pests, and incursion of foreign animal diseases into Canada and Saskatchewan.

It is recommended you stay on top of industry association news and be aware of local conditions or issues as they arise. If there is a serious disease outbreak, you don't want to be the last to know!

Veterinarians are an excellent source of information on biosecurity and minimizing disease risks. They can help you create a practical biosecurity plan for your farm that will be tailored specifically for you. To find a swine veterinarian or clinic in your region contact the Saskatchewan Veterinarian Medical Association online at <http://saskvets.ca/cms/index.php?p=skvets-find-a-clinic>

There are National Biosecurity Standards for most livestock commodities. These guidelines are a good place to start when developing a biosecurity plan for your farm. They can be viewed online at: <http://www.inspection.gc.ca/animals/terrestrial-animals/biosecurity/eng/1299868055616/1320534707863>

Other areas that require special attention to prevent the risk of diseases in animals.

Fences

- Good fences keep livestock in and wildlife out. Inspect boundary fences regularly and repair as needed.
- Stray stock may spread disease and feral animals can introduce new pathogens to your farm.

Housing | Equipment | Yard Maintenance

- Pens should be completely emptied of animals and manure should be removed from the production area at least annually. Store manure in a location where it cannot run-off into water sources; does not cause nuisance odors and can easily be accessed with manure handling equipment. All equipment that comes into direct contact with livestock or poultry should be cleaned and disinfected periodically, including feeders and waterers.
- Consider a standard policy of not sharing equipment that has come into contact with animals between different farms. If sharing equipment with other farms, be sure to disinfect the equipment before using on your farm. Use your best judgement and weigh the risks carefully.

Preventing Pests and Rodents

- Keep area around pens free of debris.
- Cut the grass short around pens and enclosures.
- Keep feed in tightly closed containers and clean up spilled feed.
- Use traps and bait as necessary.
- Standing water should be drained.

Introducing New Stock

- Don't bring new stock to your property if they appear unhealthy.
- Avoid purchasing stock from markets and auctions.
- Obtain a health certificate if possible.
- Birds, eggs, and livestock should be sourced from farms with a solid herd or flock health program.

Quarantine

- Have a quarantine area available for animals new to the farm and for sick or injured animals.
- The area should be a separate area or building to prevent animal-to-animal contact.
- Three weeks will allow time for a proper assessment of health, condition, and recuperation from transport or illness.
- Observe animals for any abnormal behaviour and signs/symptoms of disease. Presence of unusual behaviour or symptoms calls for veterinary inspection or tests.

Work Flow

- Farm owners and workers should have separate clothing and footwear for working around various animal species. These should be kept at the barn entrance.
- Use hand sanitizer or wash with soap and warm water before entering and after leaving livestock areas.
- Work with the youngest and most susceptible animals first.

Visitors

- Visitors can unknowingly bring harmful agents onto a farm via contaminated clothing and footwear, equipment and vehicles.
- Keep track of all people that have entered your livestock area visited your farm (i.e. through a visitor log).
- Keep extra footwear and outerwear (coveralls, smocks, etc.) available for visitors. Determine if, when and what types of farms have been visited prior to your farm. Restrict visitor access to your animals if the visitors have had recent (within 48 hours) contact with livestock. (1 week for foreign visitors).

Water and Feed Sources

- At least annually, water should be tested at the source to ensure its suitability for livestock production.
- Design and position water bowls, troughs and waterers to prevent fecal contamination.
- Feed or feed ingredients should be purchased from sources that will verify its safe origin.
- Keep feed pest-free and dry, cover feed bins and feed systems to reduce the chance of contamination.
- Never feed human food waste or meat to your pigs! If you feed your pig fruit and vegetables, make sure they have never entered a kitchen or been in contact with meat or products of animal origin.

Herd Health

- Contact a veterinarian when livestock appear sick, mortalities are high or production drops off (i.e. reduced growth rate, sows abort litters), without apparent reason. Low numbers of mortality should be examined by a vet if the cause of death is unknown.
- Dead animals should be disposed of in a timely manner to prevent contamination of the farm environment, reduce risk of spreading disease to other livestock and humans, and prevent attraction of pests. Burial is typically the most economical disposal method for small scale producers, please ensure mortalities are covered promptly to protect from scavengers.
- When animals are stressed from parasites, weather extremes, etc., natural treatments may be less effective. Monitor carefully and resort to other options as necessary. As well, remember that sick animals benefit from remedial care.
- A vaccination program should be discussed with your veterinarian. Vaccination for parvovirus and erysipelas is strongly recommended. Many other vaccines are available, so vaccinate as required (keeping the necessary records).
- Keep records of treatments and veterinary care.

Trespassing

- Post *No Entry, No Trespassing* and *Biosecurity* signage on your property and near buildings.
- Lock your buildings.
- Inform family and staff about visitor protocols and ensure protocols are always followed.
- Have a plan in place in case unauthorized people are on your property and ensure that family and staff know what to do in such a situation.
- Keep emergency and non-emergency phone numbers for your local police department on hand.

The Canadian Food Inspection Agency's **Swine Biosecurity Guide** outlines basic biosecurity principles for swine: Source: <http://www.inspection.gc.ca/animals/terrestrial-animals/biosecurity/standards-and-principles/swine/eng/1344746044066/1344746179549>

Cleaning the Barn and Pens

It is important to clean the barn or housing area regularly, removing manure and bedding where conditions are damp, and top-dressing bedding as necessary. Pathogens can survive in a living area from year to year and present risks to newly introduced pigs, especially young piglets.

Between batches of pigs, pens should be scraped, washed, disinfected, and dried. It is important that pens are clean before being disinfected, otherwise only the surface of the dirt is being disinfected and can later be worn down or scraped off, exposing the pigs to pathogens that have remained behind.

Pressure washers, especially hot water pressure washers, do a great job of blasting off the dirt and providing a fresh surface to be disinfected before setting up again.

For additional information on cleaning pens refer to:

(Carr, J. (1998) Garth Pig Stockmanship Standards. Sheffield, 5M Publishing.

Simpson, G. (no date) Introduction to organic swine production. A presentation of the Ontario Ministry of Agriculture, available at: <https://en.engormix.com/pig-industry/articles/overview-organic-pork-production-t35422.htm>

Disinfecting Housing Facilities, Surfaces and Equipment

1. Most disinfectants will not work if the surface to be disinfected isn't clean before applying the disinfectant. Sweep/scrape and remove all organic debris. Power sprayers may be used to wash all surfaces to remove all organic material.
2. Follow the manufacturer's directions for mixing and dilution of these disinfectants. **A good rule of thumb is to apply at the rate of one gallon of diluted disinfectant per 150-200 square feet of surface area.** For a more thorough disinfecting, soak waterers and feeders in a 200 ppm chlorine solution (1 tablespoon chlorine bleach per gallon of boiling water).
Ref- <https://smallfarms.cornell.edu/2014/04/07/cleaning-and-disinfecting-your-poultry-house/>
3. Apply an appropriate disinfectant at the correct dilution rate and ensure that surfaces stay wet for the duration of the required contact time (usually 10 minutes).
4. Rinse surfaces after appropriate contact time is achieved.
5. In facilities that are difficult to wash- whitewashing (hydrated lime and water solution) is effective.

Note: Rinse floors well after whitewashing and before adding animals. The hydrated lime can burn skin and feet if animals are introduced too soon, when concentration is high.

Commonly Used Disinfectants

Disinfectant Product	Active ingredient(s)	Dilution Rate Recommended by the Manufacturer	Required Contact Time	Application Rate	
Canadian 1-Stroke Environ	Ortho-phenylphenol Ortho-benzyl-para-chlorophenol Para-tertiary-amyphenol	10.00% 8.50% 2.00%	0.4% (1:250)	10 minutes	7.5 L of solution / 1,000 ft ²
Clorox Clean-up	Sodium hypochlorite	1.84%	3.0%	10 minutes	
Synergize	Alkyl dimethyl benzyl ammonium chloride Glutaraldehyde	26.00% 7.00%	0.4% (1:256)	5-12 minutes	160.0 L of solution / 1,000 ft ²
Tek-Trol	Ortho-phenylphenol Ortho-Benzyl-para-chlorophenol Para-tertiary-Amylphenol	12.00% 10.00% 4.00%	0.4% (1:256)	10 minutes	160.0 L of solution / 1,000 ft ²
Virkon	Potassium Peroxymonosulfate	21.40%	1.0% (1:100)	10 minutes	25.0 L of solution / 1,000 ft ²

Source: Équipe Québécoise de santé porcine [EQSP], (2015) Useful information on disinfectants after contamination with novel swine enteric coronavirus diseases (SECD), April 2015.
http://www.mauricie.upa.qc.ca/blogue/wp-content/uploads/EQSP_message-24-sur-DEP_07_01_2015_final.pdf



HOW TO CLEAN AND DISINFECT CLOTHING, FOOTWEAR & OTHER ITEMS

The highest risk of new diseases like African swine fever being introduced to Canada is from travellers coming in contact with the virus and bringing it back on their clothes and footwear, and people bringing in contaminated pork and pork products. If you travel, **learn how to properly clean and disinfect the items you bring back with you.**

CLOTHING

Clothing should be laundered using laundry detergent and the **hot water or sanitary cycle** setting on the washing machine.

To ensure adequate disinfection:

- the water temperature should reach **60 °C**,
- the wash cycle should be at least **60 minutes** in length.

Clothes should be dried on the **highest heat setting** for a minimum of **30 minutes**.

FOOTWEAR

Footwear should be cleaned to remove visible dirt and then disinfected using a **solution of one part household bleach and nine parts water**.

The disinfectant solution should remain **in contact with the surface for 30 minutes**. Rinse surfaces with cold water to remove bleach solution.



OTHER ITEMS

Cameras, phones and personal effects that were taken onto an agricultural premise should be **cleaned with a disinfectant wipe** such as Prevail.

Learn more about African swine fever and its impacts at: cpc-ccp.com/african-swine-fever



Canadian Pork Council
Conseil canadien du porc

Housing and Management Options

Having appropriate and secure housing for pigs is very important, whether raising them in an outdoor or pasture environment, indoors, or a combination. There are a number of different housing and pen options. Take the time to research the options available. It is important to figure out which one works best for your situation and the pigs.

Housing systems need to provide adequate space for all the animals, good ventilation and appropriate temperature, all of which are interrelated. Housing for pigs needs to provide for their comfort at all times. Facilities need to allow for the safe, efficient and humane movement of pigs (NFACC, 2014).

Code Requirements for Housing

- Housing systems and their components must be designed, constructed, regularly inspected and maintained in a manner that reduces the potential for injury, provides suitable temperatures, fresh air, and clean conditions, and allows for inspection of all pigs.
- Pigs must not be tethered as part of their normal housing system.
- If you keep pigs in enclosed buildings:
 - Emergency plans must be developed to ensure that alternative means of temperature regulation, ventilation, feeding, and watering of pigs are available in the event of a power failure, mechanical breakdown, or other emergency situation.

Pigs require adequate shelter that will protect them from the elements and predators. A basic shelter will be sufficient, as long as it is weatherproof and dry inside. Considering Canadian climatic conditions, winter housing is an important consideration, and especially if pigs will have access to the outside all year round (risk of frostbite as little hair coverage). Of utmost importance for the winter will be to provide shelter that is able to protect pigs from the cold and wind, and will remain dry even when there has been significant snowfall.

A well-constructed shed or barn can offer shelter, but there are other suitable options as well. For example, large bales of straw arranged in the form of a shelter are a cost-effective way to house your pigs. The bales provide thick walls, insulated against the cold and damp, and the pigs can pull bedding from the inside of the bales to maintain a comfortable pack.

Whatever your shelter choice, ensure it is bedded to provide a comfortable lying area. This can also help to keep it clean; fouled bedding can be removed and replenished with clean. In winter provide a thick layer of bedding. This will enable pigs to bury themselves under the bedding to keep warm. Pigs will naturally do this, and will choose to lie as a group under the bedding to help conserve and generate sufficient heat as a group.

Outdoor Production

Outdoor production is popular for small-scale pig producers as it offers a relatively low-cost method for raising pigs. A typical set-up for raising pigs outdoors consists of paddocks containing pen groups of pigs, with shelter provided in each pen. An alternative is to have an indoor building with access to an outdoor run.

