

SECTION 12: HUMANE EUTHANASIA

There may come an unfortunate time when an animal is sick or injured and must be euthanized. Humane euthanasia is incredibly important and should be taken very seriously. A humane euthanasia is achieved when there is minimal pain, fear, or distress for the animal. This can be accomplished through knowledge, training, and utilizing correct technique.

There are some requirements to follow from Canada's Code of Practice for the Care and Handling of Pigs that are highlighted in this section.

12.1 EUTHANASIA PLAN

If you are raising pigs, you should have a euthanasia plan on your farm. A euthanasia plan should include the following:

WHO	<ul style="list-style-type: none"> • Assign who on the farm is skilled to elect and perform euthanasia. • Have a veterinarian to consult with and make on-farm euthanasia plans to follow.
WHAT	<ul style="list-style-type: none"> • Determine what method of euthanasia is appropriate for specific sizes and ages of pigs. • Have the correct equipment to perform euthanasia.
WHERE	<ul style="list-style-type: none"> • Understand the anatomy and location for correct euthanasia.
WHEN	<ul style="list-style-type: none"> • Have criteria for deciding when to euthanize an animal.
WHY	<ul style="list-style-type: none"> • Understand the ethical and legal obligations to euthanize animals who are in pain or are suffering. • Understand and recognize when an animal is in pain or is suffering.
HOW	<ul style="list-style-type: none"> • Perform appropriate restraint. • Perform appropriate euthanasia method. • Confirm death. • Dispose of carcass safely. • Maintain euthanasia equipment.

REQUIREMENTS⁽¹⁾

In consultation with a licensed veterinarian, an on-farm written euthanasia plan to facilitate timely on-farm euthanasia must be developed and followed. Individuals who euthanize pigs must be trained in the appropriate euthanasia methods.

12.2 DECIDING TO EUTHANIZE

Deciding to euthanize an animal is not an easy decision. It is difficult due to emotional attachment, socio-demographic considerations, environmental influences, psychological factors, and management practices. When it is time to make this decision, consider the following:

- Use the “*euthanasia decision tree*” to help make the call (refer to page 12-4).
- Ask yourself several questions listed below to help you make the decision.
- Select the correct person for the job (this means someone who is trained and someone who is emotionally comfortable with this).
- It is never wrong to get a second opinion.
- Make a timely decision (do not prolong suffering).
- When an animal is suffering, euthanasia is the right thing to do.

QUESTIONS TO ASK:

- Is the animal experiencing a high level of pain?
- Will it require continual medication to alleviate the pain and suffering?
- Will the animal have to endure a painful and lengthy recovery?
- Will the animal be likely to return to normal function post recovery?
- Can the required care be provided during the recovering period?
- Is the animal likely to suffer chronic pain or immobility following recovery?
- Will weather extremes create inhumane conditions for this animal during and/or after recovery?
- Will the animal be unable to or have difficulty accessing feed and water?
- Will the cost of therapy outweigh financial return?
- Is the animal contagious and at high risk of spreading disease or illness to other animals, adversely affecting the welfare and the economics of the operation?

The answer to these questions is not always clear. Nonetheless, they should be part of the decision-making process whenever faced with the choice of treatment, slaughter or euthanasia.

One of the biggest challenges though is determining: *How long should an animal be given to recover?* Current industry literature and guidelines would suggest that animals should show evidence of significant improvement within 24–48 hours from the onset of treatment.

Simply leaving an animal that is suffering to die of natural causes or in other words, **“letting nature take its course” is unacceptable.** Furthermore, it is NOT acceptable to prolong an animal’s misery by delaying euthanasia for reasons of convenience. It is important that when euthanasia is indicated, it be conducted in timely manner.”

Source: B.C. Pork On-Farm Euthanasia Seminar. Instructor – Jennifer Woods, M.Sc., 2014⁽²⁾

REQUIREMENTS⁽¹⁾

Pigs not responding to treatment and pigs with untreatable conditions that compromise welfare, if not fit for transport, must be promptly euthanized or slaughtered on-farm (if fit for human consumption) in accordance with provincial regulations.

