

SMALL SCALE PIG PRODUCTION

An introduction to small scale pig production in Ontario



*Adapted with permission from the original document "Introduction to Small Scale Pig Production" by Pork Nova Scotia which was funded by organizations listed on page 41.
Updated by Ontario Pork in 2019*



ONTARIO PORK



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Welcome to the World of Pigs

Even if this is not your first time raising pigs, you may have questions about their feeding, management, health, government regulations or mandatory requirements for pigs in Ontario. Please take some time to look through this resource. This package is intended for those raising weaned pigs through growing and finishing to slaughter weight, and does not contain information on the management of sows, breeding or farrowing.

Whether you have two, 20, or 200 pigs, it is important to be aware of the management and welfare requirements of the industry, and of the traceability requirements for movement of animals between farms and to slaughter. If you have questions or need further information please contact the Industry and Member Services Team at Ontario Pork.

For more information contact:

Ontario Pork Industry & Member Services memberservices@ontariopork.on.ca 1-877-668-7675

More information and resources can be found on our website: www.ontariopork.on.ca

Codes of Practice for the Care and Handling of Pigs

The Codes of Practice are nationally developed guidelines for the care and handling of farm animals. They are written by the National Farm Animal Care Council and detail minimum animal care requirements and recommended practices for farmed animal species in Canada.

The Codes of Practice are intended to promote sound management and welfare practices through the recommended practices and 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.

We encourage you to review the Code of Practice for the Care and Handling of Pigs (<http://www.nfacc.ca/codes-ofpractice/pigs>). For quick reference, many of the key points are summarized in the appendices. For example, the Code requirements are summarized in appendix Q and the floor space allowances for weaned/nursery and grower/finisher pigs are in appendices C and D of the Code of Practice for the Care and Handling of Pigs (2014). A paper copy of the Code of Practice for the Care and Handling of Pigs can be obtained by contacting Ontario Pork.

Biosecurity:

Preventing the Spread of Disease



Figure 1. Example of farm biosecurity sign

Biosecurity is any action that serves to protect people, animals and the environment from infectious disease, pests, and other biological threats. It includes the proactive steps taken to keep a disease out of a farm (e.g. having visitors wear plastic boots over their shoes before entering your farm), and the actions taken to prevent the spread of pathogens between groups of animals on the same farm (e.g. feeding and caring for healthy animals first then handling animals in the sick pen). Larger swine farms include a shower-through facility in order to reduce the chance of disease entering their herd. The key principles of a biosecurity plan are segregation and

cleaning. Segregation is the application of barriers to limit the risk of exposing healthy animals to disease. For example, you should keep newly purchased livestock in a different barn, away from the rest of the established herd, until you are sure they are healthy and acclimatized to your farm. For cleaning to be effective in preventing the spread of disease, organic matter must be removed (e.g. scrape and wash manure off boots or equipment prior to disinfecting), washed, disinfected and dried. Specific actions for good biosecurity for small scale pig production are listed below.

1. Work Flow:

- a. Farm owners and workers should have separate clothing and footwear for working around pigs or in the barn. These should be kept at the barn entrance.
- b. Use hand sanitizer or wash your hands with soap and warm water before entering and after leaving livestock areas.
- c. Work with the youngest animals first as they are more susceptible to diseases, then move to working with older animals that have a stronger immune system.

2. Introducing New Stock:

- a. Avoid purchasing stock from markets and auctions. The best practice is to buy animals from a single source with a known health status.
- b. Before purchasing new animals, if possible have your veterinarian speak to the seller's veterinarian regarding herd health.
- c. Have a quarantine area available for animals new to the farm. A quarantine is a restriction on the movement of animals and is intended to help prevent the spread of illness or disease. The area should be a separate area or building to prevent any opportunity for recently purchased animals to spread disease to the existing herd.
- d. Keep new livestock in quarantine for three to four weeks. This will allow time for a proper assessment of health and recuperation from transport or illness.

- e. While animals should be monitored closely from day one of arrival and keeping in mind that you may want to run tests closer to the start, at the end of the quarantine period, observe animals for any abnormal behaviour and signs of disease before introducing these animals to the herd. Your veterinarian may test your new pigs for certain diseases at the beginning of the quarantine period or before mixing into the existing herd. Animals should be monitored closely while they are in the quarantine period. They should be observed for any changes in behavior or signs of illness.

3. Water and Feed:

- a. At least annually, water should be tested where pigs drink to ensure its suitability for livestock production.
- b. Design and position water bowls, troughs and waterers to reduce fecal contamination.
- c. Feed or feed ingredients should be purchased from reputable sources.
- d. Keep feed pest-free and dry, cover feed bins and feed systems to reduce the chance of contamination from wildlife or rodents.

4. Housing, Equipment and Yard Maintenance:

- a. Pens should be completely emptied, cleaned and disinfected at least annually.
- b. All equipment that comes into direct contact with pigs should be cleaned and disinfected periodically, including feeders and waterers. Check that feeders and waterers are functioning properly on a daily basis.
- c. It is best to have dedicated equipment for use with your pigs only. If sharing equipment with other farms, be sure to clean, disinfect and dry the equipment before using on your farm.
- d. Insects, rodents, birds and pets can carry disease to pigs on their feet, fur or feathers and contaminate feed with their feces. Reduce the risk by:
 - i. keeping feed in tightly closed containers and clean up spilled feed
 - ii. keeping area around pens free of debris
 - iii. cutting the grass regularly around pens, pens and enclosures
 - iv. use traps and bait as necessary for pests and rodents and keep pets out of the barn. If using bait, ensure both the blocks that are out in the barn and those stored for future use are not accessible to pigs, pets or children. University of Nebraska has a website with further information about bait and bait stations.

<http://extensionpublications.unl.edu/assets/html/g1646/build/g1646.htm>

5. Fences/Gates:

- a. Inspect boundary fences regularly and repair as needed. Wild animals can introduce new diseases to your farm. Escaped pigs can spread disease to neighbouring herds or be attacked by predators. Gates on laneways prevent unwanted visitors to your barn.

6. Herd Health:

- a. Contact your herd health veterinarian when livestock appear sick or are growing poorly. Pigs that die should be examined by a veterinarian to determine cause of death and decide if further control measures are needed.
- b. Vaccinate as recommended by your veterinarian (keeping the necessary records).

- c. Pigs on pasture can be affected by internal parasites (worms), predators, sunburn, or heat stroke. Speak to your veterinarian about a plan for the control of parasites. A plan for the control of parasites and predators as well as shelter to provide shade and adverse weather protection is required for outdoor pigs under the Codes of Practice.
- d. Keep records of treatments and veterinary care.

7. Deadstock/Mortalities:

- a. Work with your veterinarian to create a plan for deadstock disposal either on or off the farm.
- b. Ensure that during handling or storage for deadstock pick-up that there is minimal exposure of the dead animals to other livestock or contamination of water sources or the environment with potential pathogens.
- c. Clean and disinfect all equipment used to move deadstock from the barn or pens.
- d. Dispose of all deadstock within 48 hours of its death or immediately if it begins to decompose before 48 hours have passed. Deadstock may also be stored in cold storage for up to 14 days and in frozen storage for up to 240 days before disposal. An OMAFRA factsheet with further details can be found at: <http://www.omafra.gov.on.ca/english/engineer/facts/09-025.htm>

8. Manure:

- a. Manure should be removed from the production area regularly.
- b. Farms should have a manure management plan that includes collection, storage, moving and spreading of manure to minimize chance of spreading disease and contaminating the water sources*
- c. Tools and equipment used for manure handling should not be used for feed or bedding.

9. Visitors/Contractors:

- a. Post signs on entrance doors and at the laneway regarding your biosecurity protocols for visitors. For example, 'Stop-restricted access zone-no unauthorized visitors-Contact:'. Ontario Pork or many feed companies will provide these signs free of charge.
- b. Create a visitor biosecurity protocol with your veterinarian.
- c. All visitors must follow the farm's biosecurity protocol. Including parking in a designated area, signing into a visitors log ** and wearing clean or farm provided boots and coveralls.
- d. Visitors should be accompanied by farm staff.

