

# Causes of spontaneous sow deaths and predictive factors in 5 danish sow herds

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## Background and Objectives

A high rate of spontaneously dead sows causes production losses and likely indicates underlying welfare problems. Establishing the cause for spontaneous deaths is a prerequisite for lowering mortality. The aim of this study is to determine causes of spontaneous sow deaths in farrowing, pregnancy and service units and relate these to predictive factors.

## Materials and Methods

Five conventional herds were included. Inclusion criteria: 6-8% spontaneous deaths on an annual basis; location close to the diagnostic laboratory; herd size min. 1000 sows, PRRS-negative. Latest at 1 pm on the day a sow was found dead, it was transported to the laboratory for necropsy. Farmers provided information on sows, including parity, date and time of day, temperature in the unit and clinical observations prior to death. Further registrations, like dates of farrowing, service, weaning and litter size were drawn from management software (Agrovision, Cloudfarms).

## Results

82 sows were autopsied with the following distribution on herds (herdnumber: sows autopsied): 1: 27; 2: 4; 3: 10; 4:19; 5: 22.  
Distribution on parities: 1-2 (44%), 3-4 (30%) and ≥5 (26%).  
Housing units at the time of death: Farrowing (49%), gestation (35%) and service (16%).  
Main cause of death: Organ torsions: liver torsions (15%) occurred only in farrowing units; spleen torsions (12%) occurred across all units. Liver torsions were only detected in farms 1, 3 and 4.  
Second most common cause of death: Reproductive disorders (17%). Mainly endometritis, dystocia, retained decaying foetuses.  
Deaths due to stress/trauma (13%): Primarily in gestation barns, all with loose-housing. Mainly due to fighting or jamming.  
Deaths due to stomach and bowel disorders: Mainly bleeding stomach ulcers and hemorrhagic bowel syndrome.

## Acknowledgements

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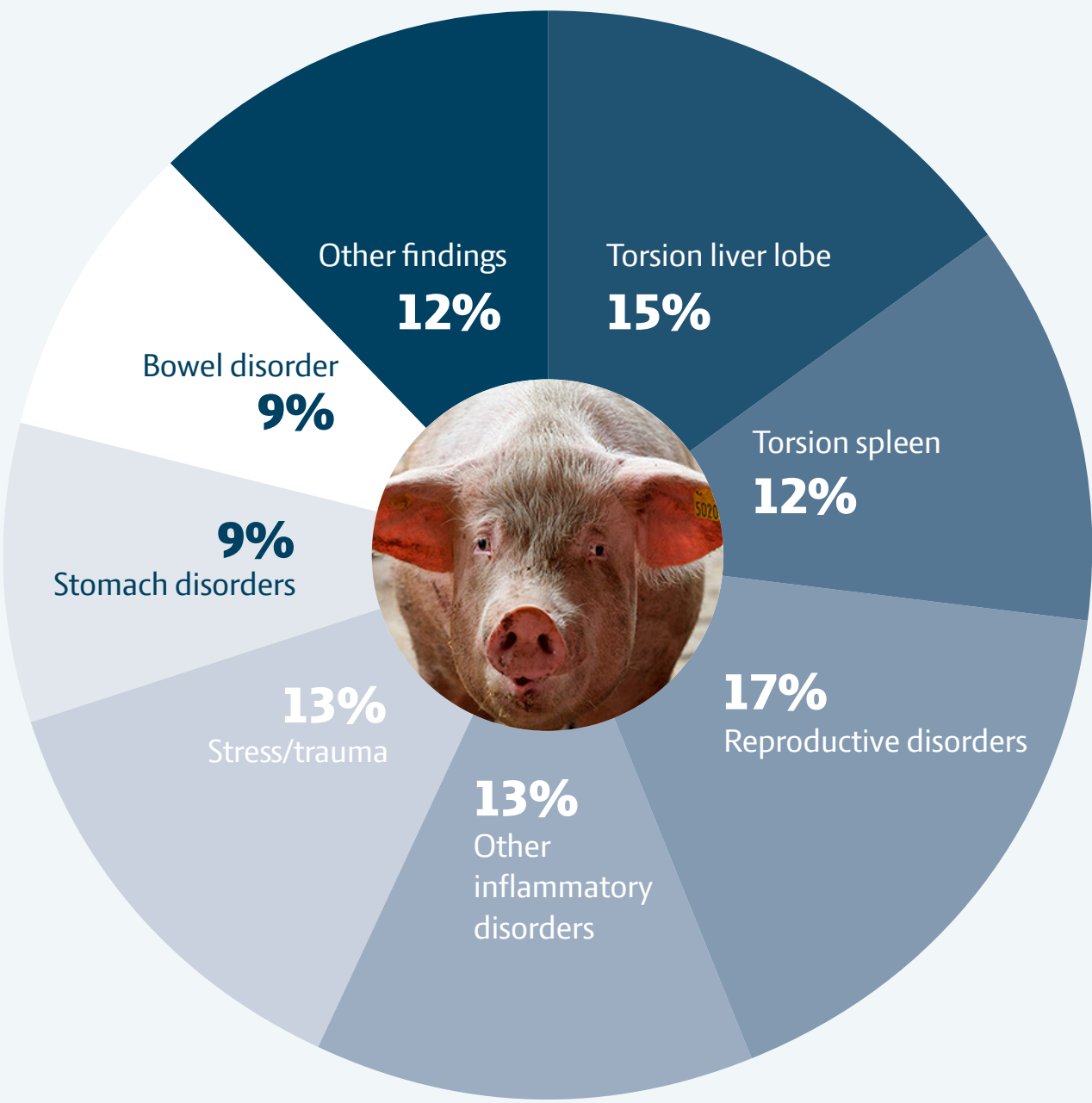


FIGURE 1. Causes of death (n=82 sows, 5 herds).

Sows were found dead in the timespan from 1 am till 10 am, at barn temperatures ranging from 17 to 23 °C.

Clinical recordings on farm: 22 were ill the day before death, 12 with reduced appetite. No simple association to specific causes of death was found.

Body condition score: Below normal (13%); above normal (2%), remaining sows normal. Five sows were in sick pens at the time of death. Fourteen sows were nursing sows at the time of death.

## Conclusion

- Organ torsions and reproductive disorder were the main causes of death.
- Causes of death were independent of parity.
- On farm recordings of body condition score, appetite or signs of illness were not very useful predictors of spontaneous death.
- Increased focus during and after farrowing is recommended.
- Further research is needed to establish the background and prevention of liver lobe and spleen torsions.
- Management of loose-housed sows in gestation barns must focus on preventing stress and traumatic incidences.

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