



# **Shoulder ulcers in sows: causes of variation**

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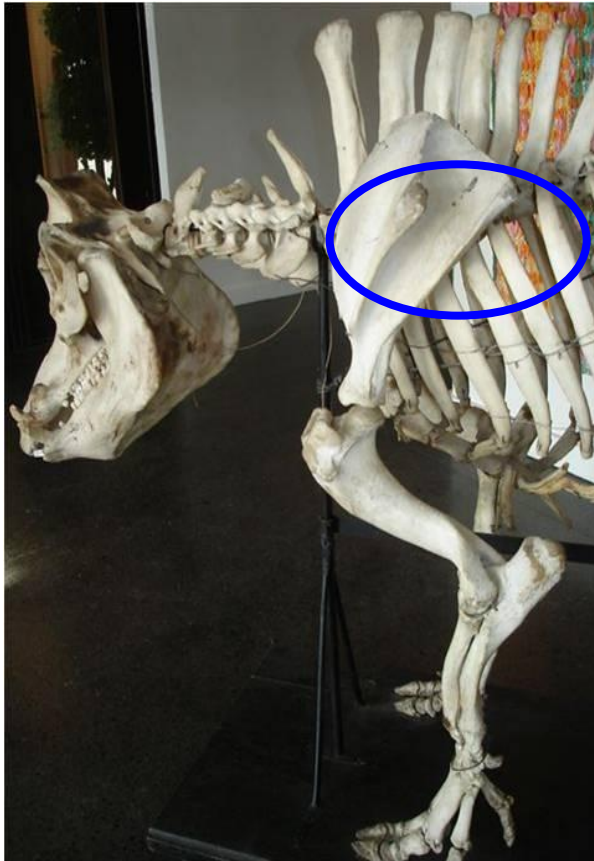
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# Background

- **Shoulder ulcer in lactating sows appears to have increased in Sweden during the last years**
- **Demands on sows milk production has increased**

	Year 1998	Year 2008
Piglet weaning-weight, kg	8,5	10
No. piglets weaned / litter	9,7	10,5
Est. milk prod. / sow and litter, kg	270	360

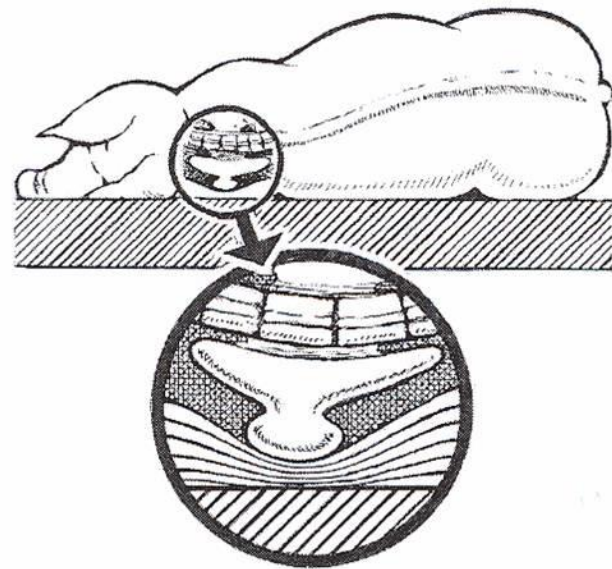
# Anatomy



Variation in high of the prominent tuber of the scapula measured at slaughter was 4 - 8 cm (105 sows)

# Shoulder ulcer

- Pressure against floor (and slatted floor) can cause insufficient blood flow and tissue death