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. <https://tinyurl.com/yx3c3pjn>

* OMAFRA has information that helps to determine when a farm is big enough to require a formal Nutrient Management Plan, which depending on the size of the pigs could be as few as 15. For more information, check out the following factsheet:

<http://www.omafra.gov.on.ca/english/engineer/facts/18-009.htm>

**OMAFRA has a biosecurity log book that is available to producers. To receive a copy, contact the Agriculture Information Contact Centre at 1-877-424-1300 or ag.info.omafra@ontario.ca.

PigTrace

PigTrace is an industry-led, government-regulated, live animal traceability initiative designed to ensure protection and peace of mind for the Canadian pork industry and its customers.

Traceability programs give animal health and food safety officials the ability to trace issues to a specific location in the case of an animal health or food safety outbreak.



	INDIVIDUAL ID	HERD MARK
SMALL		
	H 1-½" x W 1-½"	H 1-½" x W 1-½"
LARGE – TRAPEZOID		
	H 1-½" x W 2-¼"	H 1-½" x W 2-¼"
LARGE – RECTANGULAR		
	H 1-½" x W 2-¼"	H 1-½" x W 2-¼"

Figure 2. 15-digit individual ID (left) and 5-digit herd ID (right) approved PigTrace ear tags

Ontario is committed to this program and even if you only raise one or two pigs for your own use, you must be a part of the PigTrace program. Pigs going to slaughter must be tagged with an approved ear tag (see pictures at left) which are printed with either a 15 digit ID number that is unique to a specific pig or a herd identification number. Herd identification numbers are 5 digit numbers assigned by Ontario Pork and are linked to your premise ID. In Ontario, herd identifications must end in a 5 or a 7. For market weight pigs going to slaughter it is also acceptable to have a readable shoulder tattoo (5 digit herd identification number) as the identification.

Currently, pigs require the 15 digit ID tag in the following situations: pigs going to a show or a fair or pigs going to a sales barn or auction. In all other situations when pigs are leaving the farm (e.g. market hogs going to an abattoir), they can be identified by either the 15 digit tag or a 5 digit herd mark tag, or a 5 digit shoulder slap tattoo can be used. For clarification on when pigs should be identified and with which official identifier see the PIGTRACE website or contact Ontario Pork.

Tags must be purchased through PigTrace (1-866-300-1825) or Ontario Pork (1-877-668-7675) and will take time to be printed and shipped to your destination. Tattoo digits can be purchased through Ontario Pork. Do not leave ordering until the last minute. Purchasing information and approximate length of time for orders to arrive are listed below.

Resources regarding pig restraint, ear tagging and shoulder tattooing can be found as **Appendices 1-3** at the end of this document.

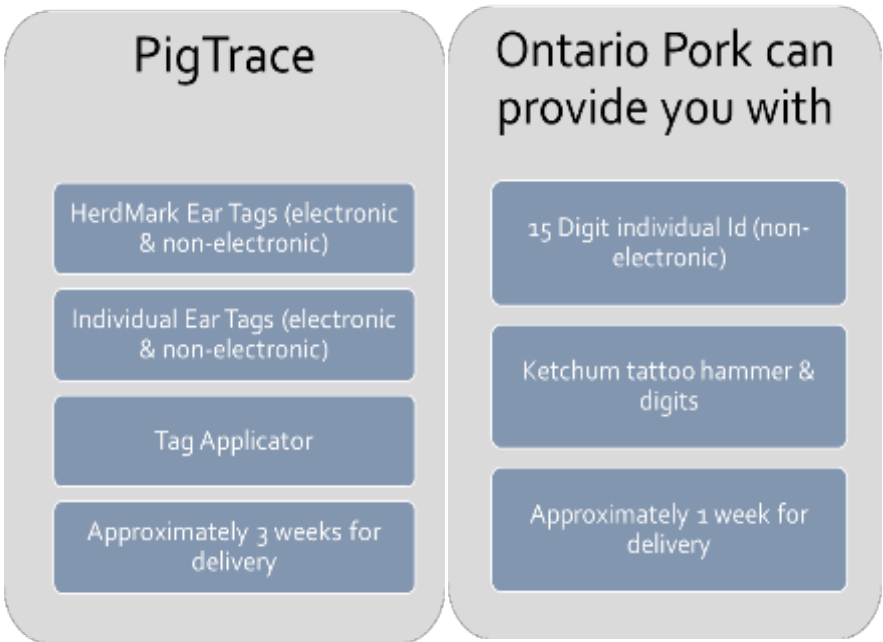


Figure 3. Where can PigTrace tags be purchased.

All locations which house pigs must have a premises identification (PID), from large commercial operations to small scale production sites. The Premise ID represents a unique parcel of land in Ontario associated with agri-food activities.

There is no cost for registering your farm for a premise ID. With your permission, Ontario Pork can apply for a premise ID on your behalf or you can do it yourself by going to the provincial premise registry website or calling 1-888-247-4999.

<https://www.ontariopid.com/en-CA/>

There are two parts to the PigTrace program. The first part ensures that pigs are identified; the second records the arrival of the pigs on your farm and when they leave for slaughter.



Figure 4. Methods to report pig movements to the PigTrace program

All movements between premises must be reported within seven days of transport via your account on the PigTrace website. This reporting includes transportation to a slaughter facility and removal of deadstock. If you buy weaner pigs and raise them to market weight, when the pigs arrive, you need

to report their movement onto your farm. When you take them to the abattoir for slaughter, you will need to report the movement off your farm and to the abattoir. You will also need to have the pig identified with a tag or a tattoo. If you need assistance with PigTrace, contact Ontario Pork.

How to record a movement on the PigTrace Website	What information must be recorded
<ul style="list-style-type: none"> • Select “REPORT A MOVEMENT” from the welcome page • Choose declaration type from drop-down list then click “CREATE” • Enter all required fields (marked with red dot) • Click “SAVE”, a message in green will appear – “successfully inserted” 	<ul style="list-style-type: none"> • Departure and destination site • Date and time of departure/arrival • Number of pigs sent/received • Licence plate number or conveyance identification • Approved pig identifiers (approved tags and/or shoulder slap tattoos)

Housing and General Care

There are a number of different housing and pen options for pigs. It is important to determine which one works best for your situation and for the pigs. Pigs require shelter that will protect them from the elements and predators. A basic roofed structure will be sufficient, as long as the ground/flooring remains dry inside and pigs are protected from draft in cold weather. Pigs sunburn easily, particularly the lighter skinned breeds, so if they are housed outside having access to shade is important. In hot weather, shade from trees or a shade cloth structure will be cooler than an enclosed shelter, and preferred by the pigs. A well-constructed shed or barn can be a perfect 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. In a housing system where pigs are exposed to cooler weather, pigs require additional feed in order to maintain a normal body temperature, which increases the cost to raise them.



Figure 5. Simple pig shelter



Figure 6. Straw-bedded hoop barn

Pigs are intelligent, curious and have a natural desire for investigation which makes them great escape artists. Pigs will root at any weak spots they find, eventually causing damage and potentially creating an escape route. Panels or walls making up pens should be high enough that the pigs cannot walk or jump over them, but also be accessible to the caretaker. A good guideline for height would be at least 90 cm.

If pigs have outdoor access it is important to ensure fencing is strong and secure in order to prevent the escape of your pigs, but also to prevent predators and other wildlife from entering the enclosure. There are many different options for fencing including wire mesh, electric, wood, high tensile wire, and pipe panel. Depending on the size of your pigs, you will want to select fencing with spacing small enough to prevent pigs from slipping through. You may also want to combine multiple types of fencing to increase security. Because pigs like to root, burying a mesh skirt fixed to the fence with stitching wire of fence staples will drastically improve your ability to keep pigs inside the enclosure.

Electric fencing can be an effective way to protect and keep pigs with outdoor access from escaping, although it does require a certain amount of training and is best used in conjunction with other fencing. When pigs encounter an electric fence for the first time, their instinct is to bolt forward and they end up outside of the enclosed areas. A way to avoid this would be to reinforce the presence of the electric fence by placing it in front of solid or mesh fencing. When they encounter it and feel a jolt,

there is something solid there to turn them around and prevent bolting forward out of the pen. In addition, a netting style electrified fence is also available. A sturdy wood, wire mesh or pipe panel fence with a buried mesh skirt and electrified mesh or wire at pig height is the best solution to keeping pigs inside and keeping predators outside.

