


## Fatigued and dead pigs



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### What are iceberg indicators?

Iceberg indicators can be described as animal-based indicators which reflect a multitude of underlying welfare issues. Although, animal welfare is multi-dimensional, iceberg indicators can provide an initial overview of pigs welfare state, which could help to estimate the risk to animal welfare. The number of pigs which are fatigued (non-ambulatory) and death on arrival is considered to be a suitable animal-based iceberg indicator to assess the welfare of pigs during transport. 



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### What does fatigue (non-ambulatory) indicate?

- Fatigue (non-ambulatory) can be due to many reasons and indicates several animal welfare problems during Pre-transport and transport stage (see Table).
- Fatigued (non-ambulatory) pigs show signs of acute stress that result from exhaustion. The pigs can be injured or show no signs of injuries.
- Fatigue (non-ambulatory) can lead to death of the pigs on arrival (DoA).
- More attention should be paid to increased incidence of fatigue depending on other factors such as temperature and humidity, as well as health status.

Possible reasons	Animal Welfare Problems
<b>Pre-transport stage</b>	
Inadequate preparation	Too short/long duration of fasting
Lacking fitness for transport	Transport of pigs with physiological weaknesses (e.g. piglets <3 weeks, sows in the last gestation stage/during lactation)
Inappropriate loading density	Overstocking; not lowering the stocking density during high temperatures and relative humidity levels
Insufficient grouping of the pigs during transport	Agonistic behaviour during transport of unfamiliar pigs
Insufficient route planning	Long waiting times at other farms collecting other pigs or at abattoirs
<b>Transport stage</b>	
Insufficient water supply	Non-familiar with drinkers, high stocking density preventing animals to reach drinkers, low flow rate
High or low temperatures	Pigs experiencing heat or cold stress can result in cardiovascular problems
Insufficient measures taken to reduce heat stress	Planning transports on the basis of weather forecasts, parking vehicle in shade, unloading promptly



### Inspection method (recommended)

- The official inspector checks for fatigued / non-ambulatory and dead pigs at stops and during unloading.
- In case of infringements, the official inspector reports findings to transporter.
- In case of discrepancies between legal requirements and situation during transport corrective actions are taken to ensure the situation complies with legal requirements in the future.

### Fatigue (non-ambulatory)



Fatigued or exhausted pigs are reluctant to move, show respiratory distress (e.g. panting, see factsheet on heat stress), are moribund or show a generally reduced response to stimuli or reduced vigilance.



Scan the QR code to watch a video of a fatigued or exhausted pig.

The pig is reluctant to move, showing respiratory distress such as panting.

**Note:** A thorough examination of the animals for other indicators, such as heat stress or fitness for transport (see e.g. [Review of climate control and space allowance during transport of pigs](#); [Review of fitness for transport of pigs](#)), should follow.

If no explanation for the death of the animals can be found when checking the records (e.g. on the duration of transport), the farm of origin should be checked.

### Death



Death is indicated by cessation of breathing and absence of a pulse (cardiac arrest). All animals which are found dead on the floor in the truck or die during unloading are considered dead on arrival (DoA).

Based on [Animal Transport Guides](#) & [McGlone et al., 2014](#)



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If you have any questions or suggestions regarding this factsheet please contact [info.pigs@eurcaw.eu](mailto:info.pigs@eurcaw.eu)