Site selection

Choose the site to place your outdoor paddocks carefully. The land must have good drainage. Land that has poor drainage, or is prone to flooding, has stony and/or heavy soils is not suitable for outdoor production (NFACC, 2014).

Shelters

Shelters must minimize the effects of adverse weather and provide a dry resting area and shade (NFACC, 2014, Code requirement, pg. 19). Per pen group, to be effective the shelter provided must accommodate all pigs within a pen and enable them to lie down comfortably. If all pigs within the pen cannot fit in the shelter at the same time, it is not sufficient to protect all pigs.

A selection of shelter and paddock examples can be seen in **Figures 1-5**. The following photos are of pig huts currently being used in a Canadian swine housing trial. Most are suitable for a farrowing sow.
Photos: Courtesy Agriculture and Agri-Food Canada.





Figure 2



Figure 3



Figure 4



Space allowance

The Code of Practice has established space allowance requirements for all ages of pigs, and stages of production for **indoor** kept pigs. Within the Code, the minimum floor space allowance for pigs penned in groups, at different ages can be found in Table 1.

For **outdoor** raised pigs, typically, more space is given per pig. This can also help with the management of the land, and provides extra space to accommodate grazing opportunities and destruction of vegetation. The Code of Practice does not provide guidelines on the space allowance to provide per pig for outdoor production.

Depending on how you need to manage your land, more space can also be given per pig. A typical rule of thumb for outdoor pig farming is 6 – 10 pigs per acre (Carr, 1998).

Boredom and hunger can often encourage pigs to test fences, so provision of ample rooting space for outdoor pigs is encouraged.

Pigs will root the ground within their enclosure. This is a species typical foraging behaviour and should not be discouraged. Nose rings (to prevent rooting behaviour) must not be used (NFACC, 2014, Code requirement, pg. 19).

If you are concerned about damage to pasture, rotating paddocks to allow ground and pasture to recover in between pigs is one option to help manage this. Pastured pigs will forage on the vegetation available, but are very aggressive and can cause lasting damage to the plants in a pasture setting. If possible, periodically rotating pigs to new pasture will help protect the longevity of the pasture as well as reduce disease, parasite, and pathogen risks. The longer pigs stay in one place, the more risk there is of creating a mud hole.

Table 1: Minimum floor space allowances for group-penned pigs at different stages/stages of growth

Pig age/stage of growth	Indoor Space (slatted or partially slatted floors)		**Outdoor Runs and Pens (solid bedded floors)	
	m ²	ft ²	m ²	ft ²
*Weaned/nursery pigs				
10-25 kg	0.16-0.28 m ²	1.67-3.00 ft ²	0.21-0.39 m ²	2.26-4.20 ft ²
26-40 kg	0.29-0.39 m ²	3.17-4.22 ft ²	0.40-0.53 m ²	4.31-5.70 ft ²
Grower/finisher pigs				
40-75 Kg	0.39-0.60 m ²	4.22-6.42 ft ²	0.53- 0.80 m ²	5.67-8.63 ft ²
80-115 Kg	0.62-0.79 m ²	6.70-8.54 ft ²	0.84-1.07 m ²	9.01-11.47 ft ²
120-150 Kg	0.82-0.95 m ²	8.79-10.20 ft ²	1.10-1.27 m ²	11.80-13.70 ft ²
Sows in group pens	1.8-2.2 m ²	19-24 ft ²	2.0-2.4 m ²	21-26 ft ²
Gilts in group pens	1.4-1.7 m ²	15-18 ft ²	1.5-1.9 m ²	16-20 ft ²
Mixed (sows and gilts)	1.7-2.1m ²	18-23ft ²	1.9-2.3m ²	20-25ft ²
**Boars in individual pens	1.8m x 3.1m (5.6 m ²)	6ft x 10ft (60ft ²)	2.4m x 3.1m (7.4 m ²)	8ft x 10ft (80ft ²)

* Since there are no clear specifications for Weaned/nursery pigs relative to outdoor runs and pens in the code, the space allowances are calculated using $k= 0.045$, as is a recommended practice for solid bedded floors for growing pigs, (NFACC, 2014, pg. 50).

**As the code does not outline specific space recommendations for outdoor production systems, the space allowances for outdoor pens are calculated using recommendations for solid bedded floors
Ref: NFACC, 2014

Figures 6-9 are examples of outdoor covered runs. Images courtesy of AHDB Pork, UK





Figure 8



Figure 9

Wallows

Sunburn is commonly seen in pigs unaccustomed to direct sunlight. If you are able to provide a wallow for your pigs during summer months it will be worthwhile. Pigs can utilize the wallow to cool off and use the mud to coat themselves for sun protection. Wallows can be created by using a sprinkler system to add water to a concentrated area of the pasture at timed intervals.

An alternative is to have a slow dripping hose pipe. However, keep an eye on the wallow to avoid unintentional flooding of the pasture. It is also advisable to pay attention to wallow cleanliness. If there is manure build up, a wallow could be dried up and moved to another location. A wallow is suitable for growing pigs and breeding animals (gestating sows and boars). It is not advised to provide a wallow to a farrowing or lactating sow and her piglets. This is to maintain hygiene and to prevent piglets getting stuck in thick mud or potentially drowning.

Enclosure Fencing

Good enclosure fencing is vitally important when raising pigs. Pigs are escape artists. If there is the slightest weakness, pigs will root it, eventually causing damage and finding a way out. Pigs will also continue to challenge a boundary, so regular checking of enclosure and maintenance is required. Therefore, when constructing enclosures (indoor and outdoor), ensure they are very solid and well built. Panels or walls making up pens should be high enough that the pigs can't walk or jump over them, but also be accessible to the herds person. A good guideline for height would be at least 90 cm.

One approach is to keep pigs in an outdoor pen with a shelter. This can be a large outdoor pen, or an alternative is an outdoor run area (figures 6-9).

Ensure your paddocks have good gate access. This will facilitate the e handling and moving pigs, especially if you have the ability to drive a trailer into the paddock to load pigs onto. Traditional post and rail with stock fencing mesh can be used. It is advisable to fix fence posts into underground concrete blocks. Posts can easily destabilize with pigs frequently rooting around them and if the ground becomes waterlogged.

Where any fence is in place, be aware that pigs will often root and dig under the fence line. As a precaution, a strip of electric fence close to ground level inside the perimeter can help to keep pigs away. A common recommendation is to fence pigs using two strands of electric, one 15cm (6inch) off the ground and the other 23cm (9inch), (Shankland, 2011), placed inside the enclosure to keep pigs off the stock fencing. The use of electric fence is also a suitable option if permanent fencing isn't possible, or a temporary solution is required. Electric fencing also provides the flexibility to move paddocks to fresh ground.

Ensure you purchase livestock specific electric fence. A range of companies now produce pig specific electric fencing; do your research before you buy. If you experience problems from predation, an additional anti-predator electric fence boundary around your pig paddocks can be a valuable investment to protect your pigs.

Be aware, **pigs require training to the electric fence**. Without proper training, pigs can run through an electric fence on first experiencing a shock. To train pigs, place the electric fence in front of solid fencing. When pigs encounter it and get shocked, the solid fence will turn them around and prevent them from bolting forward out of the pen.

Additionally, tie strands of wide ribbon to the electric fence that can blow in a breeze. This helps the pigs to identify there is a barrier there. One of the simplest methods to training to the electric fence is to have a designated paddock for initial electric fence exposure. This can be used to keep all new stock for the first week or so, whilst training and exposure takes place.

Be sure to check pigs **every day**; keep a close eye on them over the first few days following arrival to make sure that they are eating, drinking, and staying within the boundaries of their pen or pasture area. It is a good idea to do a headcount to make sure that none have escaped, are stuck somewhere, or have died in an out-of-the-way location.

For pigs with outdoor access, it is advisable to do a walk-round check of your fencing *daily*. Weaknesses in the fence need to be caught early and repaired before the situation worsens. Pigs require feed and fresh water on a daily basis, so by checking them every day these additional checks can easily be done as part of your daily routine, ensuring that sick animals are noticed and attended to without delay.

Handling and Restraint Areas

During the planning and construction phase, design a restraint area for examination or giving medication. Pigs can be very large and also quite difficult to catch. A simple chute to restrict movement can be very helpful. Depending on the number of paddocks, it may be worthwhile to include a restraint area that is easily accessible to multiple paddocks. It is also worthwhile to accustom pigs to walking through this area (whilst healthy!) so they are familiar with it. This can facilitate handling when you need to put restraint into place (i.e. for a treatment option).

Sick and Quarantine Pens

This is an essential component of your operation. Pigs *will* get sick, and when they do, they should be moved to an area for recovery and protection from other pigs. This will not only help protect the sick individual, but depending on the illness, it can also protect other pigs within the group. This area/pen should be easy to access and only used when a sick pig is removed from the main pen or when adding new animals to an existing herd. It should be separate from the rest of the pigs and pigs in this pen should not be able to contact the main herd in order to restrict the spread of disease.

Housing Options for Different Stages of Production

If you intend to keep breeding animals, you will need to provide a variety of housing options to manage various stages of the production cycle. A boar used for breeding would typically be kept in his own pen, and brought out for use to heat check and/or breed sows. If purchased from a young age, a boar can become well trained to human handling, and very manageable. A boar would not typically be penned with a sow for extended periods.

If having multiple sows, they can be kept in groups for rearing and gestation. However, sows should be housed in separate paddocks for management around farrowing and lactation. For this the sow will need her own accommodation to farrow (give birth). For outdoor use, farrowing arks are a popular choice (See photos on pages 14-15 of this guide).

The ark should be well-bedded for sows prior to farrowing, with bedding replenished every few days. Within farrowing arks, deep bedding of bulky material (typically straw) is important. This bedding plays a role to help ensure the piglets are protected from crushing (the sow sitting, lying or standing on the piglets).

The design of farrowing paddocks can help facilitate management of the sow and piglets. Rectangular pens, with the ark placed at one end are useful. The sows can be encouraged to leave her piglets each day to feed by placing food at the other end of the paddock, the greatest distance from the ark. This helps the herds person to see that the sow is up and healthy each day, and provides distance from the sow and piglets, providing an opportunity for the herds person to check the piglets.

Nursing Sows with Piglets

Sows may become stressed when introduced to the farrowing pens close to the time of farrowing. The following steps will be helpful in helping them transition to their new surroundings.

1. Introduce sows to clean farrowing quarters 3-5 days prior to expected farrowing. The quarters should provide enough room for the sow to move forward and backward, and to lie down unhindered.
2. Provide bedding/nesting material for sows at least 48 hours prior to expected farrowing unless it is not technically feasible for the manure management system.
3. If using a farrowing arc, providing a deep layer of bedding. This helps to reduce heat loss in newborn piglets and can help to provide some cushioning protection from piglets if the sow were to accidentally trap or lay on them.
4. If using farrowing crates, procure adjustable crates and adjust crates to provide the sow with more space from 5-10 days after farrowing when using crates.
5. If using a farrowing crate, the sow must be habituated to the crate environment well in advance of farrowing. Do not wait until the sow is due to farrow to accustom her to the crate. Training a sow to a farrowing crate be done by placing the sow in the crate and

feeding her, leaving her for a period of time to accustom to the restriction of the crate. A sow that is very reactive can be trained by gradually increasing the duration of time the sow is restricted in the crate.

6. The farrowing system should provide an area to which the piglets can retreat when the sow moves.
7. When possible, ensure that an unobstructed area behind the sow is available to facilitate natural or assisted farrowing.

Feeding and Watering Equipment

Waterers

Growing pigs will drink 10 or more litres of water per day, so a clean, fresh supply must be maintained. This can be a challenge both due to the volume that needs to be available and the logistics of having a secure and accessible waterer. There are a number of options for watering systems, depending on how the pigs will be raised, and how long they will remain on the farm. A concrete trough or one bolted to the ground or side of the pen would work well in a permanent location, as would a nipple drinker. If the plan is to rotate areas, a system that is easier to transport would be a better option.



Watering troughs should be at a height that is accessible to the pigs at all ages and stages at which they will be using it, and at the same time high enough that they can't easily walk through it or tip it over.

If it is low enough for them to walk through, they will dirty it in record time, potentially spreading disease and pathogens.

Troughs also need to be secure so that the pigs don't root them over, emptying their water supply and creating wallowing spots in undesirable areas.