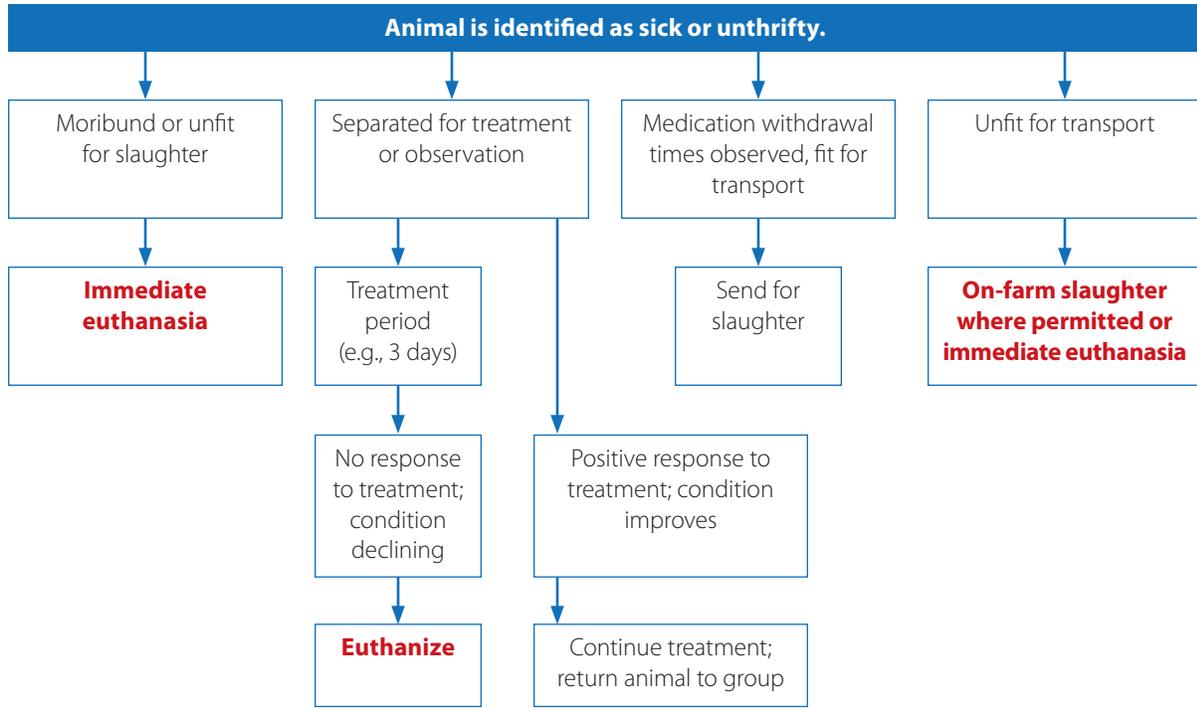
INDICATORS OF ANIMAL PAIN:

- Inability or unwillingness to rise or walk.
- Reluctance to put weight on a limb.
- Protection of the painful area.
- Vocalization, especially when an animal moves or a painful area is touched.
- Open mouth breathing.
- Arched or hunched back, abdomen tucked up and/or drooping head and/or ears.
- Tail uncurled (pigs whose tails have not been docked).
- Lack of interest in food, water or surroundings.
- Stays away from or does not respond to other animals.
- Does not respond when touched or prodded.
- Standing in a rigid position, shivering, trembling or profuse sweating.
- Attraction to area of pain.
- Hiding in bedding.
- Reduction in suckling.
- Unsettled, inability to get comfortable.

Source: Euthanasia Seminar. Instructor – Jennifer Woods, M.Sc., 2014⁽²⁾

12.2 DECIDING TO EUTHANIZE

EUTHANASIA DECISION TREE:



Examples of criteria for euthanizing weanling or growing pigs:

- 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: National Farm Animal Care Council. Code of Practice for the Care and Handling of Pigs, 2014⁽¹⁾

12.3 METHODS OF EUTHANASIA

- There are different ways to euthanize pigs effectively.
- Not all methods are appropriate for all sizes of pigs.
- Talk to your veterinarian about an on-farm euthanasia plan and the necessary tools to perform these properly.
- The most realistic methods used on small scale farms include:
 - Blunt force trauma.
 - Penetrating captive bolt.
 - Gunshot.
 - Anesthetic overdose performed by a veterinarian.