During the planning and construction/set-up phase, designing an area for easy restraint of pigs for examination, treatment or identification (ear tagging or tattooing) is beneficial. Pigs can move quickly so a simple chute to restrict movement or using a pig board to corral them into a corner can be helpful.

Another separate area to consider would be a hospital pen. A hospital pen should provide a quiet, comfortable place with access to feed and water (without competition) where sick or injured pigs can recover. It should be easy to access, be dry and draft free, have bedding and/or solid non-slip floors and provide feed and water (and space to provide floor feed and water bowls if a pig is lame). Pigs are herd animals and are not at ease when alone. It is best to not put a single pig in the hospital pen if it cannot see other pigs. Do not let pigs languish in the hospital pen. In consultation with your veterinarian, treat the pig for the prescribed amount of time and then reassess their condition. If it has not improved, consult with your veterinarian about euthanizing the pig.



Figure 7. Hinged pig board

Be sure to check on the pigs two times per day to make sure that they are eating, drinking, healthy and staying within the boundaries of their pen or pasture area. It is a good idea to do a quick headcount to make sure that none have escaped.

If at any point you find you are missing pig(s) from their enclosure, it is critical that they be found as soon as possible and either and re-captured or destroyed. Using grain such as corn may assist in baiting them into an enclosed area. Escaped pigs can quickly become wild. Wild pigs can cause significant crop and environmental damage, and also become potential reservoirs for different diseases. They may also breed with other wild pigs and further increase the number and spread invasive wild pigs in the province. You may be legally responsible for any property damage caused by the escaped animals. For more information on wild pigs in Ontario, visit www.ontario.ca/wildpigs.

Feeders and Waterers



Figure 8. Example of nipple watering system and trough for outside use

A growing pig will drink 6% to 10% of their body weight per day, so a clean, fresh supply of water must be maintained. This can be a challenge both due to the volume and the logistics of having a secure and accessible waterer. Many options for watering systems exist. Nipple drinkers or a concrete or stainless steel trough fixed to the ground or side of the pen would work well in a permanent location. If the pigs are on rotating pasture areas, a large trough or durable livestock tub can be used, however consideration should be given as to how to get water to the trough to fill it. Watering troughs and nipples should be at a height that is accessible to the pigs as they grow. Appendix G of the Code of Practice for the Care and Handling of Pigs (<https://www.nfacc.ca/codes-of-practice/pigs>) released in 2014 describes the water intake and recommended

height of nipple drinkers. Troughs need to be cleaned out and fresh water added daily as they are easily soiled by pigs manuring or walking through them.

Automatic watering systems can be a great way to provide a continuous supply of fresh, clean water. 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 may heat the water to a point where it may be too warm for the pigs to consume. Pigs should be monitored daily to ensure they are drinking, particularly if they are being introduced to a new style of watering system. In the winter heating devices can be used that prevent the water from freezing.



Figure 9. Nipple drinker at the correct height

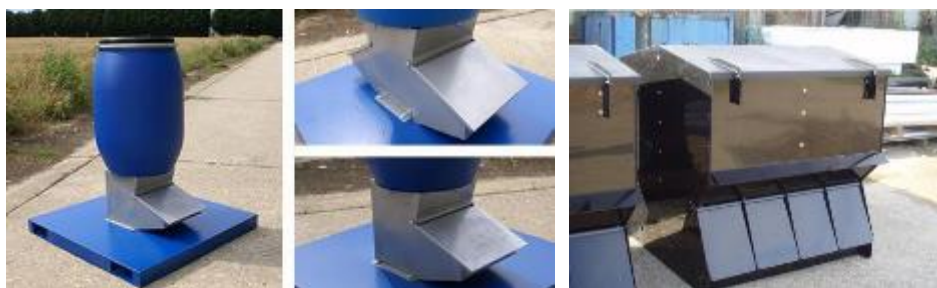


Figure 10. Examples of covered feeders for outdoor use

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.

The Code of Practice for the Care and Handling of Pigs

(<https://www.nfacc.ca/codes-of-practice/pigs>) recommends a maximum of 13-18 pigs per pig space at the feeder. However consider that having a greater number of feeder spaces allows more pigs to eat at once which is a normal behaviour in herd animals like pigs. Appendix F of the Codes, describes the

recommended size for pig space at the feeder by weight of pig. 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 the bucket of a tractor or skid steer could be considered. Other important considerations for feed troughs include being weather and pest proof. In an outdoor feeding system, consider using feeders with flip-up covers on the top and over the feeding spaces.

Cleaning

It is important to clean the barn or housing area regularly, removing manure and bedding where conditions are damp. Ensure there is always a clean, dry area for the pigs to rest. Bacteria and viruses can survive in the environment from year to year and present risks to newly introduced pigs, especially younger pigs. Between batches of pigs, pens should be scraped, washed, disinfected and dried. If washing is not possible, scrape the pen and allow to dry and then disinfect with barn lime or other disinfectant powders. To ensure disinfection is effective, it is important that pens are clean (i.e. dirt and manure is removed) before a disinfectant is applied. Use a cleaner/disinfectant that is appropriate for the job. Ask your veterinarian which disinfectants are appropriate for your barn and equipment. Remember all disinfectants have different dilutions and require a specific amount of contact time with the surface to be effective. Read the product label and follow the instructions carefully. Rinse thoroughly if indicated.

Basic Pasture Management

Pigs are not like cattle. They are unable to digest and convert large amounts of fibre into usable nutrients. Pigs on pasture must be supplied with feed, in addition to what they forage both to maintain optimum growth and health of the pigs and to decrease the damage to the pasture. Pastured pigs will forage on the vegetation available, but are very aggressive and can cause lasting damage to the plants. Pig farmers should plan to establish new pastures every year or two. Regularly rotating pigs to new pasture will help protect the longevity of the pasture as well as reduce disease, parasite, and pathogen risks. Rotational pasture management will allow for a recovery period of the vegetation and a better distribution of the deposited nutrients. North Carolina State University, Centre for Environmental Farming Systems has a resource entitled, “Designing pasture subdivisions for practical management of hogs” which provides further details on pasture rotation for swine including amount of space required and suggested time frames for the rotation.

<https://cefs.ncsu.edu/wp-content/uploads/designing-pasture-subdivisions-for-practical-management-of-hogs-2015.pdf?x47549>

Planning and purposeful planting of pastures with forages that are optimal for pigs can improve animal health. Be careful not to overestimate the amount of forage that will actually be available to the pigs in a pasture as pigs will destroy a significant amount of the plant life. Plan on 50% of the vegetation in the field not being available as forage. Further detailed information on forage types and additional feed needed when pasture feeding pigs can be found at:

<http://porkgateway.org/resource/forages-for-swine/>

Pigs do like to wallow in mud to stay cool in the summertime, however they do not like to be in a damp and cold environment all the time. Rotating to fresh areas of pasture and providing sufficient bedding in sheltered areas will ensure the damage to the pasture and to the pigs' health can be minimized. Pigs kept in unheated units require sufficient bedding that they can burrow into in the cold weather. They will cover themselves to the point that you cannot see them, and they will maintain a comfortable resting environment. The bedding should be checked weekly and changed when it is soiled and damp. The Agriculture and Horticulture Development Board in the United Kingdom suggests the following for wallow management and provision of shade for pigs on pasture.

Wallow management

- Provide enough space for twice the number of pigs it is intended for; this will enable the more submissive animals to use the wallow.
- Dig wallows early in the year to ensure that you are prepared. Consider hiring a digger to save time and effort.
- Wallows should be more liquid than mud; the consistency should resemble emulsion paint.
- During periods of little/no rainfall replenish with water daily to prevent wallows from drying out.
- Do not allow wallows to become stagnant as this can lead to infections. Provide a separate supply of clean water for drinking in addition to the wallow.



Figure 11. Shade cloth structure for outdoor pigs

Shade

Sunburn is common in early summer (May/June), as pigs are exposed to the first strong sunlight since winter. Severe sunburn, when the skin blisters, can cause pregnancy failure, and the pain and discomfort will lead to increased stress levels. Although a layer of mud will reduce sunburn, it is essential to provide shade for the animals so that they can move out of direct sunlight. Ensure that a dry, clean bed of straw is provided in the shade, which will encourage the pigs to lie in these areas.