Consideration should be given to whether water will be hauled manually on a daily basis or an automatic system will be set up. Automatic watering systems can be a great way to provide a replenishing supply of fresh, clean water. They can be bought ready to go or constructed fairly simply out of readily available materials. This allows options for a broad range of sizes and versatility depending on how large a container is used (anywhere from lengths of PVC pipe to barrels. It is important to keep automated watering-systems out of direct sunlight in the heat of summer to minimize the risk of algae and bacteria build ups.

The line through which water is delivered should be a light colour, if possible, as dark coloured hoses and pipes will attract the sun and heat the water to a point where it may be too warm for the pigs to consume.

If using water troughs, ensure they are cleaned out at frequent intervals to maintain hygiene. In winter, a heating element should be added to ensure pigs continue to have access to running water. It is not suitable to expect the pigs to consume snow. Doing so will only serve to increase their energy requirements as they need additional energy to replace heat lost from consuming snow.

If using nipple drinkers, drinker height and water flow rate is important to ensure pigs can consume sufficient water. Recommended drinker heights and water flow rates can be found in the Code of Practice, appendix G, pg 53.

It is important to check all water sources, especially nipple drinkers for proper water flow rate as they easily get plugged with debris. Make sure that all water lines are regularly cleaned and disinfected. Depending on your water quality, there are a variety of water treatment systems/ descalers available. Your choice of treatment would depend on initial water quality, capitol cost, maintenance costs, and on-going product costs. (Tower, L. (2016) [Water line maintenance, important for pig production, health](https://thepigsite.com/articles/water-line-maintenance-important-for-pig-production-health). Available at: <https://thepigsite.com/articles/water-line-maintenance-important-for-pig-production-health>, date accessed: 13th March, 2020.

If you are using a local well water source, ensure the water is safe and fit for pigs to drink.

Feeders

Feeders should follow similar considerations as for water troughs. The size of the feeder should be relative to the number of pigs and should be easily accessible. Also consider the method by which the feeder will be re-filled; for example for a few pigs, a trough that can be refilled by hand over the side of the pen would work fine; for a larger herd that will go through feed rapidly, a larger scale hopper that could be topped off with an auger should be considered.

Other important considerations for feed troughs include being weather and pest proof. In an outdoor feeding system, consider some sort of tarp or cover for the feeder that can be easily removed for filling, but will keep out the elements and deter birds and rodents.



Pig Nutrition

Feed is a huge factor in successful pig production, representing 60-75% of the cost of raising a pig to market weight. Choosing the appropriate feed for the stage of growth has a direct effect on how long it takes to get a pig to market weight, how much it costs, and the effect on meat quality.

Pigs are monogastric animals which means that they are simple stomached with a digestive system that is very similar to humans. As with humans, pigs are omnivores (eat food of both plant and animal origin). This differs from cattle and sheep that are ruminants (having a rumen) and herbivores (eat food from only plant sources). Pigs require energy (fats and carbohydrates) and nutrients such as protein, vitamins and minerals. Also important is a source of clean and accessible water.

Remember, in cooler weather pigs will need to consume additional feed to stay warm which will also increase the cost to raise them.

Protein

Pigs of all ages and stages require sufficient protein for maintenance, growth and reproduction, and it is the nutrient talked about most often when discussing which feed to buy. Amino acids are the structural units of protein, so in reality, pigs require amino acids rather than protein. Ten of these amino acids cannot be produced by pigs so they must be provided in their feed. Lysine is typically the first amino acid to limit growth, and nutritionists pay particular attention to ensure it is available in sufficient quantities. Soybean or canola meal is a high quality, high percent protein ingredient commonly used in swine diets.

Energy

Pigs need energy for maintenance, growth and reproduction. The bulk of the pig's energy requirement is met by fats and carbohydrates, with fats being a much denser source of energy than carbohydrates (2.25 times more dense). Common energy sources in swine feeds include barley and wheat.

Vitamins and minerals

Although present in the diet in relatively small amounts, vitamins and minerals are essential for the proper functioning of all physiological processes. Deficiencies, excesses and imbalances in vitamins and minerals can cause health and/or production issues.

Fiber

Fiber is a common constituent of pig feeds. The addition of some types of high-fiber ingredients in the diet may have beneficial effects on satiety, growth performance and overall health of pigs. Fiber also promotes intestinal motility and prevent constipation. This is extremely beneficial in farrowing sows as constipated feces in the colon may physically block the birth canal and lead to still born piglets.

However, be cautious that incorporating high fiber ingredients in the diets for growing piglets and lactating sows can be detrimental as the nutrition needs are high during these stages of the production cycle. <https://jasbsci.biomedcentral.com/articles/10.1186/s40104-018-0270-0>
https://www.pig333.com/articles/how-important-is-fiber-on-the-sow-diet-for-farrowing-and-colostrum_15069/

Importance of Water in a Pig's Diet

Although not a feed nutrient per sé, water is **one of the most important components** of a feeding program for swine. Vital to all body functions, water accounts for as much as 80% of body weight in pigs at birth, declining to about 50% at market.

Growing pigs can drink upwards of 10 litres of water per day during hot weather. Clean water should be available and easily accessible at all times, whether provided by a drinker nipple or in tubs or troughs. The quality of this water should be considered as well.

Water testing is available from numerous laboratories in Saskatchewan, which can be viewed at the following link: <https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/livestock/livestock-and-water-quality/water-testing-and-feed-contacts-laboratories-and-companies> .

What should I feed my pigs?

Pigs can be raised on a wide variety of feeds, as long as the finished diet meets the nutritional requirements for their stage life or stage of production. The simplest way to raise pigs to market weight and meet the appropriate nutritional requirements is by purchasing commercial feed from a feed store, changing the diet purchased as the pigs grow and their requirements change. Please consult with a swine nutritionist if you plan on formulating your own diet. A list of companies offering swine nutritional advice can be **found on page 28 of this guide**.

Avoid feeding mouldy feed to the pigs. The mycotoxins produced by some moulds and fungi (there are many different types) can cause growth problems, vomiting and diarrhea, and even death. Mycotoxins can cause significant reproductive issues when feeding sows. Please note that feed containing mycotoxins does not always appear 'mouldy.'

Producers are encouraged to submit a sample for mycotoxin and ergot screening for any feed which is not purchased from a feed store. In Saskatchewan, samples may be sent to [Prairie Diagnostic Services](#), 52 Campus Drive, Saskatoon, SK Tel: (306) 966-7316. The lab can provide water and feed testing for the following:

Mycotoxin panel (12 mycotoxins)	Vitamins
Ergot alkaloid panel (6 alkaloids)	Minerals
Heavy Metals	Nitrates
	Pathology

Pigs need a certain amount of fiber in their diet and are able to digest some forage or pasture. While a good pasture can contribute to their nutrient requirements, it's important to understand that the role of pasture in a pig's diet is not the same as the role of pasture in a cow's diet.

Where cows and other ruminants are built to turn forage into meat or milk, pigs are not. Pigs will enjoy and appreciate access to pasture but will not be able to survive on pasture alone and need access to a balanced ration that meets their requirements in order to remain healthy and productive.

Can producers feed their animals food scraps?

Producers, including small scale pig farm owners, are reminded that it is illegal to feed pigs international waste (leftover food garbage from ships or airplanes) because contaminated food and garbage can spread ASF and other highly contagious swine diseases (for example, foot-and-mouth disease, classical swine fever and zoonotic diseases such as Trichinellosis) into Canada.

It is illegal to feed meat to pigs under the CFIA's *Health of Animals Regulations*; this includes all pet foods that contain meat or meat by-products and food waste containing meat.

In general, producers should avoid feeding pigs any waste/kitchen food scraps that may have come in contact with meat products. Although harmless to humans, in the rare event that an item of food had even a trace amount of the virus, it could infect pigs if fed to them.

More information on recycled food products can be found at the Government of Canada website.
<http://www.inspection.gc.ca/animals/feeds/regulatory-guidance/rg-1/chapter-3/eng/1329319549692/1329439126197?chap=19>

Whether it be "organic", "only produce", "just fruits" or "still good", **food waste can be contaminated with diseases** that could kill pigs and destroy Canada's pork industry.

"The recent escalation of the African swine fever epidemic around the world has placed the majority of the world's swine population under direct threat".
– World Organization for Animal Health (OIE)

African swine fever is not a threat to human health.



Help us keep pigs safe by never offering food waste to farmers. It's just not worth the risk.

Approved feed ingredients can be found in Schedule IV and V of the Federal Feed Regulations Act, available at:

<https://www.inspection.gc.ca/animal-health/livestock-feeds/approved-ingredients/eng/1322975007194/1322975281243>

Feed testing laboratories in Saskatchewan:

<https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/livestock/livestock-and-water-quality/water-testing-and-feed-contacts-laboratories-and-companies>

How much should my pigs eat?

How much a pig will eat is largely dependent on their breed and sex, age, stage of growth and what they are being fed. Feed intake may be higher than anticipated if the feed is nutritionally inadequate (particularly in energy).

Table 2 provides a few general guidelines. Keep in mind **that these feed amounts are based on daily intake – if feeding occurs twice daily**, feed half the amount at each feeding. If you are feeding multiple pigs, be sure that there is enough space for all the pigs to eat at the feeding trough at one time.

Table 2: Feeding requirements of pigs corresponding to animal weight/age

Animal weight / age	Feed Requirement per day/per pig	Protein Content of Feed Required per day/per pig
18kg (40lbs) pig About 8 weeks of age	0.7 - 0.9kg (1.5 – 2 lbs)	18% (pelleted grower feed)
35kg (75 lbs) About 12 weeks of age	1.1 – 1.35kg (2.5-3 lbs)	16% protein feed
55 – 60kg (125 lbs) About 16 weeks of age	1.8 – 2.3kg (4- 5 lbs)	16% protein feed
80kg (175 lbs)	1.8 – 2.3kg (4- 5 lbs)	15% protein feed
110 – 115kg (250lbs)	Gradually increase feed so pigs are getting 2.7 – 3.2kg (6- 7 lbs) per day	14-15% protein fee

For growing pigs, **increase the amount of feed the pigs are getting gradually** as the pigs grow (weekly, for example). Assuming they are being fed set amounts a couple of times per day rather than free feeding (i.e. feed always available), keep an eye on whether the pigs are cleaning up their feed within 20-30 minutes. If there is feed left over, decrease the amount they are being given. If they are cleaning everything up and are still hungry, increase the feeding amount.

Remember, pigs raised outdoors will need more feed than pigs raised indoors in a controlled temperature environment, particularly in colder weather to maintain their body temperature.

Feeding the Sow

Gestating Sows

- During gestation, feeding levels of 1.8 to 2.5 kg/day will be satisfactory.
- The heavier the sow, the greater the maintenance requirement and the greater the amount of feed required - for example, energy requirements increase by about 5% (0.1 kg of feed/day) for each 10 kg increase in body weight.
- 'If there was an overall guiding principle for dry sow feeding, it would be "do NOT overfeed sows during gestation" since it lowers feed intake during lactation.

Lactating Sows

- Nutrient requirements of the lactating sow are three times higher than during gestation.
- The average sow requires 2 kg of feed/day for maintenance and 0.5 kg/pig nursed.
- Do not compromise on water. Accessibility to water can limit lactation feed intake so ensure that water flow rates are at least 2 litres/minute.

Feeding a pig can be as complicated or as simple as you make it, but the key is to make sure the nutritional needs of the animal are being met for the growth stage, while keeping costs as low as possible. A poorly balanced diet will result in pigs which get sick more easily, grow slowly, convert feed inefficiently and produce a poorer quality carcass (too fat, low muscle mass, etc.).

We encourage you to refer to the Swine Nutrition Guide, 1995, 2nd Edition, J. F. Patience, P.A. Thacker and C.F.M. de Lange, Prairie Swine Centre, Saskatoon, SK. This is a comprehensive guide to feeding swine and is available at <https://www.saskpork.com/swine-nutrition>

Swine nutrition companies and feed suppliers in western Canada. This is not a complete list.