APPROPRIATE METHOD FOR SIZE:

Euthanasia Method	Weight						
	<2.3 kg	2.3–9.0 kg	9–32 kg	32–68 kg	68–120 kg	120–200 kg	>200 kg
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 Head ⁹	Unacceptable	Unacceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

Source: National Farm Animal Care Council. Code of Practice for the Care and Handling of Pigs, 2014⁽¹⁾

1. 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.
2. Administered under the direct direction of a licensed veterinarian only.
3. 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 the criteria for euthanasia can be consistently met.
4. 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.
5. Animals must be heavily sedated before introduction to gases. This form of euthanasia is acceptable only with properly-maintained, proven effective, purpose-designed equipment.
6. 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.

12.4 HOW TO EUTHANIZE PIGS

7. It is critical to ensure proper placement and aim of the penetrating captive bolt since the brain is relatively small and well protected. When using the captive bolt method, the frontal site is the only acceptable location.
8. Pigs ≥ 120 kg (≥ 265 lbs) in weight require a secondary method (e.g., reapply the captive bolt, pithing, bleeding) that is performed after the animal becomes insensible.
9. 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.

REQUIREMENTS⁽¹⁾

An acceptable method for euthanizing pigs must be used. The method used to euthanize pigs must be administered in a manner that is quick and causes the least possible pain and distress. Prior to being euthanized, animals must not be dragged, prodded, forced to move on broken limbs, or made to move when pain and suffering will occur.

For more details on methods of euthanasia, please see the B.C. Pork On-Farm Euthanasia Seminar document by instructor Jennifer Woods, M.Sc., 2014⁽²⁾

12.4 HOW TO EUTHANIZE PIGS

STEPS

- Step 1: Choose a trained individual to perform euthanasia.
- Step 2: Choose appropriate method for euthanasia based on weight of animal.
- Step 3: Get all equipment prepared.
(If using a captive bolt gun or a firearm, always keep a second round of ammunition just in case).
- Step 4: If animal is ambulatory, move animal to desired location.
(Do not force animal or stress animal out more than necessary).
- Step 5: Perform appropriate restraint depending on method of euthanasia.
- Step 6: Ensure yourself and others are in a safe location.
- Step 7: Perform euthanasia.
- Step 8: Confirm death (see Section 12.5 CONFIRMATION OF DEATH).
- Step 9: Dispose of carcass.
- Step 10: Clean and maintain euthanasia equipment.

DO:

- Know your anatomy – aim for the brain.
- Use gunshot or captive bolt guns in the head **ONLY**.
- Minimize stress of the pig to be euthanized. Perform in a quiet area, use proper restraint, and use an efficient and appropriate euthanasia method.
- Maintain and clean your euthanasia equipment.
- Follow the steps outlined above.
- Dispose of carcasses safely especially if euthanasia is by anesthetic overdose. If a dog or wild animal scavenges an animal euthanatized in this way, they can die!
- Ask for help if you need it.

NEVER:

- Have someone manually restrain a pig who is being euthanized by gunshot.
- Shoot an animal in the chest or anywhere other than the head.
- Put your hands **ANYWHERE** near the captive bolt gun opening.
- Walk around with a loaded firearm or captive bolt gun.

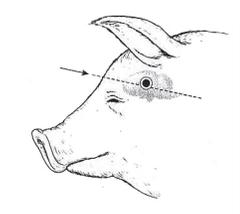


Image: Correct position for shooting swine with a captive bolt or a firearm.

Source: Recommended Animal Handling Guidelines and Audit Guide for Cattle, Pigs, and Sheep (2005 Edition, with 2007 and 2010 Updates). Author – Dr. Temple Grandin. Diagram provided by Dr. J.K. Shearer, 2010⁽³⁾
<http://www.grandin.com/RecAnimalHandlingGuidelines.html>

For more information on euthanasia with a firearm, go to Michigan State University, Animal Agriculture, Euthanasia of Large Animals – Firearm, then view ‘Location and Angle for Humane Euthanasia of Large Animals – Firearm’, 2018⁽⁴⁾ located at:
<https://www.canr.msu.edu/resources/euthanasia-of-large-animals-firearm>

12.5 CONFIRMATION OF DEATH



Three different types of penetrating captive bolt guns acceptable for humane euthanasia of pigs over 9 kg.