Handling and Transportation

When moving pigs, do so calmly without loud noises or yelling. Do not use an electric prod to move pigs as it can cause tremendous stress to the pig. A pig board, which can be simply constructed from a partial sheet of plywood with holes for handles, works well. Pigs are social animals and move better as a group rather than a single animal. When moving a larger number of pigs, whether it is to a new pasture area or onto the back of a trailer, consider constructing a temporary alley out of large bales of straw or panels for them to follow. If this pathway can be made with slight bends in it (not sharp angles) so they can't see very far ahead, they will be more inclined to move forward as well. Being too forceful when moving pigs (particularly when loading for slaughter) can result in a stressed pig. Stress damages the meat and rough treatment results in bruised areas that will be trimmed at slaughter, causing a loss of product.



Figure 12. Small livestock trailer

It is recommended that pigs go through a fasting period of 12-18 hours before the anticipated slaughter time (not 12-18 hours before transport). The animals should have access to water throughout this feed withdrawal period. Pigs without feed withdrawal prior to transport are reportedly more difficult to move and are a higher risk for contamination of a carcass by stomach contents at slaughter.

Only animals that are healthy and sound should be loaded and transported. An unfit animal is defined as one that is unable to rise or remain standing without assistance, or move without being dragged or carried. A “should this pig be loaded” decision tree can be found in the Codes of Practice for the Care and Handling of Pigs 2014 (Appendix L) to help guide your decision.

However, if you are questioning if a pig should be loaded, it likely should not. You should contact your veterinarian for assistance in deciding if the pig is fit or not.

Unfamiliarity with an area, flooring, ramp or vehicle can result in pigs being reluctant to move or be loaded. Allowing pigs the opportunity to explore these areas at their own pace prior to shipping day will make loading easier. The opening into the trailer should be wide enough that the pigs fit comfortably through it. The floor should be sufficiently bedded with clean shavings, straw, or other bedding material, to provide insulation and comfort during the trip and to ensure the floor is not slippery. The ramp leading into the trailer should be at a gentle angle (less than 20 degrees) and the sides of the ramp should be smooth and solid to prevent injury from sharp edges, to prevent escape and to help decrease the impact of a changing view.

Weather conditions and the duration of the trip should be taken into account when planning to transport animals. In colder weather, ensure the trailer is draft free and that enough bedding and space are provided to prevent animals from touching cold metal (see Appendix 7 at the end of this document). In warm weather, sufficient air movement is needed to keep the animals from overheating. Charts showing the recommended space per pig requirements and how to calculate the number of pigs that can be safely transported in a trailer can be found at the end of this document (Appendices 5 and 6).

Feeding Your Pigs

Feed is an important factor and a large cost 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 and how much it costs, as well as having an effect on meat quality.

Whether purchasing a commercial complete feed from a feed mill or creating a custom mix at home, it is important to meet the nutritional requirements of the pigs. Consult your veterinarian or the livestock nutritionist with your local feed mill for nutrition requirements of pigs at different stages. Excellent information on creating and balancing diets for pigs can be found online through Cooperative Extension and the U.S. Pork Center of Excellence by visiting <https://swine.extension.org/principles-of-balancing-swine-diets/>.



Figure 13. Weaned pigs eating out of a rubber feeding tub.

Pigs are omnivores (eat food of both plant and animal origin) and are monogastric (have only one stomach). This differs from animals such as cattle and sheep who are ruminants (having a rumen or “multiple stomachs”). Pigs require energy (fats and carbohydrates) and nutrients such as protein (amino acids), vitamins and minerals. Of great importance is a source of clean water.

Energy

Pigs need energy for maintenance and growth. The bulk of the pig’s energy requirement is met by fats and carbohydrates. Common energy sources in swine feeds include corn, wheat and barley.

Protein

Pigs of all ages and stages also require protein. Amino acids are the structural units of protein. Ten of these amino acids cannot be produced by the pig and must be provided in the feed.

These are referred to as essential amino acids. Lysine is typically the first amino acid to limit growth, and nutritionists tend to pay particular attention to ensuring it is available in sufficient amounts. Soybean meal is a high quality, high percent protein ingredient commonly used in swine diets, and is rich in the amino acids lysine, threonine and tryptophan. Over-feeding protein should be avoided, as protein is normally the most expensive component in the diet. Small, young pigs from 16 – 27kg (35 - 60lb) require 18% crude protein for maximum muscle development. Between 27 – 80kg (60 - 175lb) feed a 16% crude protein diet, switching to 14-15% crude protein once the pigs are over 80kg (175lb). However it is recommended that you consult with your feed company for their recommendations on the correct protein level for your pigs.

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. Two minerals, calcium and phosphorus, are commonly mentioned when talking about feed and ingredient composition, but deficiencies, excesses and imbalances in most of the vitamins and minerals can cause health and/or production issues. Examples can be found in the Iowa State University's veterinary diagnostic and animal production health webpage under "nutritional deficiencies" at:

<https://vetmed.iastate.edu/vdpam/FSVD/swine/index-diseases/nutritional-deficiencies>

Fibre/Pasture

Pigs need a certain amount of fibre in their diet and are able to digest some forage or pasture. While a good pasture can contribute to their nutrient requirements, it is 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. Pigs will enjoy and appreciate access to pasture but will not be able to survive on pasture alone. Pigs need access to a balanced ration that meets their requirements to remain healthy and productive.

Alternative feed ingredients

Because raising a pig to market weight represents a significant feed cost, it's tempting to use alternatives to commercial swine diets, either as a whole feeding plan or as a supplement to the complete diet. Different feed ingredients contain variable amounts of amino acids and energy and can have a wide range of digestibility, so some may not be suitable for all ages of pigs. It's essential to consider the nutrient contribution of these feed ingredients; an available/inexpensive ingredient can often be incorporated in a diet but should not compromise the health and wellbeing or productivity of the pig. Examples of approved recycled feed ingredients for livestock are: dehydrated bakery waste, dried distillers grains and breakfast cereal process residue. The full list of approved feed ingredients can be found on the Canadian Food Inspection Agency Website.

<http://www.inspection.gc.ca/animals/feeds/approved-ingredients/eng/1322975007194/1322975281243>

Note: Feeding swine anything containing meat or meat by-products (or food that is suspected to contain or have come into contact with meat or meat by-products) is illegal in Canada because of the risk of transmission of exotic diseases (for example, foot-and mouth disease, African swine fever, classical swine fever and zoonotic diseases such as trichinellosis).

How much will my pigs eat?

How much a pig will eat is largely dependent on their breed and sex, and what they are being fed. Feed intake may be higher than anticipated if the feed is nutritionally inadequate (particularly in energy). The following are 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 without competition.

- An 18kg (approximately 40 lbs and 8 weeks of age) will consume about 0.5 - 0.7kg (1.2–1.6lb) of 18% protein grower feed per day
- By around 35kg (approx. 75lbs and 12 weeks of age), the feed consumption will increase to 1.1 – 1.35kg (2.5-3lb) of 16% protein feed per pig per day
- Once the pigs are 55 – 60kg (125lb and approx. 16 weeks), daily feed consumption will be roughly 1.8 – 2.3kg (3.6 to 4.5lb) of 16% protein feed per pig per day (switching to 15% protein once the pigs are approximately 80kg or 175lb)
- This amount should be gradually increased so that the pigs are getting about 2.7 – 3.2kg (6-7lb) of 14-15% protein feed per day once they are roughly 110 – 115kg (250lb)

Increases in the amount of feed the pigs are getting should be done gradually as the pigs grow (weekly, for example). To avoid feed wastage and improve feed intakes on pigs starting on feed, pigs being fed set amounts should be given an amount they can finish in 20-30 minutes. This should be repeated 2-4 of times per day if not free choice feeding (i.e. feed always available). If there is feed left over after 30 minutes, decrease the amount they are being given. If they are cleaning everything up and are still hungry, increase the feeding amount. Pigs that are outside will need more feed than pigs raised indoors in a controlled temperature environment, particularly in colder weather.

The first week after weaning is a particularly challenging time for young pigs. Newly weaned pigs are often stressed by all the changes they face such as new litter/pen mates, transport and the transition from milk to pig feed. Pig or goat milk replacers can be purchased or water can be used to make the pig feed into a gruel or oatmeal type consistency. The liquid feed is easier to eat and more appealing to young pigs than dry feed. Once the pigs are eating well, gradually decrease the amount of liquid added over the next week until the pigs are eating dry feed.