Proveta Nutrition, Saskatoon, SK <http://www.proveta.ca/>

Gowan's Feed Consulting, Wainwright, AB <http://gowansfeedconsulting.ca>

Masterfeeds (Humboldt, Saskatoon, Swift Current) <https://www.masterfeeds.com/dealers/>

O&T Farms, Regina, SK <https://www.otfarms.ca/>

Peavy Mart, Saskatoon, SK <https://www.peaveymart.com/Swine-Feed-C1722.aspx>

Animal Handling

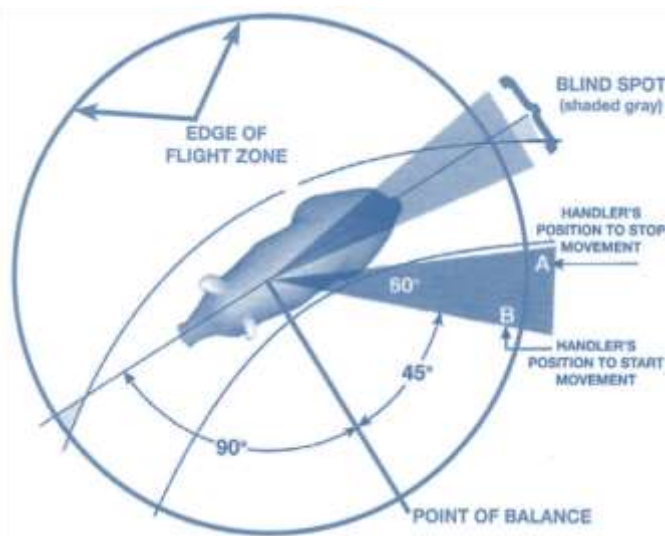
Good animal handling is achieved by understanding and working with a pig's natural behavior. Pigs are highly social animals. They like to keep in visual contact with other pigs and move better as a group rather than being singled out and moved. When moving your pigs, pay attention to the pigs' body language, and adjust your own actions to get the movement that you want. For example, if a pig's ears are up and they are twisting to keep an eye on you or jumping up on the pig in front of them to increase their distance from you, you are likely applying too much pressure and should pause to let them relax and move away from you. You want to aim to achieve a calm forward movement from the group. This is called 'flow'.

Practice good handling techniques to increase safety, reduce the risk of injury and enhance animal well-being. Daily positive contact with pigs can reduce stress during handling and make animal handling easier. Positive contact can involve a simple scratch or rub each time you are around the pigs, and being around the pigs and letting them come and interact with you. This allows the pig to become accustomed to your presence. Having positive contact with your breeding animals is very important. This will enable you to work more easily with them. When moving pigs, be patient and walk at a normal pace.

Handling Concepts

- Changes in floor surface, temperature and air flow may slow or stop pig flow/movement.
- Visual distractions such as people, moving objects, shadows or beams of light may distract their attention enough to interrupt flow.
- The flight zone is an imaginary circle which the pig considers its personal space (figure 10); this space varies with the pig's age & 'tameness', previous handling experiences, and with your actions. When you enter this zone (apply pressure) the pig will attempt to release pressure by moving away (going forward or by circling back), or bunching up with a group.
- Practice pressure and its release = this will generate movement. Failure to release pressure will result in the pig trying to find an alternate route to escape from handler pressure.

Figure 10: A Pig's Flight Zone, Point of Balance and Blind Spot



Handling tools can be used as physical or visual barriers that prevent a pig from trying to get around you, or be an auditory or visual stimulus to start movement or keep it going.

- You can use your voice to encourage pigs to move and continue moving forward, but avoid yelling.
- Sorting boards provide a visual and physical barrier, and can be simply constructed from a partial sheet of plywood with holes for handles
- Rattle paddles or shakers are useful for moving small pigs. Avoid making constant noise when moving pigs, as this can cause them to focus too much on you and inhibit movement. Paddles can also be used to tap pigs and extend the handler's reach.
- Avoid the use of electric prods or dogs to move pigs.



Smart Pig Handling Videos Series

The following videos provide training on how to safely and effectively handle pigs while minimizing stress to handlers and their animals.

<https://www.saskpork.com/animal-care-handling>

Chapter 1: **Basic Pig Behavior**

Chapter 2: **Principles of Pig Handling**

Videos were produced by Manitoba Pork with support from Sask Pork, Alberta Pork and Ontario Pork and EPQ with funding from Growing Forward 2 Alberta.

Painful Procedures and Pain Control

Pigs reach sexual maturity around six months of age. If growing pigs are beyond six months of age at the time of slaughter, it is important to be aware of boar taint. Boar taint is an unpleasant odour and taste in the fat and meat of intact male pigs. Taint lowers pork eating quality and is undesirable. Boar taint results from the accumulation of androstenone, a steroid produced as the boar reaches sexual maturity, and skatole (a by-product of gut bacteria) produced in the gut. Boar taint can be eliminated by slaughtering male pigs before they reach sexual maturity. However, if male pigs are to be slaughtered after sexual maturity, castration of male piglets is commonly performed to prevent the development of boar taint.

Castration is a painful husbandry procedure. **The earlier the animal is castrated the better.** If castration is to be performed, piglets must receive an analgesic to control post procedure pain (NFACC, 2014). Should castration be performed on pigs greater than 10 days of age, an anesthetic and analgesic should be provided (by needle or orally) to help control post-procedure pain (NFACC, 2014). Consult a veterinarian for analgesic options, and regarding the correct application procedures.

The Code of Practice for the Care and Handling of Pigs requires that as of July 1, 2016, **castration and tail docking performed at any age must be done with analgesics** to help control post-procedure pain. Also, castration performed after 10 days of age must be done with an anesthetic and analgesic to help control pain.

In Canada there are a number of non-steroidal anti-inflammatory drugs (NSAIDs) approved for swine. The following are the most practical drugs available for on-farm analgesia. These drugs are prescription products and only available from a veterinarian and require a Veterinarian-client-patient Relationship (VCPR) to sell.

- Anafen injectable solution
- Banamine injectable solution
- Ketoprofen V injectable solution
- Metacam 5 mg/ml injectable solution
- Metacam 20 mg/ml injectable solution.

Below are a few of the many options to discuss with your licensed herd veterinarian prior to implementing your analgesic program:

Piglets ≤ 10 days of age

Option 1

- Injection of Metacam 5
- Administer 0.15 ml IM (Intramuscular) per piglet at castration and tail-docking

Option 2

- Injection of Metacam 20 + Sterile Water
- Mix 9 ml of Sterile Water with 1 ml of Metacam 20
- Administer 0.5 ml IM per piglet at castration and tail-docking

Option 3

- Orally administer Meloxicam Oral Suspension + Sterile Water
- Mix 14 ml of Sterile Water with 1 ml of Meloxicam Oral Suspension
- Administer 1.0 ml PO (per os/ oral) per piglet at castration and tail-docking

Piglets > 10 days of age

Option 1

- Injection of Metacam 5 + Lidocaine HCL 15 minutes prior to castration
- Administer 0.15 ml of Metacam 5 IM per piglet at castration and tail-docking
- Administer 1.0 ml of Lidocaine HCL in each of the testicles* prior to castration and tail-docking

Option 2

- Injection of Metacam 20 + Sterile Water + Lidocaine HCL 15 minutes prior to castration
- Mix 9 ml of Sterile Water with 1 ml of Metacam 20
- Administer 0.5 ml of the sterile water Metacam 20 mix IM per piglet at castration and tail-docking
- Administer 1.0 ml of Lidocaine HCL in each of the testicles prior to castration and tail-docking

Option 3

- Orally administer Meloxicam Oral Suspension + Sterile Water + Lidocaine HCL 15 minutes prior to castration
- Mix 14 ml of Sterile Water with 1 ml of Meloxicam Oral Suspension
- Administer 1.0 ml of the water and meloxicam oral suspension mix PO per piglet at castration and tail-docking
- Administer 1.0 ml of Lidocaine HCL in each of the testicles prior to castration and tail-docking

Please consult with a veterinarian to receive advice and if needed, training, on the correct administration of pain control.

Source: Canadian Pork Council

Pig Health and Well-Being

Animal health is essential to animal well-being. Take the time to learn the basics of pig behaviour and normal appearance so you can more easily recognize signs of illness, injury or disease. Abnormal behavior/signs indicating illness or pain may include:

- Lying still when approached or slow movement
- Inability or unwillingness to move, stand, or use a limb
- Isolation
- Drooping head and ears, dull eyes
- Red, swollen, or hot joints
- Elevated heart and respiratory rate
- Vocalization, i.e. squealing when moved
- Shaking/shivering

Animal health is affected by many factors, including housing, sanitation, nutrition, and other management practices. Working with a veterinarian to establish vaccination, deworming, and herd health protocols is the first step. A vet can also provide good advice on the prevention and treatment of disease, as well as information on aspects of production such as record keeping, biosecurity, and euthanasia.

Pigs should be monitored daily for signs of illness or injury, and more often in some situations, e.g. inclement weather or during farrowing, and should be treated promptly. Sick pigs that cannot compete must also be isolated in a separate area where they can be treated, and not have to compete for lying space, feed, or water.

Controlling Parasites

Rearing pigs outdoors increases the chances of parasitological problems substantially due to the favorable conditions for growth and survival of different stages of parasites in surrounding environment. Possibility to contact with wild animals as a potential reservoir of parasites or intermediate host of parasite is also high.

These systems therefore need to put additional measures in place to reduce the likelihood of infection by the parasite:

- Treat newly purchased pigs with an Avermectin product while they are in quarantine. Also, treat all pigs in the herd twice a year for routine parasite prevention.
 - Avermectin products that are used to control external (skin) parasites are also effective against intestinal worms.
 - Always follow label directions for treatment to give the correct dose and ensure that the drug withdrawal period is over before pigs are slaughtered.
- The eggs of intestinal worms (ex. *Ascaris suum*) may remain infective in soil for many years, so while pasture rotation can be helpful, deworming is recommended.
 - Herds with breeding stock should deworm sows 1 to 2 weeks prior to farrowing.
 - Use pastures that are well drained.

Ref: Swine Health Handbook for Yukon Farmers

http://www.emr.gov.yk.ca/agriculture/pdf/Swine_Health_Handbook.pdf

Foodborne Disease Risks

Some parasites can cause diseases in humans. These parasites can be transmitted from affected animals to humans and pigs. The two major concerns in the Canadian pork industry include *Trichinella* and *Toxoplasma*.

Trichinella larva locates itself in cysts within the muscle of infected pigs. Feeding food waste or garbage to pigs is risk factor for *Trichinella* and this is the reason this practice is illegal in Canada. Humans can be infected by consuming undercooked meat of animals that contain cysts caused by the *Trichinella* parasite. Cooking pork to the end internal temperature of 71°C (160°F) is recommended to prevent illness in humans.

Toxoplasma is another parasite that can infect pigs. People can get the disease by coming into contact with feces from infected cats, or by eating affected meat that has not been fully cooked. Toxoplasmosis can cause severe problems for people with a weakened immune system and for pregnant women.

Factsheets on these parasites are found on pages 37 (Toxoplasmosis) and 40 (*Trichinella*) of this guide. Also visit the Canadian Pork Council website at www.cpc-ccp.ca for more detailed information on Trichinellosis and Toxoplasmosis.

Swine Diseases

Swine diseases can be spread in a number of ways, including:

- Through diseased swine or healthy swine incubating disease;
- Through animals other than swine (wild boar/pigs, farm animals, pets, wild birds and other wildlife, vermin and insects);
- On the clothing and shoes of visitors and employees moving from farm-to-farm;
- In contaminated *feed*, water, bedding and soil;
- From the carcasses of dead animals;
- On contaminated farm equipment and vehicles; or
- In airborne particles and dust blown by the wind.

Indicators of an Emergency Disease Situation

Contact a veterinarian immediately if:

- There is a high number of sick or dead pigs;
- You notice severe and/or bloody diarrhea;
- You notice nervousness or behaviour changes;
- You notice a severe hacking cough;
- Pigs are lethargic, listless or depressed; or
- There is a rapid spread of signs/symptoms

References:

The NS Poultry Emergency Response Committee, 2006
Biosecurity for Organic Livestock Producers - <http://www.dpi.nsw.gov.au/factsheets>

To find a **swine veterinarian or clinic** in your region contact the Saskatchewan Veterinarian Medical Association online at <http://saskvets.ca/cms/index.php?p=skvets-find-a-clinic>

Federally Reportable Swine Diseases in Canada – 2019

Visit the Canadian Food Inspection Agency website for more detailed information on reportable diseases
<http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/2019/eng/1329499145620/1329499272021>

Notifiable Livestock Diseases in Saskatchewan

<https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/livestock/animal-health-and-welfare/notifiable-disease-list>



F8 | TOXOPLASMA

WHAT IS TOXOPLASMA?

Toxoplasma gondii is a parasite that can cause the disease toxoplasmosis in humans. The parasite can be transmitted from affected animals to humans and pigs.