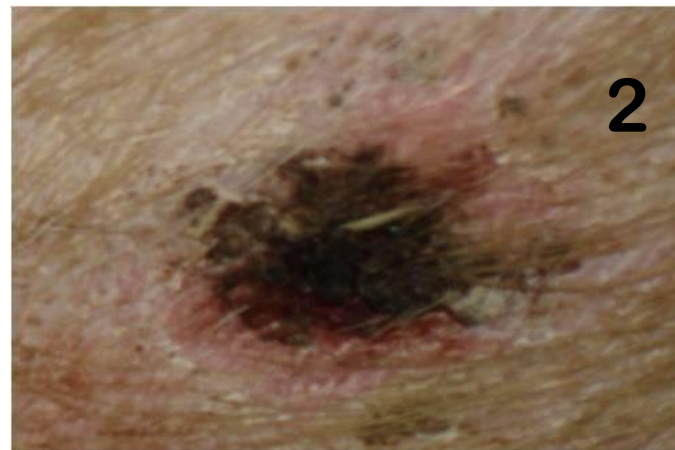


# Registrations during the 4<sup>th</sup> lactating week in 60 Swedish piglet producing herds

- In total records on 2668 (L\*Y) sows
- Ulcer score, 0 (free) – 4



# Sow ulcer score, 0 (free) – 4





# Registrations during the 4<sup>th</sup> lactating week in 60 Swedish piglet producing herds

- In total records on 2668 (L\*Y) sows
- Ulcer score, 0 (free) – 4
- **Body condition, 1 - 4 (fat)**

# Sow body condition, class 1-4



**Class 1**  
**Skinny**



**Class 2**  
**Thin**



**Class 3**  
**Normal**



**Class 4**  
**Fat**

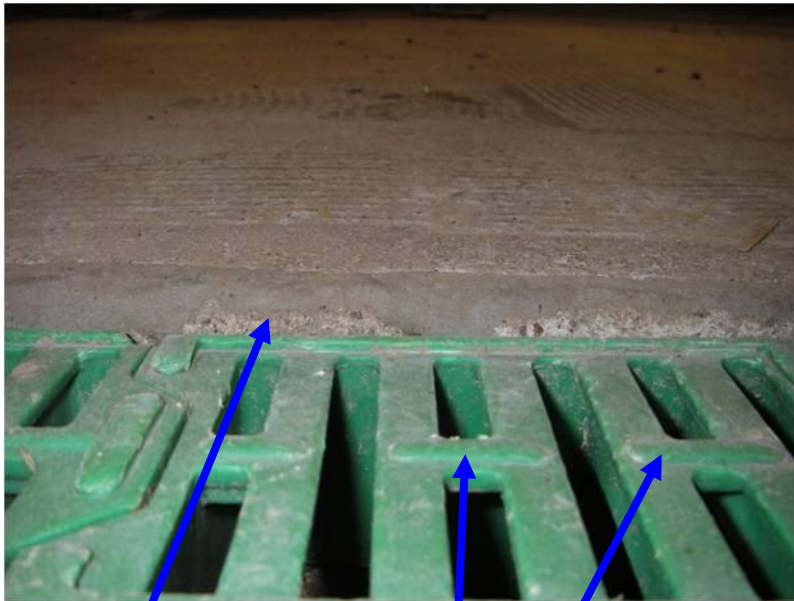


# Registrations during the 4<sup>th</sup> lactating week in 60 Swedish piglet producing herds

- In total records on 2668 (L\*Y) sows
- Ulcer score, 0 (free) – 4
- Body condition, 1 - 4 (fat)
- Litter size
- Parity number
- MMA
- Type of slatted floor (concrete, plastic or cast iron)

# Two common different types of slatted floor

Plastic



Edge between solid concrete lying area and slatted floor area. Edges on the slatted floor surface



Cast iron

# Registrations during the 4<sup>th</sup> lactating week in 60 Swedish piglet producing herds

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- MMA
- Type of slatted floor (concrete, plastic or cast iron)
- For the sow available solid concrete floor area, m<sup>2</sup>





Swedish  
farrowing pen:  
Min. 6 m<sup>2</sup> with  
max. 3 m<sup>2</sup> slatted floor



