



## Birgitta Staaf Larsson Swedish Centre for Animal Welfare, SLU

Evaluation of body condition and  
other parameters on pigs

[Birgitta.Staaf.Larsson@slu.se](mailto:Birgitta.Staaf.Larsson@slu.se)



## Introduction

- This presentation is an example how training material in pig control assessment for animal welfare inspectors in Sweden can be conducted.
- The training is performed with TurningPoint clickers and the results are shown after the voting on each slide.
- The results are discussed and the participants asked to calibrate themselves according to what the majority of the group voted.

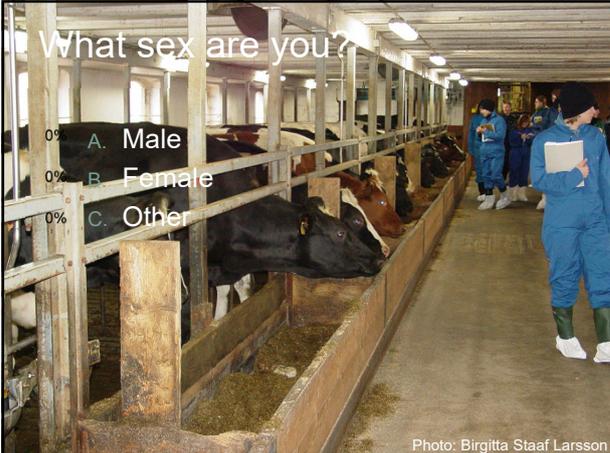


## Evaluation of body condition score (BSC) and other parameters on pigs

- The aim of this presentation is to increase the inter observer reliability



Photo: Birgitta Staaf Larsson



What sex are you?

- 0% A. Male
- 0% B. Female
- 0% C. Other

Photo: Birgitta Staaf Larsson

## What is your profession

1. Animal welfare inspector  
0%
2. County administration veterinarian  
0%
3. Farm veterinarian  
0%
4. Farm advisor  
0%
5. Animal owner/care taker  
0%
6. Scientist  
0%
7. Student  
0%
8. Other  
0%



Photo: Birgitta Staaf Larsson



## How long have you been working in this area?

1. Less than three years
2. More than three years



Photo: Birgitta Staaf Larsson

## Do you have any animal related education?

1. Animal related University education
2. More than 10 ECTS animal related courses
3. Other animal related courses
4. No education at all



Photo: Birgitta Staaf Larsson

## EU legislation

- Regulation
  - Control (2017/625)
  - Transport (1/2005)
  - Slaughter (1099/2009)
- Directive
  - Farm animals (98/58/EC)
  - Calves (2008/119/EC)
  - Lying hens (1999/74/EC)
  - Pigs (2008/120/EC)
  - Poultry (2007/43/EC)
  - Lab animals (2010/63/EU)



Photo: Birgitta Staaf Larsson

## Natural behaviour

- Bedding material (especially straw) will increase the possibility to express natural behaviour
- The sow should be able to create a nest



Photo: Birgitta Staaf Larsson

## Care and management

- Daily care
- Pregnant, new borne, sick or injured animals shall be looked after more often
- They shall be kept sufficient clean



Photo: Birgitta Staaf Larsson

## Feed and water system

- Automatic systems must be looked after on a daily basis
- Well constructed
- The feed must have a sufficient structure
- Sufficient, comprehensive and well balanced feed stuff
- Water at least twice a day



Photo: Birgitta Staaf Larsson

## Buildings

- It must be possible to rescue the animals from fire
- Protect the lamps and other electrical equipment with appropriate cover
- Ensure the electrical providing in case of electrical failure
- Ensure that the animals can not come in contact with harmful things and material



Photo: Birgitta Staaf Larsson

SLU SCAW

## Climate

- Adjusted climate for the kept animal
- Humidity < 80% in isolated stables



Photo: Birgitta Staaf Larsson

SLU SCAW

## Mechanical ventilation

- Emergency ventilation
- Alarm equipment provided



Photo: Birgitta Staaf Larsson



Photo: Birgitta Staaf Larsson



Photos: Birgitta Staaf Larsson

SLU SCAW

## Day light

- Windows
- Other light



Photo: Birgitta Staaf Larsson

SLU SCAW

## Equipment for immobilizing

- Equipment for immobilizing pigs must not be used otherwise than as a temporary measure
- A sow may be put in an immobilizing equipment during the piglets first days if she show an aggressive behaviour
- A pig may be put in an immobilizing equipment during care if it is aggressive



Photo: Birgitta Staaf Larsson

SLU SCAW

## Weaning

- Piglets must not be weaned before they are 4 weeks and must before that be used to their feed
- If additional requirements are fulfilled, and the farmer is affiliated to an approved animal health control system the piglets may be weaned up to one week earlier



Photo: Birgitta Staaf Larsson

SLU SCAW

## Gelding

- Male pigs may be gelded by persons other than veterinarians provided that gelding takes place before the animal has attained the age of seven days



Photo: Birgitta Staaf Larsson

SLU SCAW

## Hoof treatment

- The hoof of adult pigs may be regularly inspected and cut if needed.