Although the disease causes no symptoms in most people, toxoplasmosis can cause severe problems for people with a weakened immune system and for pregnant women.



WHY BE CONCERNED ABOUT TOXOPLASMA?

- *Toxoplasma* can cause illness in humans ranging from flu-like symptoms to death, miscarriage, congenital birth defects and blindness.
- It can also cause reproductive failure in sows, including spontaneous abortion.

HOW DOES INFECTION OCCUR?

- The most common way that people or pigs acquire the parasite is through contact with affected cat feces.
- People can get the disease by coming into contact with feces from infected cats, or by eating affected meat that has not been fully cooked, or eating unwashed, contaminated vegetables, or drinking contaminated water. See Figure 1.

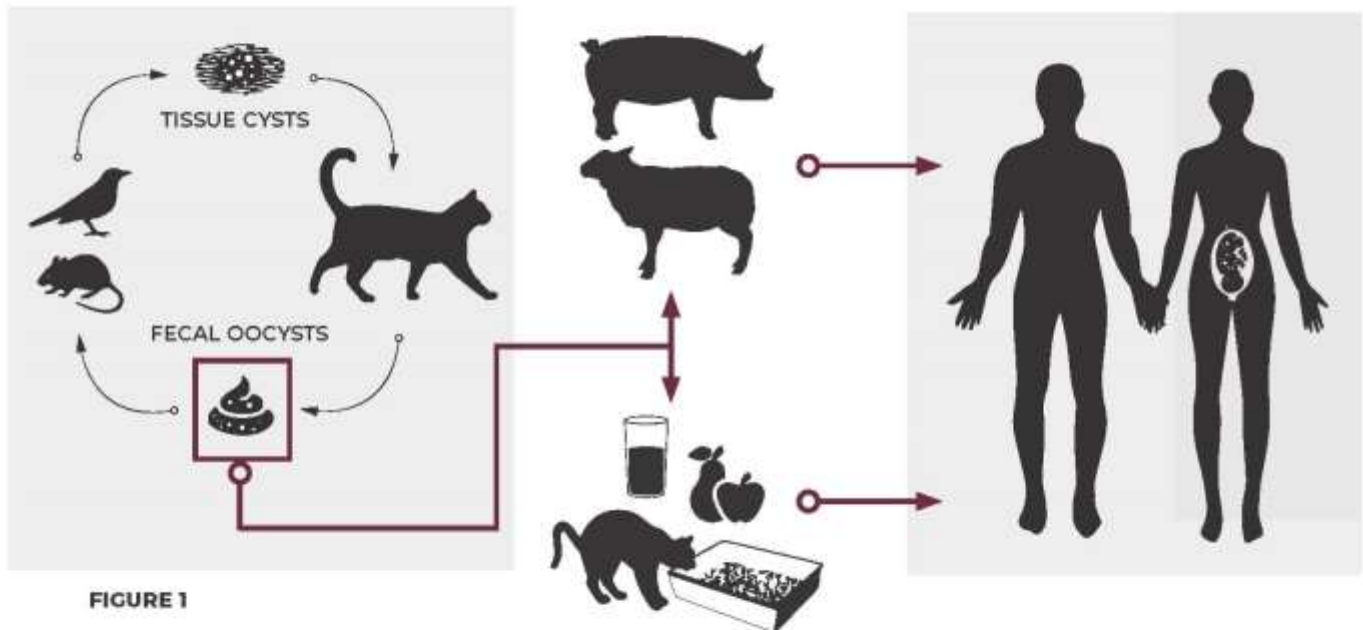


FIGURE 1

WHY CATS SHOULD NOT BE USED AS A RODENT-CONTROL METHOD?

- While cats are considered by some people to be a useful rodent-control method, the rodents they ingest often carry parasites, such as *Toxoplasma*. *Toxoplasma* parasites are highly prevalent in the cat population.
- Although all cats are a risk factor, young cats and cats with weakened immune systems, such as those pregnant and lactating, are at the highest risk of shedding the parasite. Actively-shedding cats can shed thousands of parasites through their feces into the environment. The parasites can survive for more than a year in the environment.
- Pigs that ingest affected feces may develop cysts in their muscle that, if consumed by people in undercooked meat, can cause toxoplasmosis in humans.

HOW DO I PREVENT TOXOPLASMA ON-FARM?

- Do not allow cats to have access to stored feed and pig housing areas.
- Wash your hands after coming into contact with cats, cat feces and cat litter boxes.
- Do not handle placenta or aborted material from sows with bare hands. Wear gloves.
- Dispose of placenta and aborted material in a manner that prevents further animal contact.



PORK PREPARATION

Cooking pork to the recommended end internal temperature of 71°C (160°F) ensures it is safe to eat, even in the presence of *Toxoplasma*.

FOR LINKS TO ADDITIONAL INFORMATION ON TOXOPLASMA, REFER TO THE ELECTRONIC FACT SHEET AVAILABLE ON THE CANADIAN PORK COUNCIL WEBSITE.



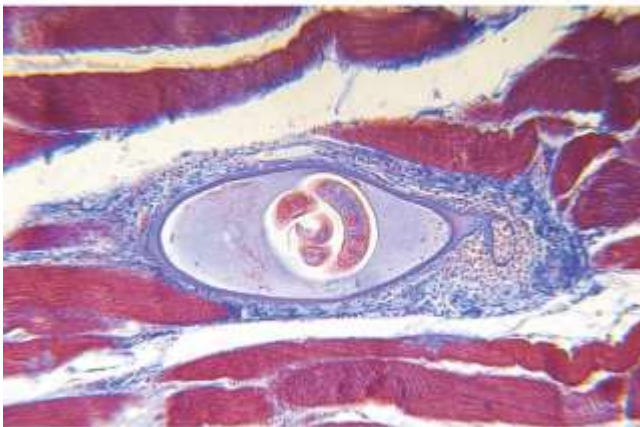
F9 | TRICHINELLA

WHAT IS TRICHINELLA?

Trichinella is a parasite that can cause the disease trichinellosis in humans. The parasite can be transmitted from affected animals to humans and pigs. Among the various species, *Trichinella spiralis* is the most significant one. It is a small roundworm and its infectious form, the larva, locates itself in cysts within the muscle of infected animals, including pigs.

WHY BE CONCERNED ABOUT TRICHINELLA?

- *Trichinella* is a food safety and public health risk, and the presence of trichinella is a barrier to trade.
- Although there is no recent evidence of *Trichinella* being present in the domestic pig population in Canada, the severity of its potential impact on human health means that we need to be ever-conscious of it and ensure that we have risk mitigation strategies in place to prevent its occurrence.
- The severity and duration of trichinellosis vary. If the infection is severe, patients may have difficulty coordinating movements and experience heart and respiratory problems. In very severe cases, death can occur.
- Less severe symptoms can include nausea, diarrhea, other gastrointestinal issues, fatigue, fever, flu-like symptoms, swelling of the face and eyes, aching joints and muscle pains.



HOW DOES INFECTION OCCUR?

- The domestic cycle of the parasite includes animals such as pigs, which are very susceptible to *Trichinella*. Within this cycle, susceptible animals can become infected by coming into contact with the parasite through infected meat, infected rodents, or contaminated soil. See Figure 1.
- Feeding food waste or garbage to pigs is another risk factor for *Trichinella* and is illegal in Canada.
- Humans can be infected by consuming undercooked meat of animals that contain cysts caused by the *Trichinella* parasite.

WHICH FARMS NEED TO PAY EXTRA ATTENTION TO TRICHINELLA PREVENTION?

- When pigs are raised outdoors, they have access to more potential sources of contamination.
- *Trichinella* can infect all mammals, and is more common in wild animal populations, such as wild pigs, bears, skunks, raccoons, rodents, and other scavenging carnivores. *Trichinella spiralis* has been shown to survive up to four months in infected, dead animals, and can also survive in soil for long periods of time. See Figure 1.
- It is much more difficult to prevent pigs that are raised outdoors from coming into contact with the parasite, especially in areas with a lot of wildlife. These systems therefore need to put additional measures in place to reduce the likelihood of infection by the parasite.
- Rodents can also be carriers of *Trichinella* and the exclusion/control of rodents is an important mitigation strategy.

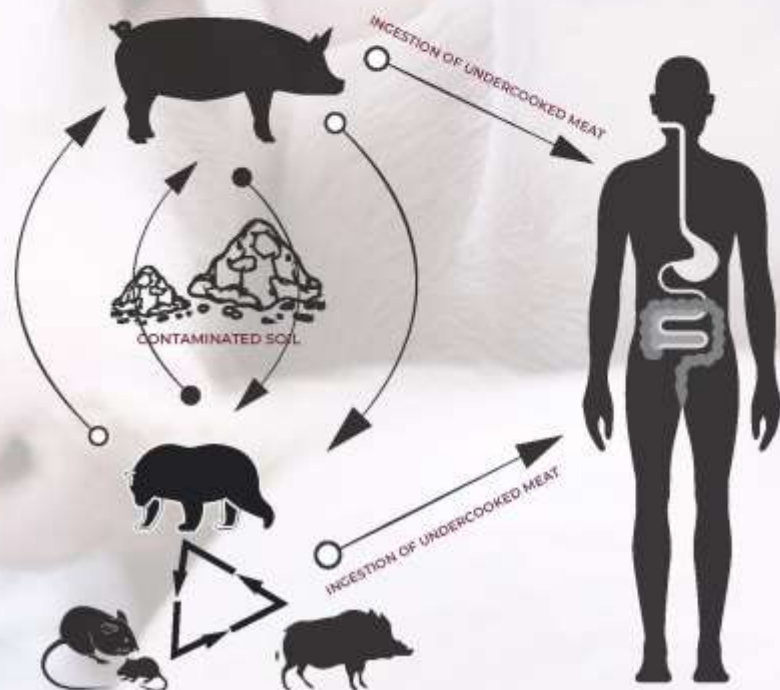


FIGURE 1

HOW DO I PREVENT TRICHINELLA ON-FARM?

- Ensure outdoor facilities are surrounded with fencing that prevents wildlife from having access to pig housing facilities.
- If wild animals are present, take appropriate actions to deter them. Prevent exposure to rodents and wildlife.
- Design and locate the feeding areas to make it difficult for wildlife and rodents to access feed.
- Be vigilant about controlling rodents. For example, use additional bait stations.



PORK PREPARATION

- Cooking pork to the recommended end internal temperature of 71°C (160°F) ensures it is safe to eat, even in the presence of *Trichinella*.

FOR LINKS TO ADDITIONAL INFORMATION ON TRICHINELLA, REFER TO THE ELECTRONIC FACT SHEET AVAILABLE ON THE CANADIAN PORK COUNCIL WEBSITE.





No treatment is currently available for African swine fever (ASF). Let's work together to keep our pigs healthy and diseases such as African swine fever away from Canada.

AFRICAN SWINE FEVER

African swine fever is caused by a very contagious virus and is killing pigs and wild boars in Africa, Asia and parts of Europe.

Enhanced safety measures are the most important steps you can take to prevent this, or any disease, from contaminating your animals.

- **Do not feed meat products to pigs; this is prohibited in Canada.** Kitchen waste, fruits and vegetables might have been in contact with infected meat that can make your pigs sick.
- **Ensure you dispose of food waste** where other animals, including pets and wild pigs, do not have access to it.
- **Minimize contact with wildlife.** Although ASF is not currently present in Canada, in domestic or wild pigs, wild pigs can carry and spread the virus and other diseases.
- **Know the origin of your pigs' feed ingredients** and source feed from suppliers with quality assurance programs.
- **Review your biosecurity plan.** Wash your hands, wear clean clothing and barn/pen dedicated boots when caring for your animals.
- Talk to your neighbours and friends about the **importance of respecting these measures to keep your pigs safe.**
- **Contact your veterinarian immediately if you suspect your pigs are sick and could be infected.**

BIOSECURITY IS KEY TO KEEP DISEASES AWAY FROM THE CANADIAN PIG POPULATION.

Although humans cannot be infected with African swine fever, they are the most likely source of introducing the virus into Canada through contaminated meat products, clothing and footwear.

Quite hardy, the virus can persist for a long time in the environment, carcasses and in a variety of pork products.

ASF has not been reported in Canada. Everyone has a role to play to ensure the country remains virus-free.