Pig Behaviour

Pigs are intelligent, curious, playful and but can be destructive animals. They are herd animals and naturally prefer to eat and sleep as a group. Pigs will choose to lay in a group often touching each other but not piled on top of each other. Deviations from this pattern can show that the environmental temperature is too hot (pigs laying as spread out as possible not touching each other) or too cold (pigs piled up and shivering). Similarly pigs that choose to lay by themselves, away from the rest of the group may be a sign of a pig that needs attention due to illness or injury.



Figure 14. Weaned pigs chewing on and playing with a toy hanging in their pen.

Abnormal behaviour and pig vices

There are three main causes of these abnormal behaviours: 1) boredom, 2) frustration/discomfort and 3) pig temperament. One or more of these causes may be at work when abnormal behaviours are observed.

1. Boredom

Pigs are curious, intelligent animals that naturally would spend a large portion of their day searching for food. If pigs are housed indoors in pens that lack any type of enrichment or rooting materials (e.g. toys, straw and hay) they may become bored and start performing abnormal behaviours.

2. Frustration/discomfort

The restriction of important resources such as food, water and space in the pen, can quickly make pigs frustrated and unhappy. This leads to pigs biting other pigs in the pen to get them to move and free up the resource. Restrictions with feed and water can occur when feeders or waterers are not working properly, too few are provided for the number of pigs in the pen, they are the wrong size or are in the wrong location or if feed is not properly balanced for nutrients or if feed or water is unpalatable. A pen that is too crowded restricts the places to lay and rest.

Discomfort can also lead to abnormal behaviours such as tail biting. This can result from temperatures that are too hot or too cold, drafts in the pen, wet bedding or no dry area to lay.

3. Individual pig temperament

Sometimes it is one particular pig in a pen that is biting the others and causing injuries. These pigs may be more easily stressed than others and have less tolerance of resource restriction or

boredom. Generally it is easy to spot these pigs if you stand quietly and watch the pen for a few minutes.

Once observed, the cause(s) of the abnormal behavior must be determined and resolved. This can be challenging and may require several improvements to the pig's environment and access to resources before the tail biting stops. The Code of Practice for the Care and Handling of Pigs (2014) has recommendations for the number of feeder spaces and appropriate size and height of waterers for various sizes of pigs. If all aspects of access to feed and water have been checked and are fine, work with your veterinarian to test a sample of the feed to determine if the composition is appropriate. If the cause appears to be one individual, immediately remove this pig from the pen. If more than one pig is involved, adding a distraction to the pen (e.g. hanging a pig toy for chewing or adding a salt block) can temporarily stop the abnormal behaviours until the actual cause is determined and resolved.

Several short videos on tail biting and the prevention of these abnormal behaviours can be found at:

<https://www.youtube.com/watch?v=bVbYMrM7keQ>

<http://pigstraining.welfarequalitynetwork.net/>

<http://ec.europa.eu/avservices/video/player.cfm?ref=I147131&sitelang=en&lg=FI/EN>

Pig Health

Raising healthy pigs is important for good animal comfort and welfare, economics and production of a quality product. Most diseases have multiple causes which may be infectious or non-infectious. Infectious agents include viruses, bacteria, parasites and an example of non-infectious agents would include stress. An in-depth guide to pig diseases, conditions and their treatment is beyond the scope of this guide. For those who are interested, two references which provide specific information on swine diseases are provided after the “Signs of poor health” section. This guide focuses on recognizing the first signs of disease so that owners can act quickly when seeking treatment advice from a veterinarian. Pig owners are encouraged to establish a relationship with one veterinarian and to work with them to ensure healthy pigs.

Signs of poor health

The following list of symptoms are associated with common health issues observed in 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

- Laboured breathing
- Persistent cough
- Not eating
- Weakness/lethargy
- Laying down on side and paddling/convulsing
- Sudden death
- Trembling
- Depression
- Diarrhea
- Weight loss
- Rough hair coat
- Persistent scratching/rubbing of skin
- Skin discolouration /reddened skin
- Raw skin patches
- Swollen joints
- Lameness
- Unable to rise
- Abscesses, swollen areas
- Open wounds
- Bloody protrusion from back end (rectal prolapse)

References for health of pigs and common pig diseases:

- Yukon Government (2015). Swine Health Handbook for Yukon Farmers. Retrieved from http://www.emr.gov.yk.ca/agriculture/pdf/Swine_Health_Handbook.pdf
- Iowa State University College of Veterinary Medicine (2017). Veterinary Diagnostic and Production Animal Medicine Index of Diseases. Retrieved from <https://vetmed.iastate.edu/vdpam/FSVD/swine/index-diseases>

As described in the housing and management section, producers should create a hospital pen for animals in need of a quiet area to be treated or recover from injury or illness.

Stress

Stress is a factor in weakening the pig's system, leaving it more susceptible to illness. Reduce stress by ensuring pigs are not crowded, maintain groups for separate ages/arrival dates, ensure pigs are receiving properly balanced feed rations and that feeders and waterers are full, functional and accessible, and by addressing issues such as dirty pens, poor ventilation, drafts, and severe weather changes (for outdoor pigs) as soon as possible. Pigs should be watched closely for changes in behaviour and feeding habits after a stressful event. Light-coloured pigs are also susceptible to sunburn and heat stress. If pigs are to be raised outside, select pigs with dark-coloured skin and provide enough shaded areas for all pigs to escape the sun at the same time.

Routine Herd Health-Disease prevention

Following basic biosecurity protocols is the first step in disease prevention. Infectious diseases can be spread to your pigs in a number of ways. Disease can be spread directly through pig to pig contact or indirectly if the organism is carried on to your farm on machinery, equipment, footwear, clothing, insects, wildlife, pets, etc. Each organism also has different properties that will affect the spread of disease, such as how long it can survive in the environment and how hard is it to destroy.

Pigs can be protected from many common bacterial and viral diseases through vaccination. Most pig vaccines are given as an injection and their purpose is to stimulate an immune response that will protect the pig from infection if it is later exposed to that disease. Discuss which diseases might impact your pigs and plan an effective vaccination program with your veterinarian.

Routine Herd Health-Parasites

A parasite is an organism that at some stage must live on or within its host to survive. There are two categories of parasites; external which live on or in the skin and internal which live inside the body of the pig including the kidneys, liver, lungs, bloodstream and digestive tract. The control of parasites involves understanding their life cycle and using procedures and dewormers to break the cycle of infection and prevent the spread to other pigs. It is important that barns and shelter facilities should be cleaned out, washed, disinfected and dried between batches of pigs to reduce parasite burdens. Sunshine, freezing conditions and time in conjunction with rotating pastures will reduce the buildup of parasites in the pig's environment. Deworming your pigs may be necessary, especially if they are kept on solid floors or outside on pasture or a concrete pad. Consider deworming new pigs in the quarantine area so they do not infect the rest of the pig raising spaces. Remember to then thoroughly clean out the quarantine area before adding the next batch of pigs to it.

Once such parasite to keep an eye out for is *Trichinella spiralis* which causes few, if any, clinical effects on the pig but can represent a hazard to those consuming undercooked pork or some raw cured pork products. The larvae are eaten as cysts in meat or muscle, hatch in the small intestine, mate and the females burrow into the gut wall to give rise to larvae which burrow in the muscles and become dormant. Infection follows the ingestion of larvae encysted in muscle, and the worms hatch, mate and produce new larvae which hatch in the muscles of the host. Although pig-to-pig

transmission can result from cannibalism (tail biting) directly, in most cases it results from the consumption of infected muscle.

In some cases, pigs will demonstrate symptoms that indicate they are affected by parasites. Signs such as coughing, diarrhea, poor growth and repeated scratching of their skin may indicate parasites, however these signs are not specific to parasite issues and can be the result of other health or management problems as well. Your veterinarian can test a sample of manure to determine if there are parasite eggs present. Alternatively your abattoir may inform you of “milk spots” (white spots) on the livers of pigs that have been slaughtered. This is also a sign of internal parasites. Work with your veterinarian to determine the best management practices for your farm including a testing and deworming routine.

Ready for Market

Helpful terminology:

Live weight – The weight of an animal before it has been slaughtered and prepared as a carcass.

Market weight – The target weight for the pigs to go to the slaughterhouse.

