



# Animal Welfare Technical Information no. 16.8

## Correct euthanasia of decapods

### General information on animal euthanasia

The Animal Protection Ordinance (AniPO) has been supplemented with provisions on animal euthanasia which took effect on 1 March 2018. The FSVO is therefore publishing a series of species-specific information sheets on the subject.

The aim of this information sheet is primarily to list methods of euthanasia that comply with animal welfare regulations. However, it also lists methods that are not compatible with the legal requirements. In addition, it describes the criteria for correct euthanasia procedures.

The information is addressed to individuals who euthanize animals in the course of their work, and to the cantonal veterinary services responsible for enforcing animal welfare legislation.

### Deliberate killing of an animal in a manner that causes suffering is prohibited

Any person who deliberately kills an animal in a manner that causes suffering is committing maltreatment. This is punishable by a custodial sentence of up to three years or a fine; see Art. 26 para. 1 letter b of the Animal Protection Act (AniPA). It follows that the killing of animals in a manner that causes suffering is prohibited; see Art. 16 para. 2 AniPO. Methods of killing that cause suffering include immersing decapods in boiling water without prior stunning or other methods in which the animal is not stunned immediately; see following section.

### What is meant by “correct euthanasia”?

An animal is euthanized correctly, when a qualified person uses a welfare compliant euthanasia method under gentle conditions.

### Requirements on persons involved in the euthanasia and slaughter of animals

Any person who kills animals must be qualified; see Art. 177 AniPO, i.e:

- The person must have acquired the necessary knowledge and practical experience of animal euthanasia under expert guidance and supervision, or bring the relevant skills with them as a result of their training.
- They must regularly euthanize animals using the methods they have learned.

### Correct procedure under gentle conditions

- The animal is prepared and restrained in a gentle manner.
- Euthanasia takes place without delay and without fear or pain.
- The animal is monitored until death occurs; see Art. 179 para. 1 AniPO.
- Death is verified before the carcass is processed or disposed of.

## Requirements on a welfare compliant method of euthanasia

- The animal must be stunned before euthanasia; see Art. 178 AniPO. Euthanasia without prior stunning is permitted only if the method of euthanasia renders the animal immediately insensible and unconscious without fear or pain; see Art. 178a para. 1 letter c AniPO.
- The method must reliably lead to death; see Art. 179 para. 2 AniPO.

Anyone who kills animals in a manner that does not meet the above criteria is in breach of animal welfare legislation.

## Gentle handling of decapods before euthanasia

If decapods are not transported in water, they must be killed on the day of delivery or transferred to a holding tank immediately upon arrival. The latter requires a cantonal authorisation to keep decapods, as well as properly trained care personnel; see Animal Welfare Technical Information no. 4.4 "Holding of decapods".

## Welfare compliant methods of euthanasia for decapods

Method of euthanasia	Welfare compliant for
Electric current	all decapods
Electrical stunning and immersion in boiling water	all decapods
Electrical stunning and destruction of nerve centres with a sharp blade	Long-tailed crustaceans such as lobsters, langoustines or crayfish

## Explanations regarding methods of euthanasia

### Electric current

Generally, decapods are only stunned using electrical stunning devices and therefore need to be killed in a further step; see the following sections. However, using certain types of electrical stunning equipment, it is possible to kill decapods directly.

Electrical stunners may only be used for stunning or direct killing if they have been tested and approved for the relevant purpose for the decapod species in question. The competent cantonal veterinary service checks the method of stunning or killing being used, i.e. including the use of the appropriate equipment, when granting an authorisation to hold the animals. The manufacturer's recommendations must be followed. In addition, electrical stunners must be regularly maintained and checked for proper operation.

To **reduce stress** in the animals, the following points must be taken into account:

- Depending on the decapod species, the stunning tank should be filled with clean and well-aerated salt or fresh water.
- To achieve high oxygen saturation, cool water must be used as far as possible.
- If the animals are kept in water before killing, the temperature difference between holding tank and stunning tank must not exceed 5 °C.
- For salt water decapods, the salt water in the stunning tank must be mixed according to the manufacturer's instructions and must not fall below a concentration of 0.6 %, i.e. 6 grams of salt per litre of water. Sea salt or pure sodium chloride (i.e. not iodine or fluorine enriched) must be used.