- When visiting other countries, **do not bring back any meat products.**
- **Wash all clothing and footwear** immediately after use in other countries.
- **Prevent access to your animals**, especially contact with visitors returning from affected countries.

Learn more about the virus and the risk factor to Canada and what the industry is doing to prevent African swine fever from coming into the country at www.cpc-ccp.com/african-swine-fever.



AFRICAN SWINE FEVER WHAT TO LOOK FOR

African swine fever (ASF) is one of the most severe viral diseases of pigs. It affects pigs of all ages but cannot infect humans. No cure or vaccine exists for this virus.

Although no cases of African swine fever have been reported in Canada, prudent action and quick detection will mitigate the spread and benefit the entire industry if the virus was to be introduced in Canada.

IF YOU SUSPECT YOUR HERD IS SICK

- **Contact your herd veterinarian immediately** if you see any clinical signs in pigs on your farm that could be associated with an ASF infection.
- **Stop all pig movements.** Never move, sell or send to livestock auctions/yards sick or compromised pigs from your farm. This will prevent further spread of infections.
- **Implement a self-quarantine** on all animals, feed and equipment until you know the cause of the illness.

SIGNS OF AFRICAN SWINE FEVER IN PIGS

- High fever (>40°C)
- Weakness and difficulty standing
- Vomiting
- Diarrhea (may be bloody)
- Red or blue blotches on the skin (particularly around ears, snout and hindquarters)
- Coughing or labored breathing
- In sow barns: miscarriage, abortions, stillbirths, and weak litters can occur
- High proportions of the animals with the disease will die within 10 days.

April 2019



More information about African swine fever can be found at www.cpc-ccp.com/african-swine-fever



Your pigs are vulnerable to the deadly **AFRICAN SWINE FEVER** virus.



Take necessary precautions to protect your animals.

DO NOT FEED HUMAN FOOD WASTE OR MEAT TO YOUR PIGS!

Although this virus cannot infect humans, even a trace amount from a contaminated pork product can kill your pigs and spread the disease. Be wary of where you dispose of your food waste so other animals, including wild boars, do not have access to it.

If you feed your pig fruit and vegetables, make sure they have never entered a kitchen or been in contact with meat or products of animal origin.



The virus can survive in fresh pork, processed pork products including cured, air dried, salted or smoked products for up to 300 days and even 1,000 days in frozen pork. The virus can kill pigs if ingested.

TRAVELLERS BEWARE! African swine fever can be transmitted to pigs through contaminated food and by contaminated items such as clothing and footwear.

- When you travel, **never bring back meat or pork products into Canada.**
- **Wash all clothing and footwear immediately after use in other countries.** Even better, if you visit a farm or animals, don't bring them back to Canada!



Although African swine fever is not currently present in Canada, wild boars can very easily spread a host of diseases to your pigs. If they have access to the outdoors, **TAKE THE NECESSARY PRECAUTIONS SO YOUR PIGS NEVER COME INTO CONTACT WITH WILD PIGS!**

African swine fever is very contagious & is killing pigs and wild boars in Africa, Asia and parts of Europe. No treatment is currently available. **Let's work together so African swine fever does not make its way to Canada!**

A message from the Canadian Pork Council. For more information: www.cpc-ccp.com



PORK DOES NOT BELONG IN BARNES!

Diseases such as **African swine fever**, are highly contagious and cause high mortality in pigs.



African swine fever can be spread through contaminated pork products.

**Protect the pigs,
protect the industry!**

Never bring any pork or pork products onto farm premises

ENJOY PORK AT HOME, NOT IN THE BARN!



Euthanasia

Occasionally pigs will need to be euthanized if they are severely injured or not responding to treatment. Sick and injured pigs must not be allowed to be in discomfort and must be treated promptly or euthanized. If euthanasia by a veterinarian is not an option, euthanasia must be carried out in a manner that results in an immediate loss of sensibility with minimal pain and distress for the animal.

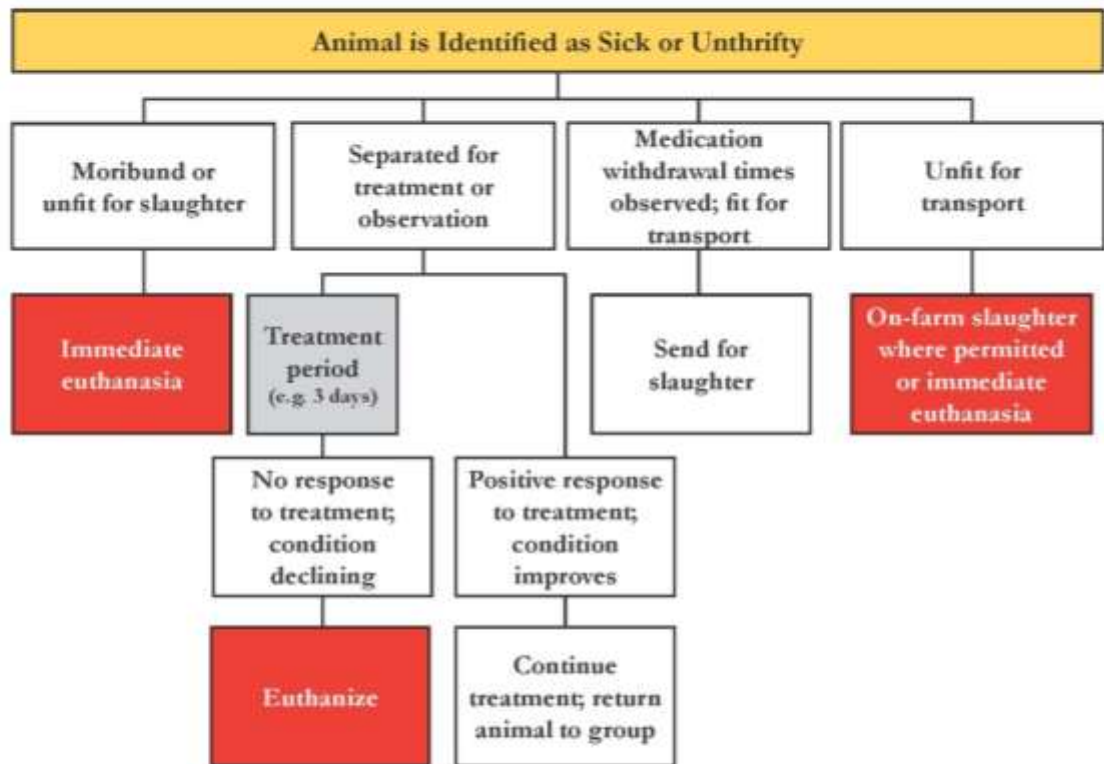
Ensure that the individual performing euthanasia is trained, experienced and understands the guidelines as to when an animal must be euthanized. [Refer to the Code of Practice Appendix J – Example Decision Tree for Euthanasia on the following page.](#) Ensure that you have the proper equipment and training to effectively complete the task in a way that causes the least possible pain and distress to the animal.

General considerations when euthanizing on farm:

- Pigs under 5 kg or 3 weeks of age can be killed humanely by blunt trauma that destroys the brain.
- Pigs over the age of 3 weeks can be euthanized by captive bolt or gunshot.
- Whenever possible, euthanasia should be performed where other livestock are not present.



Example of Decision Tree for Euthanasia



Examples of criteria for euthanizing weanling or growing pigs (42):

- weak, unable to stand
- unable to eat or drink
- moderate to severe lameness
- fractured leg
- severely damaged digits
- infected tail, ear, or flank bites
- severe rectal prolapse (protruding or damaged)
- postnatal development of scrotal, inguinal, or umbilical hernia
- repaired hernia with abscessation, moderate swelling, or continued drainage
- severe body weight loss (20% or greater)
- severe diarrhea with dehydration (no response to treatment in 2 or more days)
- respiratory disease with difficult or laboured breathing (no response to treatment in 2 or more days)

Source: Developing on-farm euthanasia plans (42)
Code of Practice for the Care and Handling of Pigs 2014



Methods of Euthanasia

The following is a list of acceptable and unacceptable methods of euthanasia of individual animals for use on-farm, as well as methods that are only considered acceptable with the noted conditions. The chart is based on the information that was available at the time of publishing¹. For any method to be considered acceptable, it must render the animal immediately insensible and the animal must not return to sensibility prior to death. Individuals who euthanize pigs must be trained in the appropriate methods.

Weight of Pig →	< 2.3kg (< 5lbs)	2.3kg to 9kg (5lbs to 19.8lbs)	9kg to 32kg (19.8lbs to 70lbs)	32kg to 68kg (70lbs to 150lbs)	68kg to 120kg (150lbs to 264lbs)	120kg to 200kg (264lbs to 440lbs)	> 200kg (> 440lbs)
Euthanasia Method ↓							
Anesthetic Overdose ²	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable
Blunt Trauma	Conditional ³	Conditional ³	Unacceptable	Unacceptable	Unacceptable	Unacceptable	Unacceptable
Electrocution	Unacceptable	Conditional ⁴	Conditional ⁴	Conditional ⁴	Unacceptable	Unacceptable	Unacceptable
CO ₂ and/ or Argon Inhalation	Conditional ⁵	Conditional ⁵	Conditional ⁵	Unacceptable	Unacceptable	Unacceptable	Unacceptable
Non- Penetrating Captive Bolt	Acceptable ⁶	Acceptable ⁶	Unacceptable	Unacceptable	Unacceptable	Unacceptable	Unacceptable
Penetrating Captive Bolt ⁷	Unacceptable	Unacceptable	Acceptable	Acceptable	Acceptable	Conditional ⁸	Conditional ⁸
Gunshot to the Head ⁹	Unacceptable	Unacceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

- Further research under the oversight of a regulated research body may result in new, acceptable equipment and/or euthanasia methods that may be developed and become available during the life of this Code.
- Administered under the direction of a licensed veterinarian only.
- Blunt trauma can be administered by grasping the hind legs of the piglet and striking the top of the cranium firmly and deliberately against a flat, hard surface. Alternatively, a sharp, firm blow with a heavy blunt instrument to the top of the head over the brain can be used. Sufficient force should be used to euthanize the piglet in one attempt. Alternative methods should be actively considered to ensure that criteria for euthanasia can be consistently met.
- Electrocution of animals must be performed using properly-maintained, proven effective, purpose-designed equipment only. The electric current must flow through the brain first, resulting in insensibility and then through the heart which results in cardiac arrest. This can occur either simultaneously in one step, or by using a two-step method with electrocution to the head performed first.
- Animals must be heavily sedated before introduction to gases. This form of euthanasia is acceptable only with properly-maintained, proven effective, purpose-designed equipment.
- Non-penetrating captive bolt euthanasia may not be used unless the manufacturer specifies that the equipment is designed for the animal's weight range. A secondary method of euthanasia may be required depending on the type of equipment used, after the animal becomes insensible. For pigs at the heavier end of this weight range, a penetrating captive bolt will be more effective.
- It is critical to ensure proper placement and aim of the penetrating captive bolt since the brain is relatively small and well protected. (45) When using the captive bolt method, the frontal site is the only acceptable location.
- Pigs >120kg (>265lbs) in weight require a secondary method (e.g. reapply the captive bolt, pithing, bleeding) that is performed after the animal becomes insensible.
- Proper placement and aim of the firearm is critical since the brain is relatively small and well protected. Gunshot can be applied to the frontal site, the temporal region, or from behind the ear directed diagonally toward the opposite eye. When performing euthanasia with a firearm, choosing a safe location to ensure that bystanders are safe is critical. All personnel should always be positioned behind the shooter. (45)

Transportation

Transportation should be planned and scheduled to minimize the amount of time animals spend on a trailer. The handling and loading equipment, and the trailer should be designed, maintained, and bedded to prevent injury.

Only animals that are fit should be loaded and transported; this is legislated by provincial and federal law. Fitness for transport must be evaluated in the context of each anticipated trip, including relevant factors such as total trip duration and weather conditions.

Unfit animals include, but are not limited to:

- Those that are sick, injured, weak, disabled, or fatigued
- Those that cannot be moved without causing additional suffering.
- Those that are unable to stand unaided and that cannot bear weight on all four legs.
- Animals that have/are:
 - Open wounds
 - Severe rectal, vaginal, or uterine prolapses
 - Hernias that impede movement, hernias larger than 8" in diameter, or hernias of any size with damaged skin (wounds, scrapes, abrasions, or infections)
 - Head tilts or balance problems
 - Thin animals whose body condition may result in poor welfare (i.e. sows of BCS<2)

For more information, refer to Appendix L "Should This Pig Be Loaded?" Decision Tree- from the Code of Practice for the Care and Handling of Pigs.