Hanging weight/carcass weight – The weight of the carcass after it has been dressed (guts removed, blood drained, etc.), before butchering.

Cut weight – The weight of the final product after butchering. This will be the carcass weight minus some bone weight, trimming, moisture, etc.

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 depending on the breed and how the pigs have been housed and fed. The market weight for hogs in Ontario ranges between 90-160 kg for commercial production. Market weight for small scale production is generally slightly lower, approximately 75-100 kg.

Estimating pig weight without a scale

It will likely be easiest to do this while the pigs are occupied with eating so they stand still(ish). Measure the pig's heart girth. Place a fabric measuring tape around the pig, just behind the front legs (See Heart Girth Figure). Note the pig's circumference in inches. Use the graph below to estimate the pig's weight from the heart girth

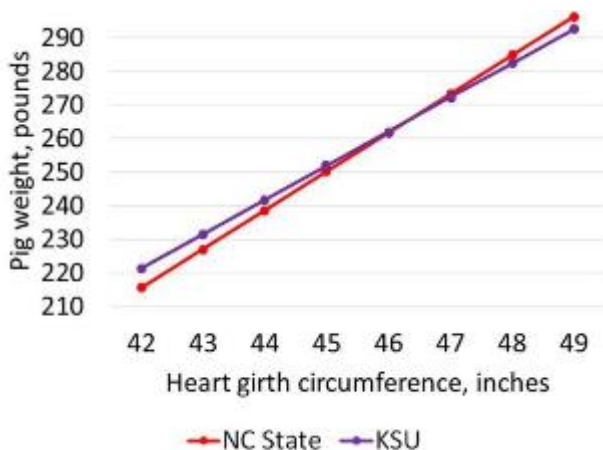


Figure 16. Chart to estimate weight from the heart girth measurement.

HEART GIRTH
Measure the circumference
just behind the forelegs

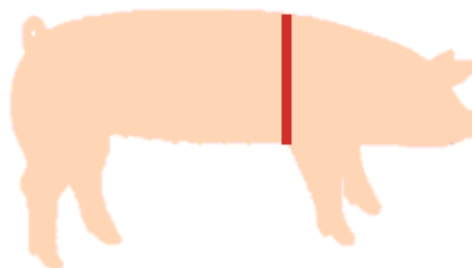


Figure 15. Estimate pig weight by measuring the heart girth.

measurement.

If you don't have a fabric measuring tape you can use a piece of rope or string to measure the girth (marking the length with your fingers and then measure the string length away from the pig).

Alternatively you can purchase pre-calculated pig weight estimating tape.

Creative producers have made their own tape, by marking a piece of rope or piece of flexible



Figure 17. Use of marked plastic tubing to estimate pig weight.

plastic tube with a set of girth measures and their equivalent weight (see Figure 17. and for further details view website with YouTube video from Mark Knauer- University of North Carolina) <https://www.nationalhogfarmer.com/animal-health/weighing-pigs-without-scale-all-you-need-tube-measure-heart-girth>

The hanging or carcass weight of a pig will be approximately 75-80% of the live weight. Aging or further processing, such as smoking, will reduce the carcass weight of the animal. A

carcass that is aged in the cooler will lose moisture, and will therefore be lighter than a fresh cut carcass.

When planning for slaughter and processing, there are a few things to think about in advance. If the pigs will be slaughtered off farm, identification of the pig and transportation to the slaughterhouse needs to be considered. Refer to the PigTrace and Handling and Transportation sections of this guide for further details. A list of provincially inspected slaughterhouses in Ontario can be found at:

http://www.omafra.gov.on.ca/english/food/inspection/meatinsp/licenced_operators_list.htm.

A list of licensed marketers who will find an abattoir and a buyer for your pork (for a fee) can be found in Appendix 8 at the end of this document. If the meat is to be sold it must be slaughtered at a provincial or federal government-inspected abattoir. If the meat is to be strictly for your own consumption, pigs can be slaughtered at a provincially-inspected abattoir or on the farm. Use of an abattoir is recommended.

It is strongly advised that arrangements be made with the abattoir well in advance, if they are busy they may not have the capacity to accommodate extra animals coming in on short notice. Ensure that you know and follow all of the requirements for bringing pigs to the abattoir. Ensure that that abattoir's receiving area can accommodate the type of trailer or truck you will be using to transport the pigs. If the pigs will be slaughtered in one facility and processed in another, be sure to have a plan for timing that works with both facilities. Also, make sure to have enough freezer space to store the final product between the time of processing and the time of sale.

Appendix 1. Restraining Pigs

Moving and restraining pigs

Adapted from the SOP for swine restraint: Virginia Technical University

https://ouv.vt.edu/content/dam/ouv_vt_edu/sops/large-animal/sop-swine-restraint.pdf

Pigs have wide-angle vision (310°) with a small blind spot directly behind (55°). Basic understanding of a pig's flight zone facilitates safe individual and herd movement (Figure 1). Pigs will generally move in a direction opposite that of the handler's movement into their flight zone. Approaching from behind encourages the animal to move forward; stopping or increasing the distance from the animal will stop forward movement. To move animal backwards, the handler can move in front of the shoulder. Use of a cane or paddle (Figure 2 -P) can assist with directing pig movement, with gentle taps on the opposite side of direction you want pig to go in.

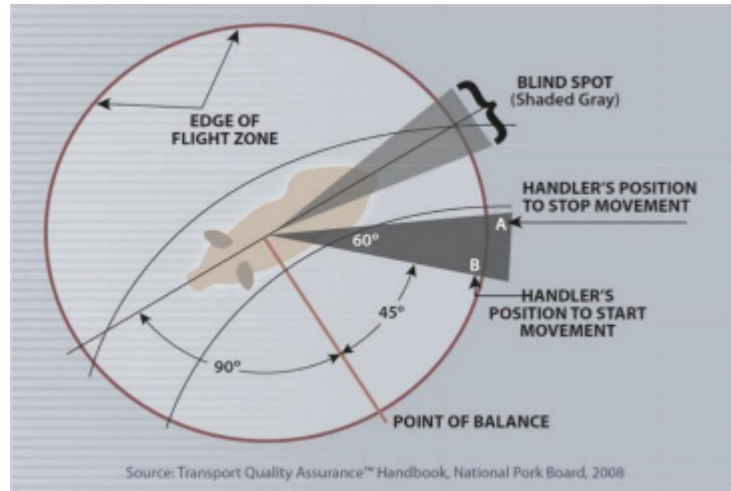


Figure 1. Understanding the Flight Zone



Figure 2. Producers moving pigs with a paddle (P) and pig board (B)

Pigs prefer lighted areas and can be herded more easily from dark to lighted areas (e.g., turn off lights from area being exited and turn on in areas being entered). Pigs also have a strong escape instinct – ensure that areas for capture are safe and secure, with no small gaps to go through or under. A pig board can be used to guide the pigs (Figure 2). Be prepared for animal to attempt to go under boards as well as around them if frightened.

There are a variety of situations where you may need to restrain a pig. Examples include: ear tagging, closer examination of a pig for injury or illness or a treatment. To catch and hold a pig under 20 kg approach calmly, herding into a corner if possible (Figure 3). Firmly grasp the one hind leg of piglet. Once you have caught the pig, lift from the pen floor by putting your other hand under the pig's belly. Rapidly transfer to holding the pig with both hands supporting the pig and pulled in snugly to your own body so the pig feels securely held (Figure 4 and 5).



Figure 3. For pigs under 20 kg, approach calmly and grasp a hind leg to pick up for restraint.



Figures 4 and 5. After picking pig up, hold snugly against your body with two hands



Figure 6. A pig snare



Figure 7. Pig restrained using a snare

Pigs over 20 kg become too heavy to lift and are generally corralled into a corner or alley using a pig board. A pig snare can also be used to catch and restrain larger pigs for very short durations (Figure 6 and 7).

Appendix 2. Placing an ear tag in a pig

Ear tagging pigs

WHY ARE EAR TAGS NEEDED?

Under the national traceability program, PigTrace, all pigs are required to be identified with an approved herd mark when leaving the farm to go to an abattoir, fair or show. Ear tags are one of the approved methods to identify your pigs and do not expire. Individual Id (15 DIGIT) PigTrace ear tags can be ordered either from PigTrace Canada or Ontario Pork. Herd Mark ear tags can only be ordered from PigTrace Canada. The numbers to contact both organizations can be found at the bottom of this page.