Photo: Birgitta Staaf Larsson



Photo: Birgitta Staaf Larsson

SLU SCAW

## Pens

- Pigs shall have access to a pen that give them the possibility to use different space for laying down, eat and manure.
- The laying place must not have drained floor.



Photo: Birgitta Staaf Larsson

SLU SCAW

## Farrowing box

- If using a farrowing box, the piglets must have access to a separate laying place that the sow do not have access to



Photo: Birgitta Staaf Larsson

SLU SCAW

## Natural behaviour

- Sows must be kept together during their pregnancy



Photo: Birgitta Staaf Larsson

SLU SCAW

## Feeding pens

- Feeding pens for group housed pigs must be provided with a back gate that prevents the pigs from harming each other.



Photo: Birgitta Staaf Larsson

SLU SCAW

## Natural behaviour

- Bedding material must have the quality and be given in certain amount that the pigs need to exhibit their natural behaviour
- During the week before delivery the sow must have access to litter to build the nestling place



Photo: Birgitta Staaf Larsson

SCAW

## Advices for straw material

- The amount of straw material would be in an amount enough to give the pigs a comfortable rest and a hygienic environment



Photo: Birgitta Staaf Larsson

The bedding/straw material is

- Good
- Acceptable
- Not acceptable



Photo: Birgitta Staaf Larsson

The bedding/straw material is

- Good
- Acceptable
- Not acceptable



Photo: Birgitta Staaf Larsson

The bedding/straw material is

- Good
- Acceptable
- Not acceptable



Photo: Birgitta Staaf Larsson

The bedding/straw material is

- Good
- Acceptable
- Not acceptable



Photo: Birgitta Staaf Larsson

The bedding/straw material is

- Good
- Acceptable
- Not acceptable



Photo: Birgitta Staaf Larsson



SCAW

### Tail biting

- Mostly frequent in harsh environments with no enrichment
- Remove the tail biter!
- Improve the environment – use straw material, toys or other enrichment
- Pigs with bitten tails will easily get wounds and/or back/spine inflammations

Photo: Birgitta Staaf Larsson

SCAW

### Tail docking is prohibited

Photo: Birgitta Staaf Larsson      Photo: Birgitta Staaf Larsson

Intact tails is a very good indicator of the animal welfare level

SCAW

### High animal welfare standard

- Natural behavior
- Improved health
- Less antibiotics
- Prevents antimicrobial resistance

Photo: Birgitta Staaf Larsson

SCAW

### Joint inflammations

- Caused by *Streptococcus aureus*
- Often developed at the age of 1-2 weeks
- Causes lame piglets with swollen joints
- Has to be treated with antibiotics

Photo: Birgitta Staaf Larsson

SCAW

### Why the piglets gets joint inflammations

- Teeth trimming
- Scars on the front legs
- Scars under the hooves
- Scratches
- Through the navel, that is not completely healed

Photo: Birgitta Staaf Larsson

Other sicknesses

- Black scars – needs antibiotics if the piglet has secondary infections
- Lack of iron – piglets are pale and tired
  - give iron paste within 12 h from birth
  - Iron injection at the age of 2-5 days and at 2-3 weeks.



Photo: Birgitta Staaf Larsson

Diarrhoea

- Diarrhoea in piglets
  - E. coli
- Diarrhoea at 3 weeks of age due to low immune resistance
- Weaning diarrhoea
  - E. coli increases due to stress



Photo: Birgitta Staaf Larsson

Body condition scoring on pigs - not an easy task



Photo: Birgitta Staaf Larsson

Why pigs become lean

- Sickness/parasites
- Young sows do not eat enough
- Access to feed
- Possibility to get the feed!
- The housing system
- Warm environment
- The water supply will affect

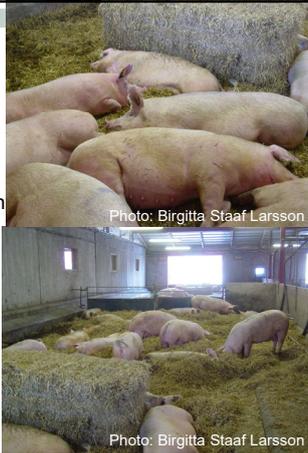


Photo: Birgitta Staaf Larsson

The design of the feeder

- Forward exit
- Solid walls in front when group feeding
- Protection (gate) behind while eating