Slaughter

Knowing when to bring pigs to market can be challenging. What the desired market weight is will depend on what the end product will be. How long it will take to reach that market weight will vary greatly depending on the breed and how the pigs have been fed. When planning for slaughter and processing, there are a few things to think about in advance.

- If the pigs will be slaughtered off farm, transportation to the slaughterhouse needs to be considered. The Transportation section of the Code of Practice for the Care and Handling of Pigs defines fitness for transport and requires that fitness for transport be evaluated in the context of each trip, including trip duration, weather conditions and animal factors.
- Prior to taking animals to slaughter ensure that proper withdrawal times are being followed for any drugs or medications (feed or water) including Non-Steroidal anti-inflammatory drugs (NSAIDs) that have been administered.
- There are a few options around how to have pigs slaughtered. They can be slaughtered on farm, at a health licensed abattoir, at a domestically inspected abattoir or a federally inspected abattoir. Where the animal is slaughtered has direct effect on where products can be marketed. From a food safety perspective, a domestically or federally inspected facility is the best option as each animal will undergo ante and post mortem inspection.
- To market your animals to a federally inspected abattoir, you must be certified in the national producer food safety and animal welfare programs, which are currently being rebranded under the name Canadian Pork Excellence. Information about these programs is available at the Canadian Pork Council Website: <http://www.cpc-ccp.com/canadian-pork-excellence>.
- Lists of both Health licensed and domestically inspected abattoirs can be found at the Government of Saskatchewan website, at the following link: <https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/programs-and-services/livestock-programs/domestic-meat-inspection-program>
- Arrangements must be made with an abattoir well in advance. Not all abattoirs slaughter and process hogs. Also, many abattoirs do not actually purchase hogs but will only custom process for a fee. **It is important to have your market secured before breeding/purchasing any pigs!**
- Abattoirs should also be asked about their ID preferences (i.e. tagging vs tattoos).
- Animals slaughtered on farm can only be sold at the farm gate. The meat from these animals cannot be sold to restaurants, grocery stores or at farmers markets.
- Animals slaughtered at Health licensed or domestic abattoirs can be sold into restaurants, retail or at farmers markets across Saskatchewan. Some retail chains will require domestic or federal inspection. Hospitals also require that meat come from inspected abattoirs (either domestic or federal inspection). To sell meat outside of Saskatchewan you must use a federally inspected abattoir and processing facility. **Know your markets and their requirements prior to slaughter.**

PigTrace Program and Registration

This is an industry led, pig traceability initiative designed to ensure protection, prosperity and peace of mind for the Canadian pork industry and its customers. The program is mandated by federal law, and came into effect on July 1, 2014 by amendment to the federal *Health of Animals Regulations*. Pig Trace is administered by the Canadian Pork Council and enforced by the Canadian Food Inspection Agency.

Requirements

1. Animal identification is required for movement of animals. Different types of movements or animals require different identification, i.e. Movement of pigs to slaughter requires a tattoo number (herdmark) applied to the pig with either a shoulder slap tattoo or animal paint/stencil method, or a Pig Trace ear tag with either the herdmark or individual ID number.
2. Report all incoming and outgoing pig movements to PigTrace within 7 days (after movement).

Tags can be ordered online through Pig Trace <https://pigtrace.traceability.ca/login/request-account> and small quantities are available through Sask Pork (306) 244-7752. It is a good idea to obtain tags in advance as provincial abattoirs will not slaughter pigs that do not have the proper ear tag or tattoo.



Premises Registration & Traceability

The Saskatchewan Premises Identification (PID) system is an integral part of Canada's traceability system. PID facilitates linking livestock and poultry to geographic locations. It is critical to accurately prepare for, respond to and recover from animal health issues and emergencies.

PID is one of the three pillars of a livestock traceability system. The other two pillars are animal identification and animal movement reporting. The national traceability system is expected to encompass all livestock and poultry species produced in Canada.

Any premise that raises pigs must be registered, including farmers with one or two pigs. A registration form has been included at the end of this guide in Appendix 2. Please return the completed form to Sask Pork at info@saskpork.com or fax to (306) 244-1712 to register for a premises ID and to apply for a PigTrace account.



*Protection. Prosperity. Peace of Mind.
Protection. Prospérité. Tranquillité d'esprit.*

PigTrace Program Summary

This information sheet is intended to provide a quick summary of the main program elements. PigTrace is an industry led, pig traceability initiative designed to ensure protection, prosperity and peace of mind for the Canadian pork industry and its customers. The program is mandated by federal law, which came into effect on July 1, 2014 by amendment to the federal *Health of Animals Regulations*.

Requirements (*remember to register an account with PigTrace, see page 2)

(1) Report all incoming and outgoing pig movements to PigTrace within 7 days (after movement).

Internet: login to www.pigtrace.ca (computer or mobile)
Fax: 1-877-301-6710 (manifest sheets are available, but any format may be used)
Phone: 1-866-300-1825

- Information to report:
 - origin and destination locations
 - date & time of departure or reception
 - license plate of vehicle or trailer (if tandem unit)
 - number of pigs
 - animal identification (*where applicable, see below)

(2) Animal identification required for certain types of movements:

- Weaners and feeder pigs going from a **farm to another farm** do not require animal identification
*note: sows and boars require the 15-digit PigTrace Individual ID ear tag (shown on net page)
- pigs going to **slaughter** must have either:
 - Herd Mark shoulder slap tattoo
 - PigTrace Herd Mark ear tag
 - 15-digit PigTrace Individual ID ear tag
- the 15-digit PigTrace Individual ID ear tag must be used (i.e., is the only option) when:
 - pigs are imported
 - pigs go to fair, exhibition or auction
 - sows or boars move from one farm to another farm
- pigs being **exported** must have a PigTrace ear tag or a Herd Mark ear tattoo (feeder pigs only)

*PigTrace Canada is an initiative of the Canadian Pork Council
Funding provided in part by Agriculture and Agri-Food Canada (AAFC)*



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

pigtrace.ca | portrace.ca

The program provides two options for pig identification:

- The **herd mark** is a 5-digit number assigned to a farm. It can only be used for slaughter or export movements, as it must identify the last farm of residence before slaughter or export. The herd mark may also be applied as a shoulder slap tattoo (slaughter) or ear tattoo (exported feeder pigs).
- The **individual ID** is a unique 15-digit number that is specific to every pig. This can be used to identify pigs going anywhere.



*Call 1-866-300-1825 to order ear tags; you must have a registered PigTrace to order.

To Register for a PigTrace Account:

- Go to www.pigtrace.ca, then select “Request a PigTrace Account” and complete the form, or
- Contact PigTrace customer service at 1-866-300-1825, or
- Contact your provincial pork organization (<http://pigtrace.ca/provincial-contacts/>).

*If you have a Premises Identification Number (PID), please share it at the time of registering. If you don't have a PID, PigTrace will assist you with getting one.

Other Helpful Points for Backyard Production:

- (1) Sow farms that sell piglets to backyard producers for further growing *can voluntarily* apply the 15-digit individual ID tags (small piglet tag) to the pigs before shipping/selling them to customers. Customers would then already have pig identification for eventual slaughter.
 - Potential solution for farms that do not have taggers (\$25) or tattooing equipment (~\$80).
 - PigTrace offer tag orders of less than 25 through its inventories at most provincial pork offices.

(2) **Movements to/from unknown or unregistered locations:**

If you are reporting movements to the PigTrace database (by computer or mobile browser at www.pigtrace.ca), you must enter a valid Premises ID Number for the locations.

If your supplier is not registered with PigTrace, you can enter the other location with the province code followed by “unknown” (e.g., ONunknown, BCunknown, etc). We ask that you also enter any additional information about the location in the “note” box (e.g., contact name, contact info, etc).

You can contact PigTrace staff or your provincial pork organizations at any time to ask if a PID exists for the location you are shipping to / receiving from (e-mail pigtracevm@epc-ccp.com or call 1-866-300-1825 with any requests for assistance).



PigTRACE Herdmark Identification of Pigs Going to Slaughter with Livestock Spray Paint and a Stencil

Pigs going direct to slaughter from a farm require EITHER a PigTRACE ear tag or herdmark tattoo (a 5-digit number we assign to each farm with your registration).

Effective May 1, 2019 herdmark identification using **non-toxic, livestock spray paint and a stencil** is approved for use on pigs going direct to slaughter from a farm.

- This method is not valid for shipment through assembly yard or auction. Direct from farm to slaughter only.
- Producers should confirm the preferred method of identification with their abattoir. Slap tattooing or ear tags may be preferred to the spray paint method.
- Must use the herdmark registered to the farm premises through PigTRACE. Do not use a herdmark registered to a different property or one that is counterfeit (i.e., not assigned from PigTRACE).
- Livestock spray paint is widely available from local agricultural supply stores or directly from various manufacturers (online or phone). **Note:** food safety standards stipulate that paints used on food animals **must not contain** any of the following substances:
 - Crystal violet
 - Leucomalachite green
 - Leucocrystal violet
 - Malachite green
 - Brilliant green

Make stencil with heavy cardboard or other strong material.

Minimum size of numbers: 2 inches high, ½ inch thick
(Larger number size can be used if preferred)



1. Mark pigs no sooner than 2 hours before loading them for transport to the abattoir by holding stencil within linch of the surface of the pig at its mid-section near or along the backbone.
2. Work in teams of two if possible – one to distract and hold the pig while the other applies the identifier. Deploy spray paint following the manufacturer's instructions. Spray sound may startle the pig.
3. Ensure number is legible. If it isn't legible, repeat the process in a different location on the pig's back or mid-section.



pigtrace.ca | portrace.ca

Additional Information on Small Scale Pig Production

Cooper, C. (2010) *The Complete Guide to Raising Pigs*: Everything you need to know explained simply. Florida, Atlantic Publishing Group Inc.

Hasheider, P. (2008) *How to Raise Pigs*. Minneapolis, Voyager Press.

Klober, K. (2018) *Storey's Guide to Raising Pigs*, 4th Edition, Storey Publishing, LLC, USA

Shankland, L. (2011) *Haynes Pig Manual*: The complete step-by step guide to keeping pigs. Somerset, Haynes Publishing.

More information on-line

Canadian Pork Excellence

<http://www.cpc-ccp.com/canadian-pork-excellence>

National Farm Animal Care Council

www.nfacc.ca

Pig Trace

<http://pigtrace.ca/>

Pork Information Gateway

www.porkgateway.org

Saskatchewan Ministry of Agriculture

<https://www.saskatchewan.ca/government/government-structure/ministries/agriculture>

Pork Nova Scotia

<http://porknovascotia.ca/small-scale/>

Sask Pork

<https://www.saskpork.com>

Prairie Swine Centre

<http://www.prairieswine.com/>

Appendix 1

Symptoms of Common Swine Health Issues

Table 1. Respiratory Conditions

Table 2. Infectious Non-Respiratory Conditions

Table 3. Skin Conditions

Table 4. Deficiency and Toxicity

Table 5. Other Conditions

Appendix 1 – Symptoms of Common Swine Health Issues

The following tables include basic information and symptoms of common health issues associated with pig production. This is not a complete list, and should not be used to diagnose or treat any animals. When a health issue arises, contact your veterinarian for advice and treatment options.