- The animals must be stunned immediately (within 1 minute) after placing in the stunning device and then killed.

### Electrical stunning and immersion in boiling water

The same basic requirements as described above also apply to electrical stunning. All species of decapods may be killed after stunning by immersion in boiling water. A ratio of at least 1:10 must be maintained between animal volume and water volume. The animals must be placed in the boiling vessel individually and head first.

### Electrical stunning and mechanical destruction of nerve centres: suitable only for long-tailed crustaceans

Lobsters, langoustines and crayfish have a chain of nerve centres running down their midline from head to tail. All of the nerve centres, except the first nerve centre in the head area, are located along the midline on the underside; see Figure 1a).

For reliable euthanasia, the nerve centres of these crustaceans must be completely destroyed immediately after stunning. This is done by splitting the animals in two along the midline with a large, sharp knife; see Figure 1b). To do this, the stunned animal must be placed on a non-slip surface on its front so that the incision can be made reliably and accurately from the back down through the centre of the body. After cutting, the severing of all nerve centres on the underside must be verified.

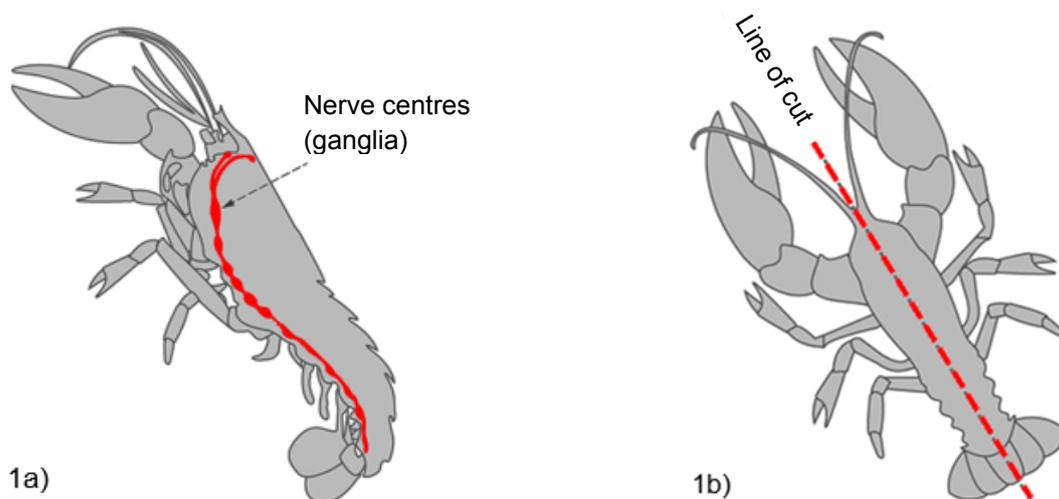


Figure 1a): Long-tailed crustacean, side view showing nerve centres

Figure 1b): Top view and line of cut for splitting

Source: Royal Society for the Prevention of Cruelty against Animals (RSPCA) Australia, “Humane killing and processing of crustaceans for human consumption”

Note that mechanical destruction of nerve centres **in crabs** is technically demanding for anatomical reasons and therefore carries an increased risk of delayed death. It is therefore classed as **non-welfare compliant**.

## Verification of death

Any individual who kills an animal must verify that death has actually occurred before processing or disposing of the carcass.

The following signs are used to verify insensibility in decapods and to verify death after destruction of the nerve centres:

- no resistance to handling, i.e. the tail or abdomen can be extended without resistance, the outer mouthparts can be moved without resistance;
- no controlled limb movements;
- no eye reactions when the shell is tapped; and
- no reaction when touched around the mouthparts.

## Disposal of carcasses

Dead animals, blood and intestines must be disposed of in accordance with the provisions of the Ordinance on the Disposal of Animal By-products (ABO, SR 916.441.22).

## Prohibited methods of euthanasia

**Immersing decapods that have not been stunned in boiling water:** This method does not stun the animal and death is delayed, resulting in pain and suffering.