Photo: Jan Svedberg



Photo: Birgitta Staaf Larsson



Photo: Birgitta Staaf Larsson

Risks with low body condition

- Risks of wounds
- Enough straw material extra important
- Other alternatives – comfort mats






Photos: Anne Larsen

SLU SCAW

- Warm weather increases the risk that the sows prefer solid concrete without bedding material which increases the risks of wounds



Photo: Birgitta Staaf Larsson

SLU SCAW

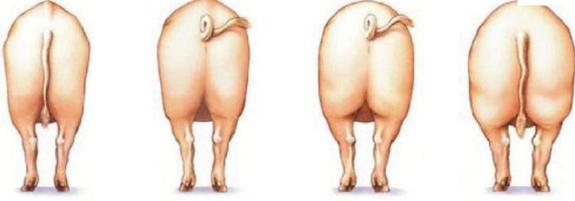
### Risks with fat sows

- Higher prevalence of MMA=Mastit, Metrit, Agalakti
- Pig fewer




Photo: Birgitta Staaf Larsson

SLU SCAW



Klass 1	Klass 2	Klass 3	Klass 4
För mager. Späckmätt under 10 mm.	Bra hull vid avvänjning. Späckmätt ca 14 mm.	Lagom hull vid grisning. Späckmätt ca 17 mm.	För fet. Späckmätt över 20 mm..

©Lantmännen  
Source: Lantmännen

SLU SCAW

### Thin sow – BCS 1

Hip bone and spine slightly visible




Photo: Anne Larsen

SLU SCAW

### Nice BCS – BCS 2

**OBS! At the weaning**

Hipbones and the spine slightly detectable by palpation




Photo: Anne Larsen

SLU SCAW

### Nice BCS – BCS 3

**OBS! At the weaning**

Hipbones and the spine hardly detectable by palpation




Photo: Anne Larsen

SLU

**Fat sow, BCS 4** 

Hipbones and the spine is covered with a layer of fat



Photo: Anne Larsen

SLU

**Body Condition (BC) status at farm level** 

- **Good BC**
  - - *At least 95%* of the sows are in good body condition, class 2 or 3
  - - Additional sows are lean or fat, class 1 or 4
  - - No sow is unacceptable lean
- **Acceptable BC**
  - - **80%** of the sows are in good body condition, class 2 or 3
  - - Additional 20% are lean or fat, class 1 or 4
  - - No sow is unacceptable lean