Table 1. Respiratory Conditions

Disease/ Issue	Symptoms	Cause/Contributing Factors	Course of Action/Prevention	Other
Acute Pneumonia	<ul style="list-style-type: none"> – laboured breathing – barking cough – red/blue belly/extremities – depressed, off feed – rectal temperature 40°C 	<ul style="list-style-type: none"> – stress – virus (influenza) – bacteria – respiratory tract irritants (dust, chemicals, etc.) – extreme temperature fluctuations 	<ul style="list-style-type: none"> – move sick animals to prevent spread – individual or group treatment (vet advised) 	<ul style="list-style-type: none"> – spreads rapidly – influenza can be transmitted to humans/poultry
Chronic Pneumonia	<ul style="list-style-type: none"> – persistent barking cough – with or without laboured breathing 	<ul style="list-style-type: none"> – higher risk when mixing pigs of different ages – parasites – bacteria (<i>Mycoplasma hyopneumoniae</i>) 	<ul style="list-style-type: none"> – antibiotics usually ineffective – improvements in ventilation – avoid overcrowding 	<ul style="list-style-type: none"> – may cause permanent lung damage, failure to thrive, lung adhesions
Atrophic Rhinitis	<ul style="list-style-type: none"> – sneezing – snorting – nasal discharge 	<ul style="list-style-type: none"> – irritants (dust, ammonia, etc.) – virus – bacteria 	<ul style="list-style-type: none"> – improvements in management/ventilation – vaccination – move sick animals to prevent spread 	<ul style="list-style-type: none"> – animals may be carriers without showing symptoms – may lead to pneumonia
Swine Influenza	<ul style="list-style-type: none"> – fever – nasal discharge – weakness – coughing 	<ul style="list-style-type: none"> – onset of cold weather – influenza virus 	<ul style="list-style-type: none"> – vaccination – freedom from stress (irritants, overcrowding) – move sick animals to prevent spread 	<ul style="list-style-type: none"> – highly contagious – spread through contact – can be transmitted to humans/poultry

Table 2. Infectious Non-Respiratory Conditions

Disease/ Issue	Symptoms	Cause/Contributing Factors	Course of Action/Prevention	Other
Porcine Epidemic Diarrhea (PED)	<ul style="list-style-type: none"> – sudden onset of watery diarrhea – depression – abdominal pain 	<ul style="list-style-type: none"> – virus – transmitted orally via feces 	<ul style="list-style-type: none"> – sanitation – isolate infected pigs – adequate water to combat dehydration 	<ul style="list-style-type: none"> – complete cure not usually possible
Porcine Circovirus (PCV/PCVAD)	<ul style="list-style-type: none"> – wasting – rough coat – diarrhea – deep purple skin discolouration 	<ul style="list-style-type: none"> – PCV1 and PCV2 viruses 	<ul style="list-style-type: none"> – anti-inflammatory – thorough cleaning/ disinfecting between batches – vaccination 	<ul style="list-style-type: none"> – related to various disease manifestations
Glässers Disease	<ul style="list-style-type: none"> – sudden death – meningitis – tremors, incoordination, weakness in hind end, paralysis, discolouration of legs/extremities 	<ul style="list-style-type: none"> – bacteria (Haemophilus parasuis) – poor environment – stress – respiratory spread 	<ul style="list-style-type: none"> – treatment as soon as possible to prevent death – isolate sick animals to reduce spread 	<ul style="list-style-type: none"> – highly contagious – causes adhesion that contaminate meat – symptomatically similar to streptococcal meningitis and mulberry heart disease
Porcine Proliferative Enteritis (PPE)	<ul style="list-style-type: none"> – inflammation/ulcers on intestines – acute diarrhea – weakness 	<ul style="list-style-type: none"> – bacteria – stress 	<ul style="list-style-type: none"> – vaccination 	<ul style="list-style-type: none"> – occurs primarily in growers/finishers
Septicemia	<ul style="list-style-type: none"> – sudden death – off feed, depression – red/purple bellies/extremities – dizziness, convulsions – lameness, swollen joints, pneumonia 	<ul style="list-style-type: none"> – bacteria – transport, stress 	<ul style="list-style-type: none"> – move into isolation to reduce stress – electrolytes 	<ul style="list-style-type: none"> – most common in pigs 3 to 8 weeks

Table 3. Skin Conditions

Disease/ Issue	Symptoms	Cause/Contributing Factors	Course of Action/Prevention	Other
Diamond Skin Disease (Erysipelas)	<p>Acute:</p> <ul style="list-style-type: none"> - sudden death - sudden fever/depression - red or blue skin - painful joints - diamond shaped, raised, red skin lesions <p>Chronic:</p> <ul style="list-style-type: none"> - lameness - enlarged joints - skin lesions 	<p>ingestion of contaminated feed/water</p> <p>bacteria (Erysipelothrix rhusiopathiae)</p>	<p>vaccination, antibiotic treatment</p> <p>sanitation</p> <p>removing infected animals</p>	<p>can be transmitted to humans</p> <p>slows growth</p> <p>meat may be condemned</p>
Mange	<ul style="list-style-type: none"> - itchy - scratching, rubbing - dull coat, bare patches heavy crusting 	<p>small parasites living in skin</p> <p>spread by asymptomatic carriers</p>	<p>parasiticide</p> <p>biosecurity</p>	<p>all stages develop in epidermis</p>
Lice	<ul style="list-style-type: none"> - bloody spots often found on neck, jowl, flank, inner leg, Ears - Persistent rubbing/scratching - weight loss 	<p>more severe in winter</p> <p>spread by contact</p>	<p>parasiticide</p>	<p>– host specific</p>
Greasy Pig (Exudative Epidermitis)	<ul style="list-style-type: none"> - lesions (mainly on the head) - greasy discharge -lesions turn brown/black, crusty 	<p>predisposing factors (ex. nutrient deficiency, ringworm, lice)</p> <p>bacteria</p>	<p>isolate infected animals</p> <p>good management</p> <p>sanitation</p>	<p>usually in pigs less than 8 weeks old</p> <p>less severe in older pigs</p>

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Ringworm	<ul style="list-style-type: none"> – brown, expanding rings – start on neck and behind ears – localized hair loss 	<ul style="list-style-type: none"> – fungal infection – most common in winter 	<ul style="list-style-type: none"> – usually left to resolve on its own 	<ul style="list-style-type: none"> – contagious to humans
Photosensitization/ Sunburn	<ul style="list-style-type: none"> – red, hot, painful skin – photosensitization occurs only on white areas 	<ul style="list-style-type: none"> – photosensitizing agents (alfalfa, clover, buckwheat) – direct or sudden exposure to sunlight 	<ul style="list-style-type: none"> – avoid photosensitizing agents – provide adequate shelter 	<ul style="list-style-type: none"> – pink and white breeds more susceptible

Table 4. Deficiency and Toxicity

Disease/ Issue	Symptoms	Cause/Contributing Factors	Course of Action/Prevention	Other
Vitamin E/Selenium Deficiency	<ul style="list-style-type: none"> – sudden death 	<ul style="list-style-type: none"> – selenium deficient soils 	<ul style="list-style-type: none"> – injections – supplements 	<ul style="list-style-type: none"> – includes mulberry heart disease, white muscle disease, etc. – increases susceptibility to other diseases
Rickets	<ul style="list-style-type: none"> – swollen joints – lameness – poor growth 	<ul style="list-style-type: none"> – calcium/phosphorus/vitamin D deficiency 	<ul style="list-style-type: none"> – adequate vitamin content in feed – adequate exercise 	<ul style="list-style-type: none"> – confined animals often vitamin D deficient – pastured animals often P deficient
Dehydration	<ul style="list-style-type: none"> – brief period of thirst/constipation – stop eating/responding – seizures, dog sitting 	<ul style="list-style-type: none"> – frozen water troughs – broken water lines – general lack of fresh water – excessive salt intake 	<ul style="list-style-type: none"> – provide fresh water, initially small amounts at frequent intervals – consistent supply of fresh water 	<ul style="list-style-type: none"> – may promote gastroenteritis
Ammonia Toxicity	<ul style="list-style-type: none"> – ocular/nasal discharge – coughing – reduced growth rate – influence infectious diseases 	<ul style="list-style-type: none"> – levels ~50ppm 	<ul style="list-style-type: none"> – good ventilation – good management practices 	<ul style="list-style-type: none"> – irritant – odour detected by humans ~10ppm
Hydrogen Sulfide Toxicity	<ul style="list-style-type: none"> – eye and respiratory irritant – paralysis/collapse (200+ ppm) 	<ul style="list-style-type: none"> – levels 100ppm+ 	<ul style="list-style-type: none"> – adequate ventilation during agitation – emptying and cleaning pit between batches 	<ul style="list-style-type: none"> – accumulates in liquid manure pits
Iron Deficiency	<ul style="list-style-type: none"> – loss of body condition – susceptible to infection – chill easily 	<ul style="list-style-type: none"> – raising in confinement (no natural iron source) – vitamin E/selenium deficiency 	<ul style="list-style-type: none"> – supplemental iron 	<ul style="list-style-type: none"> – outdoor with access to soil may not need supplement

Mycotoxycosis	<ul style="list-style-type: none"> - reduced growth rate - necrosis (esp. extremities, hooves) - vomiting, diarrhea 	<ul style="list-style-type: none"> - ingestion of fungal infected grain 	<ul style="list-style-type: none"> - ensure clean feed - keep records of feed sources 	<ul style="list-style-type: none"> - symptoms enhanced by cold weather - includes ergotism, DON, zearalenone - increased susceptibility to other diseases
Pigweed Poisoning	<ul style="list-style-type: none"> - 5 to 10 days after exposure - trembling - weakness - rear leg paralysis 	<ul style="list-style-type: none"> - Redroot pigweed (<i>Amaranthus retroflexus</i>) 	<ul style="list-style-type: none"> - avoid access - no accepted treatment 	<ul style="list-style-type: none"> - occur most often late summer, early fall

Table 5. Other Conditions

Disease/ Issue	Symptoms	Cause/Contributing Factors	Course of Action/Prevention	Other
Swine Dysentery	<ul style="list-style-type: none"> – grey/yellow diarrhea – mucus and blood – weight loss – weakness 	<ul style="list-style-type: none"> – ingestion of bacteria infected feces 	<ul style="list-style-type: none"> – good biosecurity and sanitation 	<ul style="list-style-type: none"> – more common in growers/finishers
Lameness	<ul style="list-style-type: none"> – unwilling to stand/ move – arthritis, sore joints – favouring sore limb – sores/swelling 	<ul style="list-style-type: none"> – cracks, sharp surfaces damaging hoof 	<ul style="list-style-type: none"> – move to non-competitive environment – early medicinal intervention – may be managed to slaughter 	
Trauma/Bite Injuries	<ul style="list-style-type: none"> – abscesses – tail biting, chewing 	<ul style="list-style-type: none"> – competition – stress 	<ul style="list-style-type: none"> – reduce conflict over resources – distractions/toys – anti-inflammatories 	<ul style="list-style-type: none"> – bacteria may enter blood stream through wounds
Fly Damage	<ul style="list-style-type: none"> – enter wounds and cause infection, delay healing 	<ul style="list-style-type: none"> – wet, dirty housing – improper removal of dead stock 	<ul style="list-style-type: none"> – fly control (traps, flypaper, sprays) – hygienic practices (regular cleaning) 	
Internal Parasites	<ul style="list-style-type: none"> – rough coat – pot belly – failure to thrive – dry, persistent cough 	<ul style="list-style-type: none"> – many different parasites – contaminated environment – ingestion 	<ul style="list-style-type: none"> – deworming – good management practices – regularly rotate pastures, if outdoors 	<ul style="list-style-type: none"> – highly contagious – production limiting – eggs passed in feces are very resistant to environmental conditions

Trichinellosis	<ul style="list-style-type: none"> – not easily recognized in animals 	<ul style="list-style-type: none"> – nematodes of Trichinella species – consumption of infected raw tissue 	<ul style="list-style-type: none"> – prevention only – treatment in animals not practical – do not feed meat and meat by-products that are not CFIA approved feed ingredients to swine 	<ul style="list-style-type: none"> – rarely occurs in abattoirs under modern inspection, some concern for home processed meat – can pass to humans, severe symptoms
Hernias	<ul style="list-style-type: none"> – umbilical or inguinal (lower groin region) lumps 	<ul style="list-style-type: none"> – sores that become infected – twisted bowel – navel sucking – poor umbilical cord management 	<ul style="list-style-type: none"> – no practical treatment – euthanasia 	<ul style="list-style-type: none"> – pigs with small hernias may be transported directly to slaughter
Ulcers	<ul style="list-style-type: none"> – black, tarry feces – pale, anemic 	<ul style="list-style-type: none"> – destruction of esophaga – stress – finely ground feed 	<ul style="list-style-type: none"> – fibre in diet – vitamin K 	<ul style="list-style-type: none"> – most common 120 lbs to market weight
Prolapse	<ul style="list-style-type: none"> – red, bloody protrusion from the rectum or vagina 	<ul style="list-style-type: none"> – severe diarrhea – severe respiratory issues – stress – zearalenone mycotoxin 	<ul style="list-style-type: none"> – treat diarrhea/ respiratory problems promptly – individual treatment response poor 	<ul style="list-style-type: none"> – whey, brewer's grain predispose animals to prolapse



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