Correct placement of a penetrating captive bolt gun on an adult pig.



Non-penetrating captive bolt gun acceptable for humane euthanasia of piglets under 9 kg.



Correct placement of a non-penetrating captive bolt gun on piglets under 9 kg.

Source of photos: B.C. Pork On-Farm Euthanasia Seminar. Instructor – Jennifer Woods, M.Sc., 2014⁽²⁾

12.5 CONFIRMATION OF DEATH

“Death is not immediate but a process that can take in excess of 10 minutes to be completed. First the animal is rendered insensible, then the body begins to die as the brain stops, the lungs stop breathing, the heart quits beating, and the blood quits circulating.

Upon loss of consciousness, reflex motor activity or muscle spasms are likely to occur. This is a normal part of the death process and should not be perceived as the animal being in pain or distress. People sometimes mistake this involuntary movement as sensibility or mistake the lack of movement as loss of consciousness.

The muscle spasms will not be immediate and may take up to a minute to begin. Pigs tend to have more violent and longer involuntary muscle spasms than other species. The violent kicking can last 15–20 seconds or longer with more random, mild convulsions lasting for several minutes. If the animal has an extended period of movement or ‘flopping’ it may only be stunned and should be reshot.”

Source: B.C. Pork On-Farm Euthanasia Seminar. Instructor – Jennifer Woods, M.Sc., 2014⁽²⁾

After performing euthanasia, you must confirm that the pig is dead. Signs that a pig is returning to sensibility (is not dead) include the presence of one or more of the following (Source: National Farm Animal Care Council – Code of Practice for the Care and Handling of Pigs, 2014⁽¹⁾):

- Rhythmic breathing.
- Constricted pupils.
- Attempts to raise the head (righting reflex).
- Vocalization.
- Present palpebral reflex: *tap on the inner corner of the eye or run your finger along the eyelash. There should be NO blinking or movement of the eye if the animal is dead.*
- Response to a painful stimulus such as a nose prick with a needle.
- Natural blinking.
- Presence of jaw tone.

If any of these signs are present, immediately perform a backup method of euthanasia. This could include performing the euthanasia again.

REQUIREMENTS⁽¹⁾

Animals must be evaluated for insensibility immediately following the application of the euthanasia method. A backup method of euthanasia must be immediately applied if an animal shows signs of returning to sensibility. Death must always be confirmed when euthanizing animals before moving or leaving the animal.

Palpebral reflex performed after euthanasia to confirm death; there should be NO blinking or eye movement from a dead animal.



Source of photo: B.C. Pork On-Farm Euthanasia Seminar – Instructor Jennifer Woods, M.Sc., 2014⁽²⁾

12.6 DISPOSAL OF DEADSTOCK

12.6 DISPOSAL OF DEADSTOCK

- Dispose of deadstock in a timely manner.
- If animals were euthanized by anesthetic overdose, ensure carcass is not scavenged by pets or wildlife as the residual anesthetic can be lethal to them.
- See Section 8.3 BIOSECURITY ON YOUR FARM for details concerning deadstock disposal.
- Options include deadstock pick-up, on-farm burial, on-farm incineration, and on-farm compost.

SECTION 12 REFERENCE LIST

1. National Farm Animal Care Council. Code of Practice for the Care and Handling of Pigs (2014)
2. B.C. Pork On-Farm Euthanasia Seminar. Instructor – Jennifer Woods, M.Sc. (2014)
3. Recommended Animal Handling Guidelines and Audit Guide for Cattle, Pigs, and Sheep (2005 Edition, with 2007 and 2010 Updates). Author – Dr. Temple Grandin. Diagram provided by Dr. J.K. Shearer, 2010
4. Michigan State University. MSU Extension Animal Agriculture. Euthanasia of Large Animals – Firearms (2018)