Limb and body injuries in lactating sows in England: prevalence and association with flooring

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Aim

Estimate the prevalence of lesions on the limbs and body of lactating sows in England
Calculate the proportion of lesions that can be attributed to each different type of floor

Method

Sample of farms and pigs
Cross sectional study 2003 – 2004
Assured British Pig database was the sampling frame (>85% of population)
517 breeder-to-finisher farms with >100 sows were randomly selected

Data collected on farm visits
4 lactating sows randomly selected
Sows – limbs and body examined
Pens - Floor construction and bedding use recorded

Definition of lesions on the limbs and body

Lesion type		Description
Limb Lesions	Bursitis	Soft tissue swelling below the hock or carpal joint
	Capped hock	Soft tissue swelling on the point of the hock
	Skin abrasion	Broken skin, fresh or healing wounds
	Calluses	Hardened thickened skin
Body lesions		Broken skin, fresh or healing wounds

Data analysis
Multiple multilevel logistic binomial regression was used to identify risks associated with floor type

Population attributable percentages were calculated where there was a significant association with floor type

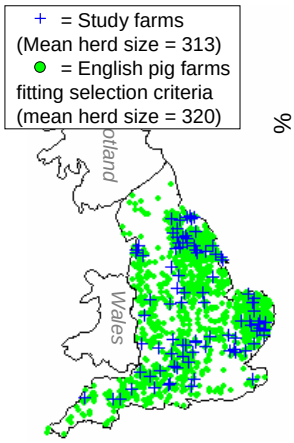
Results

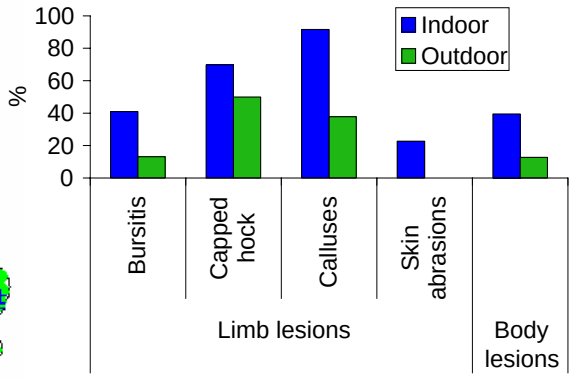
Farms
There was 18% compliance among the farms selected to take part

74 Indoor and 15 outdoor farms across all areas of England participated

Prevalence of lesions in 304 sows
Limb lesions; 93%
Body lesions; 20%

Indoors vs. outdoors
There was a lower prevalence of all limb and body lesions in outdoor housed sows compared with indoor housed sows





Indoor floor type
An increased prevalence of capped hock, calluses, skin abrasions and body lesions was associated with fully slatted floors compared with solid concrete floors with bedding. There was no association between bursitis and indoor floor type

Population attributable percentages
The percentage by which the number of affected pigs in the population would be reduced if the sows were housed **outdoors** depended on the prevalence of the lesion and the floor type

Lesion		Floor type: Solid concrete with bedding	Part slatted: with bedding	Part slatted: without bedding	Fully slatted
Limb lesions	Bursitis	7.5	15.4	31.3	6.5
	Capped hock	7.1	10	49.8	9.8
	Calluses	6.1	16.3	39.9	13
	Skin abrasion	9.3	7.4	61.6	18.5
Body lesions		10.4	18.2	37.7	18.9

Conclusions

Prevalence
The sample provides a good estimate of the prevalence of lesions on lactating sows in England from farms that appear to be representative of the commercial pig farm population in herd size and geographical spread
However - self selection may have biased the sample towards farms with better health and welfare

Flooring
The lowest prevalence of all lesions occurred outdoors where soil and deep bedding provided a soft protective lying surface
Indoors the highest prevalence of the majority of lesions was associated with fully slatted floors due to the reduced weight bearing surface area or the lack of bedding

Population attributable percentages
Although the highest risk of lesions was associated with fully slatted floors, the greatest proportion of lesions was attributed to part slatted floors with no bedding as this was the most common floor type

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