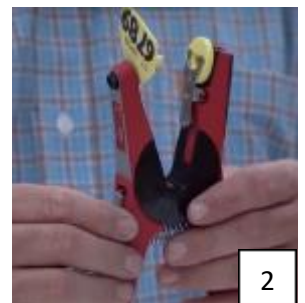
GETTING STARTED

Purchase a spray bottle with rubbing alcohol, a tag applicator and tags. Tags should be bought at least a week before animals are sent to slaughter. Make sure that the applicator is compatible with the tags. PigTrace tags are compatible with the red Alflex Universal tag applicator.

Plan out how you will restrain, contain or distract the pig long enough to tag the ear. Refer to the moving and restraining pigs fact sheet (Appendix 1)

LOADING THE TAG APPLICATOR AND TAG PLACEMENT

1. Load the button portion of the tag into the applicator with the flat part of the button facing the spike of the applicator (Figure 1).
2. Load the visual tag portion on to the spike of the applicator. The numbers of the tag will be facing out (Figure 2).
3. Squeeze the handles of the applicator to partially close it and observe if the hole in the button and the spike of the visual tag are in alignment. Adjust if needed.
4. Spray the spike of the visual tag with rubbing alcohol.
5. Restrain or distract the pig. Distracting the pig with food at the trough may be enough to allow you to quickly insert the tag (Figure 3). Alternatively if you have two people, you can use pig boards or a snare to restrain the pig (Figure 4).
6. Visualize where you will place the tag on the ear. The tag should be located in the centre of the ear in between any veins you can see and between the ribs of the cartilage (Figure 5).
7. Place the tagger on the ear, ensure the button side of the tag is on the inside of the ear and the visual side of the tag (part with ID number) is on the outside (Figure 6).



8. Once the tag is over the preferred location on the ear, quickly and firmly squeeze the applicator until you hear the tag click together. Try not to hesitate, your first chance will be your most likely opportunity for success.

If the animal moves his head after the tag clicks together, but the tag applicator is still attached to tag, do not hold on to the applicator or you might tear the ear. Figures 7a and 7b and 8 show good and poor tag placement respectively. In Figure 8, the tag is too close to the edge of the ear which makes it more likely to get pulled out.



Several simple videos that demonstrate ear tagging in pigs can be found at:

<https://www.youtube.com/watch?v=9XMFdFUG2N0>

https://www.youtube.com/watch?v=Gk_ZqnVytro

<https://www.youtube.com/watch?v=U2Gq5N7syrl>

To order tags or have questions answered from Ontario Pork staff please call 1-877-668-7675.

To order tags or contact PigTrace with questions, please call
1-866-300- 1825.

Appendix 3. Shoulder slap tattoo on a pig

Tattooing your market hogs

WHY IS A TATTOO NEEDED?

A part of the national pig traceability program, Pig Trace, all pigs sent to an abattoir must be identified by an approved PigTrace method. Herd mark identification by shoulder slap tattoo is an approved method. Tattoo numbers can only be issued by Ontario Pork and are linked to a registered premise from which the hogs were raised and sold. All Ontario herd marks must end in either a 5 or a 7 indicating Ontario as the province of origin. A clearly identifiable herd mark at grading is the only the only way you can receive prompt correct payment for your market hogs and is key to traceability.

GETTING STARTED

Hammers and tattoo digits can be purchased from Ontario Pork or sourced through your local farm supply store. New producers who register with Ontario Pork are eligible to receive one complementary set of tattoo digits. Ink, ink pads or ink brushes can be purchased through a farm supply store. Only food-grade, livestock tattoo ink is acceptable for use. From left to right, examples of a slap hammer, digits, ink and ink pad for tattooing pigs are shown below.



HOW TO TATTOO

- Before starting check the equipment. Make sure that all of the pins in the digit plates are straight
- Add the tattoo ink to the hammer or ink pad (if using).and not damaged
- Slap the hammer into a piece of cardboard to test that: enough ink has been applied, that the numbers are in the correct way and that the pins are all functional and the tattoo is readable.
- The tattoo should be placed on the left side of the hog behind the shoulder at the mid-point (Figure A). Tattooing elsewhere (e.g. mid side or on back) can result in carcass loss due to bruising.
- If possible set yourself up in a corridor using gates for pigs to walk through. As they pass you at a slow pace, there is good opportunity to tattoo their shoulder (Figure B). However tattooing can be done in the pen (Figure C).
- Start swinging the hammer when the pig's nose is approximately at your knee. Look at the location where you want the hammer to make contact with the pig's side to help guide your swing. Use a light wrist action when applying the tattoo. The needles only need to penetrate the skin approximately 3mm or (1/8").
- Reapply ink frequently (every 2-3 pigs) to ensure a readable tattoo.

- Tattoo pigs 1-2 days prior to transport. This will minimize stress at loading for you and the pigs.

AFTER TATTOOING

Clean digits with wire brush and warm soapy water. Store hammer and digits where the needles won't get damaged. Needles on the digits dull over time, assess the need for replacement if needles are not puncturing the skin well and tattoos are becoming illegible (it is recommended to change digits every 2500 hogs). Have a second complete set of digits on hand for replacement when needed.

PLUGGED TATTOOS

An unreadable tattoo results in a "plugged hog" (ownership of the hogs cannot be assigned to a premise). For example if the tattoo should read 58365 but the "3" is not legible, the tattoo will be recorded at the abattoir as "58*65". Plugged tattoos are electronically matched up with the closest tattoos at the end of the day. Plugged tattoos will be shown on your producer statement.

For more information or to be issued a herd mark number (tattoo) or set of digits or hammer, contact Ontario Pork 1-877-668-7675.

Appendix 4. PigTrace movement document

PigTrace Canada: Swine Movement Document (2011 Edition)



Although PigTrace Canada requires the necessary information to accompany pig shipments when moving swine and/or swine carcasses, use of the PigTrace Canada manifest is **not mandatory**.

* Indicates Required Field

SECTION 1: ORIGINATING SITE	
Site Name:	Phone #:
* Premises ID:	CQA#:
* Date of Departure: YYYY/MM/DD	* Time of Departure:
The undersigned certifies that any drugs and/or chemicals that have been delivered or consumed by the animals subject to this document have met all necessary withdrawal periods as recommended by the manufacturer or ordered by a veterinarian.	
Producer (or representative) signature	Medication Withdrawl Date
	YYYY/MM/DD
Comments:	

SECTION 2: TRANSPORTER			
Name of Transport Company:		Phone #:	
Trucker #	TQA#:	Unit #:	* License Plate #:
Driver Name (Print):		Driver Signature: _____	
Comments:			

SECTION 3: DESTINATION SITE				
Site Name:		* Premises ID:		
Destination Type:	Packing Plant	Assembly Yard	Farm	Other: _____
* Date of Receipt: YYYY/MM/DD	* Time of Receipt:			
Receiver's Signature: _____				
Comments:				

Producer #	Market Hog Tattoo#	Hogs	Sows	Boars	SEWs	Feeders	Deads	Weight (Optional)	Receiver's Count
Total Weight								Total Received	

This project was made possible by funding from Agriculture and Agri-Food Canada

PigTrace Canada | Phone (toll-free): 1 866 300 1825 | www.pigtrace.ca



Appendix 5. Amount of Space required per pig during transport (by weight)



ONTARIO PORK

Space per pig recommendations of the Code of Practice for the Care and Handling of Livestock: Transportation 2001