Evaluate the BSC on the pig to the right



1. 1  
2. 2  
3. 3  
4. 4

Photo: Birgitta Staaf Larsson

Evaluate the BSC on the pig to the right

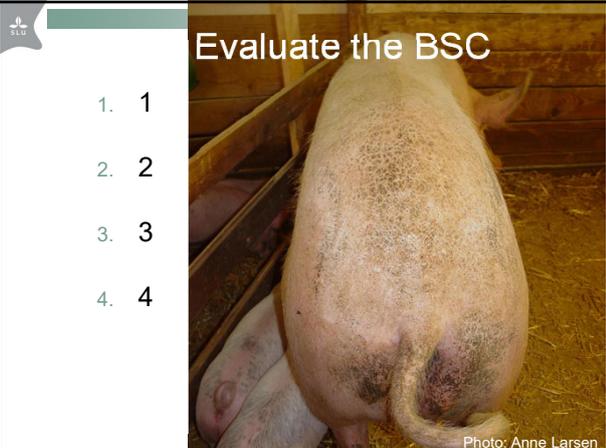


1. 1  
2. 2  
3. 3  
4. 4

Photo: Birgitta Staaf Larsson

SLU

Evaluate the BSC



1. 1  
2. 2  
3. 3  
4. 4

Photo: Anne Larsen

SLU

Evaluate the BSC



1. 1  
2. 2  
3. 3  
4. 4

Photo: Anne Larsen

SLU

### Evaluate the BSC

1. 1
2. 2
3. 3
4. 4



Photo: Anne Larsen

SLU

### Evaluate the BSC

1. 1
2. 2
3. 3
4. 4



Photo: Anne Larsen

SLU

### Evaluate the BSC

1. 1
2. 2
3. 3
4. 4

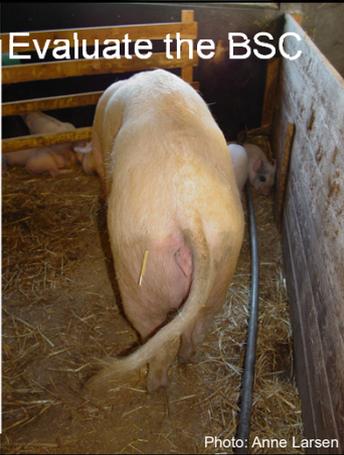


Photo: Anne Larsen

SLU

### Evaluate the BSC

1. 1
2. 2
3. 3
4. 4

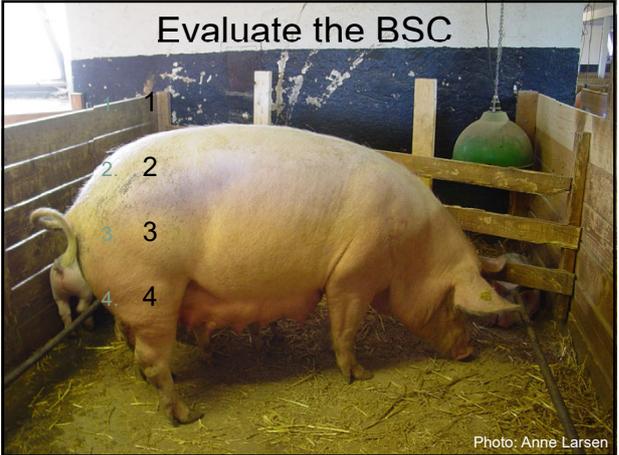


Photo: Anne Larsen

SLU

### Evaluate the BSC

1. 1
2. 2
3. 3
4. 4



Photo: Anne Larsen

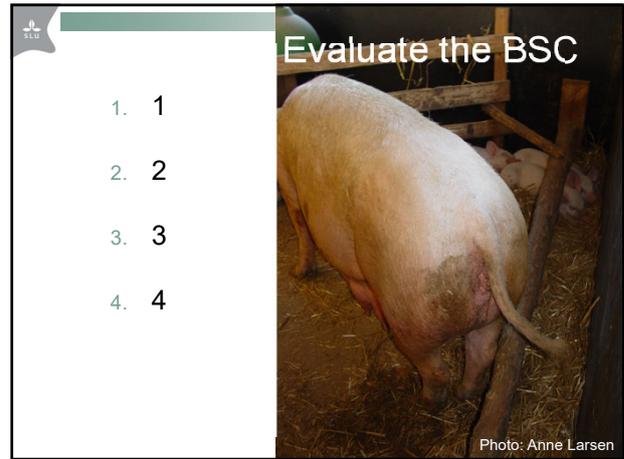
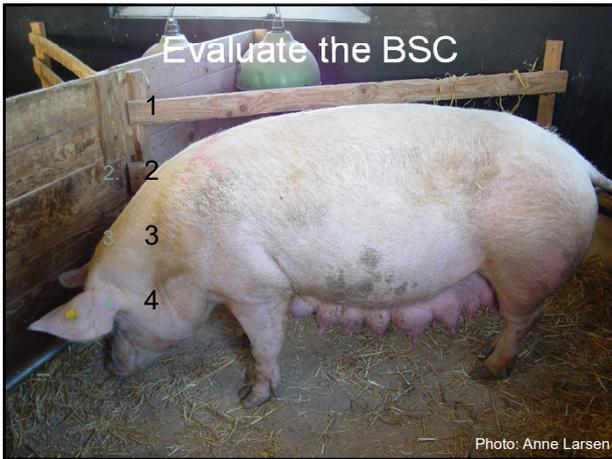
SLU

### Evaluate the BSC

1. 1
2. 2
3. 3
4. 4



Photo: Anne Larsen



Results with improved animal welfare

- Satisfied animal keeper
- Better profitability
- Better animal health
- Better animal welfare.

Photo: Birgitta Staaf Larsson

Recommended articles about preventing tail biting:  
Torun Wallgren theses A tale of tails - prevention of tail biting by early detection and straw management

- Wallgren, T.\*, Westin, R., Gunnarsson, S. (2016). **A survey of straw use and tail biting in Swedish pig farms rearing undocked pigs.** Acta Veterinaria Scandinavica, 58 (84).
- Wallgren, T.\*, Larsen, A., Lundeheim, N., Westin, R., Gunnarsson, S. (2018). **Implication and impact of straw provision on behaviour, lesions and pen hygiene on commercial farms rearing undocked pigs.** Applied Animal Behaviour Science, 210, 26-37.
- Wallgren, T.\*, Larsen, A., Gunnarsson, S. (2019). **Tail posture as an indicator of tail biting in undocked finishing pigs.** Animals, 9(1), 18.