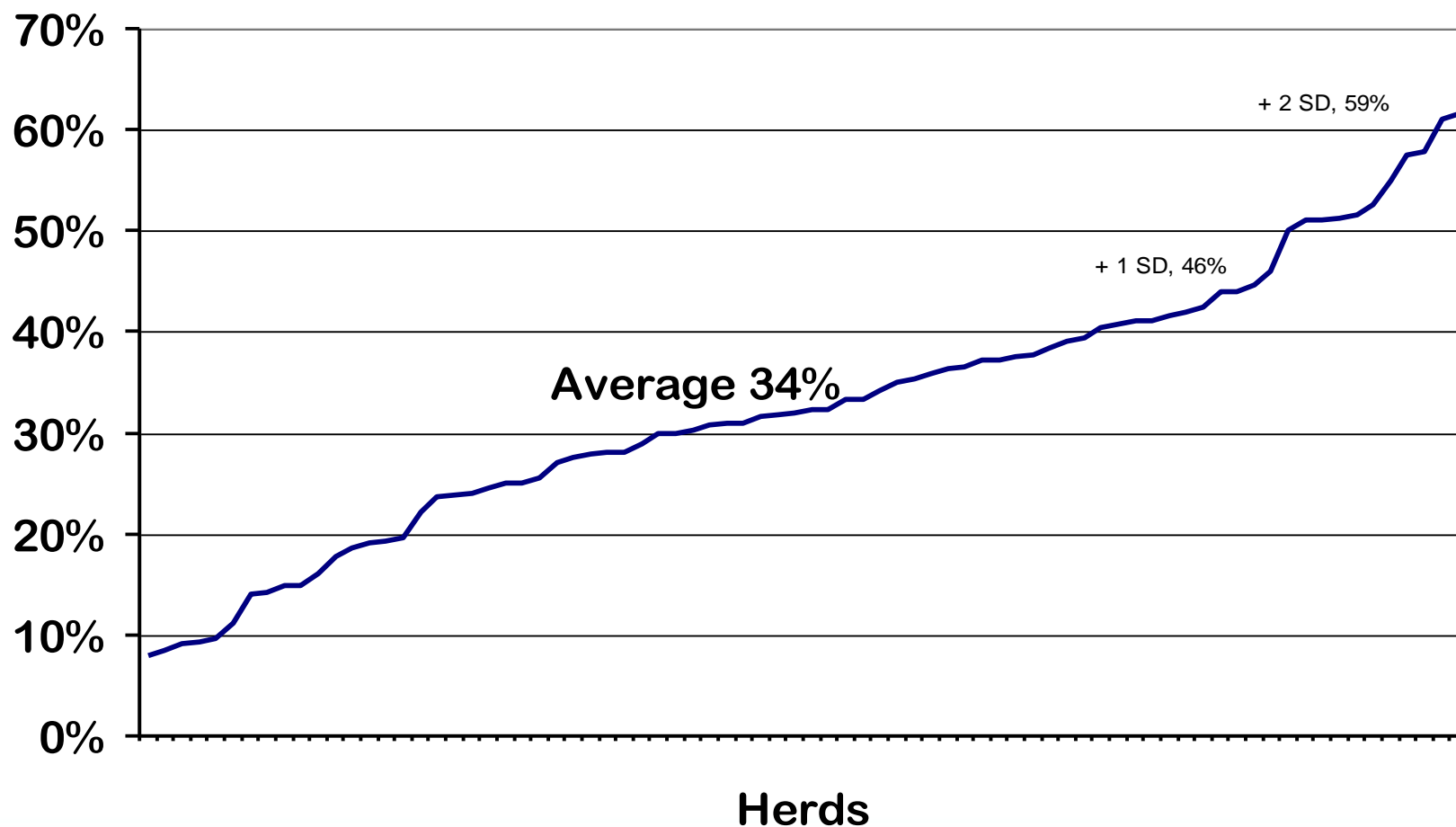
# Prevalence, shoulder ulcer



Ulcer score	2668 sows, %
0	65,8
1	13,6
2	13,6
3	5,6
4	1,4



# Prevalence of shoulder ulcers all classes, 2668 sows in 60 herds





# Prevalence, shoulder ulcer



Ulcer score	Left side, %	Right side, %
1-2	16	21
3-4	3	5



# Risk factors for shoulder ulcer



Risk factor	Odds ratio	P-value
Body condition		
3-4	1	
1-2	4,2	<0,0001
MMA		
No	1	<0,001
Yes	2,0	

# Risk factors for shoulder ulcer



Risk factor	Odds ratio	P-value
Slatted floor		
Concrete	1	
Cast iron	1,9	es
Slatted floor		
Concrete	1	
Plastic	2,1	<0,02
Plastic and edges	3,1	<0,02

# Risk factors for shoulder ulcer



Risk factor	Odds ratio	P-value
For the sow available solid concrete floor area, m <sup>2</sup>		
>2,3 m <sup>2</sup>	1	
<1,5 m <sup>2</sup>	1,4	<0,05

# Summery



- Feed sows for good condition both before and after farrowing
- Healthy and active sows
- Solid concrete floor is to be preferred as laying area
- Avoid edges on laying area





Thank You!