**Mechanical destruction of nerve centres without prior stunning:** This method does not immediately render the animal unconscious and death is delayed, resulting in pain and suffering.

**Cutting into sections or separating body parts before the animal is dead:** As with slaughter regulations, an animal may not be cut up before death has occurred; see Art. 179d para. 4 AniPO.

**Killing decapods by microwaving or steaming:** This method does not stun the animal and death is delayed, resulting in pain and suffering.

**Allowing aquatic decapods to asphyxiate in water containing CO<sub>2</sub> or lacking adequate aeration:** This method does not stun the animal and causes delayed death due to lack of oxygen, resulting in pain and suffering.

**Allowing aquatic decapods to asphyxiate in air:** This method does not stun the animal and causes delayed death due to desiccation of gill tissue, resulting in pain and suffering.

**Freezing:** This method causes frostbite and death is delayed, resulting in pain and suffering.

## Prohibited practices on decapods in connection with killing

**Placing marine decapods, e.g. lobsters and langoustines, in fresh water:** This method leads to osmotic shock, resulting in pain and suffering.

**Placing freshwater decapods, e.g. crayfish, in salt water:** This method leads to osmotic shock, resulting in pain and suffering.

**Chilling of decapods in the freezer as a method of stunning:** Chilling does not reliably render the animals unconscious, resulting in pain and suffering during euthanasia. In addition, extremities may freeze, which also causes pain.

## Legislation: Animal Protection Act (AniPA), Animal Protection Ordinance (AniPO)

### Art. 26 AniPA Maltreatment of animals (penalties)

- <sup>1</sup> A custodial sentence of up to three years or a fine will be imposed on any person who deliberately:
- b. Kills an animal in a manner that causes suffering; [...]

### Art. 16 AniPO Prohibited practices

- <sup>2</sup> The following are specifically prohibited:
- a. The killing of animals in a cruel manner; [...]

### Art. 177 AniPO Requirements for persons involved in the euthanasia and slaughter of animals

- <sup>1</sup> Vertebrates and decapods may only be euthanized by qualified persons.  
<sup>1bis</sup> Persons deemed to be qualified are those who have acquired the necessary knowledge and practical experience of euthanizing animals under expert guidance and supervision and who regularly euthanize animals.

### Art. 178 AniPO Stunning requirement

- <sup>1</sup> Vertebrates and decapods may only be killed if they are stunned. If this is not possible, all necessary measures must be taken to reduce pain, suffering and fear to a minimum.

### Art. 178a AniPO Exceptions to the stunning requirement

- <sup>1</sup> Killing a vertebrate animal or decapod without prior stunning is permitted:
- a. in hunting;
  - b. in the context of permitted pest control measures;
  - c. if the method of killing used avoids pain and suffering and leads to immediate loss of consciousness and insensibility.

### Art. 179 AniPO Correct euthanasia

- <sup>1</sup> The person performing euthanasia must take the precautions necessary to ensure that the animal is handled carefully and killing is performed without delay. This person must monitor the euthanasia process until death occurs.  
<sup>2</sup> The method of euthanasia selected must reliably lead to the animal's death.  
<sup>3</sup> After hearing the cantonal authorities, the FSVO may define methods of euthanasia for certain animal species or for special purposes.

### Art. 179a AniPO Permitted methods of stunning

- <sup>1</sup> The following methods are permitted for stunning:
- j. Decapods: - electric current

*The previously permitted method of mechanical destruction of the "brain" will be deleted with the next revision of the AniPO.*

### Art. 179c AniPO Stunning equipment and facilities

- <sup>1</sup> Stunning equipment and systems must be checked for proper operation on every working day at least once before the start of work and, if necessary, cleaned several times a day. Replacement equipment must be kept to hand and ready for use.  
<sup>2</sup> During the operation, the stunning equipment and systems must be checked by monitoring the success of the stunning procedure, so that technical deficiencies that can lead to a failure to stun the animals properly are immediately identified and remedied.  
<sup>3</sup> Maintenance of the stunning equipment and systems, the functional tests and also the remedy of deficiencies must be documented.