Pig Weight - kgs						Pig Weight - lbs					
AVERAGE LIVE WT	MINIMUM SPACE PER PIG	MINIMUM SPACE PER PIG	AVERAGE LIVE WT	MINIMUM SPACE PER PIG	MINIMUM SPACE PER PIG	AVERAGE LIVE WT	MINIMUM SPACE PER PIG	MINIMUM SPACE PER PIG	AVERAGE LIVE WT	MINIMUM SPACE PER PIG	MINIMUM SPACE PER PIG
kgs	m	ft	kgs	m	ft	lbs	m	ft	lbs	m	ft
91	0.34	3.61	127	0.44	4.78	200	0.34	3.61	280	0.44	4.78
93	0.34	3.68	129	0.45	4.85	205	0.34	3.68	285	0.45	4.85
95	0.35	3.75	132	0.46	4.93	210	0.35	3.75	290	0.46	4.93
98	0.36	3.82	134	0.47	5.01	215	0.36	3.82	295	0.47	5.01
100	0.36	3.89	136	0.47	5.08	220	0.36	3.89	300	0.47	5.08
102	0.37	3.96	138	0.48	5.16	225	0.37	3.96	305	0.48	5.16
104	0.37	4.04	141	0.49	5.24	230	0.37	4.04	310	0.49	5.24
107	0.38	4.11	143	0.49	5.32	235	0.38	4.11	315	0.49	5.32
109	0.39	4.18	145	0.50	5.40	240	0.39	4.18	320	0.50	5.40
111	0.39	4.25	147	0.51	5.48	245	0.39	4.25	325	0.51	5.48
113	0.40	4.33	150	0.52	5.56	250	0.40	4.33	330	0.52	5.56
116	0.41	4.40	152	0.52	5.64	255	0.41	4.40	335	0.52	5.64
118	0.42	4.47	154	0.53	5.73	260	0.42	4.47	340	0.53	5.73
120	0.42	4.55	156	0.54	5.81	265	0.42	4.55	345	0.54	5.81
122	0.43	4.62	159	0.55	5.89	270	0.43	4.62	350	0.55	5.89
125	0.44	4.70	161	0.56	5.98	275	0.44	4.70	355	0.56	5.98

Appendix 6. Calculating loading density during warm to hot weather transport of pigs

Calculation of Maximum Pig Load Density

Minimum space per pig and reduction of compartment numbers by 25% are recommendations of the Code of Practice for the Care and Handling of Farm Animals: Transportation 2001

STEP #1:

Calculate the floor space of a compartment

$$\begin{array}{ccc} \text{A} & & \text{B} \\ \boxed{} & \times & \boxed{} \\ \text{Width*} & & \text{Length*} \end{array} = \begin{array}{c} \text{C} \\ \boxed{} \\ \text{Floor Space} \end{array}$$

STEP #2:

Calculate the maximum number of pigs per compartment

$$\begin{array}{ccc} \text{C} & & \text{D} \\ \boxed{} & \div & \boxed{} \\ \text{Floor Space} & & \text{Min. Space per pig**} \end{array} = \begin{array}{c} \text{F} \\ \boxed{} \\ \text{Max. \# of animals} \end{array}$$

INSTRUCTIONS:

A & B* – Measure inside of the trailer compartments as this is the floor space available to the pigs

C – Calculated floor space available to the pigs

D – Using the chart on the back of this page, look up the appropriate space per pig by weight

E – This is the calculated maximum number of animals per compartment during cool-cold weather. Use this value to calculate the reduced number of animals per compartment during warm-hot-humid weather.

Warm Weather (15-23°C):

REDUCE compartment numbers by 10%

$$\begin{array}{ccc} \text{F} & & \\ \boxed{} & \times & \boxed{0.9} \\ \text{Max. \# of animals} & & \text{to reduce by 10\%} \end{array} = \begin{array}{c} \boxed{} \\ \text{reduced max.} \end{array}$$

Hot Weather (24-28°C):

REDUCE compartment numbers by 15%

$$\begin{array}{ccc} \text{E} & & \\ \boxed{} & \times & \boxed{0.85} \\ \text{Max. \# of animals} & & \text{to reduce by 15\%} \end{array} = \begin{array}{c} \boxed{} \\ \text{reduced max.} \end{array}$$

Hot-Humid Weather (28-32°C):

REDUCE compartment numbers by 25%

$$\begin{array}{ccc} \text{F} & & \\ \boxed{} & \times & \boxed{0.75} \\ \text{Max. \# of animals} & & \text{to reduce by 25\%} \end{array} = \begin{array}{c} \boxed{} \\ \text{reduced max.} \end{array}$$

IMPORTANT NOTES:

All measurement must be consistent – Imperial or metric; Code of Practice recommends no more than 30 hogs in any compartment; All calculations are rounded down, no part hogs!

Appendix 7. Boarding and bedding during cold weather transport of pigs

Recommended Cold Weather Truck Setup Procedures for Market Pigs

[Adapted from the Trucker Quality Assurance (TQA) Manual v6]

- With winter approaching, drivers are reminded that freezing temperatures are dangerous to pigs and are amplified by wind chill.
- In cold temperatures, pigs that cannot seek out bedding to protect them from wind and low temperatures are subject to frostbite.
- Frostbite may also occur from being pressed against the side of the trailer.
- At temperatures of -12°C or colder, frostbite can occur in 30 minutes or less when wind speeds are greater than 50km/hr. Colder temperatures and higher wind speeds decrease the time when frostbite can occur.

TQA Recommendations for Boarding and Bedding for Market Pigs

Outside Temp °C	Outside Temp °F	Bedding (recommendation / 53' trailer)			Side-Slats or Boards
		Level	50lb/23kg	35lb/16kg	
< -12°	<10°	Heaviest	6 bags	9 bags	90 - 95% Closed
-7° to -12°	11° to 20°	Heavy	4-6 bags	6-9 bags	75 - 90% Closed
-6° to -1°	21° to 30°	Heavy	4-6 bags	6-9 bags	50 - 75% Closed
0° to 4°	31° to 40°	Medium	3-4 bags	4-6 bags	50 - 75% Closed
5° to 15°	41° to 60°	Medium	3-4 bags	4-6 bags	25 - 50% Closed
16° to 32°	61° to 90°	Medium	3-4 bags	4-6 bags	0% Closed
>32°	> 90°	Light	1-2 bags	2-3 bags	0% Closed

- Bedding helps with moisture control and non-slip footing.
- Even during cold weather, the body heat of pigs will cause the trailer to quickly become hot and humid when stopped.
- Drivers may need to consider removing or opening some boards if they are stopped for long periods with pigs on the truck.
- The professional judgment of the driver and transport staff, knowledge of the local conditions and the distance the pigs are to be transported should be considered in conjunction with the above recommendations.
- Transport companies should work with their staff to establish best practices and the driver's responsibilities in different situations.

Ontario Livestock Transporters' Alliance



November 2017

Appendix 8. Licensed marketers for Ontario producers

Processors and Licensed Hog Marketers



Below is the contact information supplied by federal processing plants and licensed hog marketers in the province of Ontario.

Hog Marketer refers to a person who sells hogs which are not produced by such person or who offers hogs for sale which are not produced by such person, or who otherwise provides marketing services to buyers and sellers of hogs.

Licensed Hog Marketers in the Province of Ontario:

Hudson Marketing Ltd.
Phone: 204-940-1502
Fax: 204-940-1515

Parks Livestock of Canada LP
Phone: 519-595-8555
Fax: 519 595 8552

Zantingh Swine Inc.
Phone: 519-845-0362
Fax: 519-845-0003

John Werden Livestock Ltd.
Phone: 519-859-8900
Fax: 519-895-3278

Global Livestock Marketing Inc.
Phone: 519-421-3121
Fax: 519-421-3124

Federal Processing Plant & Ontario Pork Marketing Division Contacts:

Conestoga Meat Packers Ltd.
conestogameats.com
Colleen Roehrig
Producer Services Specialist
Tel: 519-848-2508 ext 389
Fax: 519-848-3421
croehrig@conestogameats.com

Ontario Pork Marketing Division
oink.ca
Patrick O'Neil, Divisional Manager
Toll Free: 800-873-0363
Fax: 519-829-2734
Forward Price Contracts: 800-862-9001
marketingdivision@ontariopork.on.ca

Sofina Foods
sofinafoods.com
Andrew Marks
Hog Procurement Director
Toll Free: 800-398-9886
Tel: 905-333-2901

Sharon Halliwell
Hog Procurement Assistant
Toll Free: 800-398-9886
Tel: 905-333-2904

Debbie Abreu
Logistics Administrator
Toll Free: 800-398-9886
Tel: 905-333-2985



ONTARIO PORK

Tel: 1-877-888-7875
Fax: 519-829-1789
Email: comm@ontariopork.on.ca
www.ontariopork.on.ca

FOR MORE INFORMATION

OntarioPork.com

Ontario Pork Industry and Member Services

memberservices@ontariopork.on.ca

877.668.7675



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Original document was created and funded in part by:

