FARROWING HOUSING AND MANAGEMENT

FEED BACK AND DISCUSSION

Lene Juul Pedersen

AARHUS UNIVERSITY
DEPARTMENT OF ANIMAL SCIENCE

TOPICS RAISED YESTERDAY

Large littersize is increasingly a problem:

- Insuffient space on solid floor for piglets
- Risk of weaning age dropping due to space limitations
- Increased risk of shoulder ulcers (skinny sows or nurse sows…?)

Ensuring sufficient feed for all piglets in large litters - eg use of nurse sows

Crate size too small for larger sows – different practises to improve conditions

MORE TOPICS RAISED YESTERDAY....

A solution to space limitations in crates => change to pens for loose sows

- How is best practise of pens for loose housed sows ?
- Optimal pens size, crating during few days or not, floor type ?
- Loose housing results in better nest building

BUT alternative nest materials to straw needed for some, since straw not allowed in some countries due to risk of african swine fever.

What are the major welfare risk around farrowing ?


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Edited by:
Stephanie Torrey,
University of Guelph, Canada

Reviewed by:
Sarah Mills Brown,
University of Edinburgh,
United Kingdom
Pol Llonch,
Autonomous University of
Barcelona, Spain
Mary Friel,
University of Leeds, United Kingdom

*Correspondence:
J. Elisabeth Bolhuis
liesbeth.bolhuis@wur.nl

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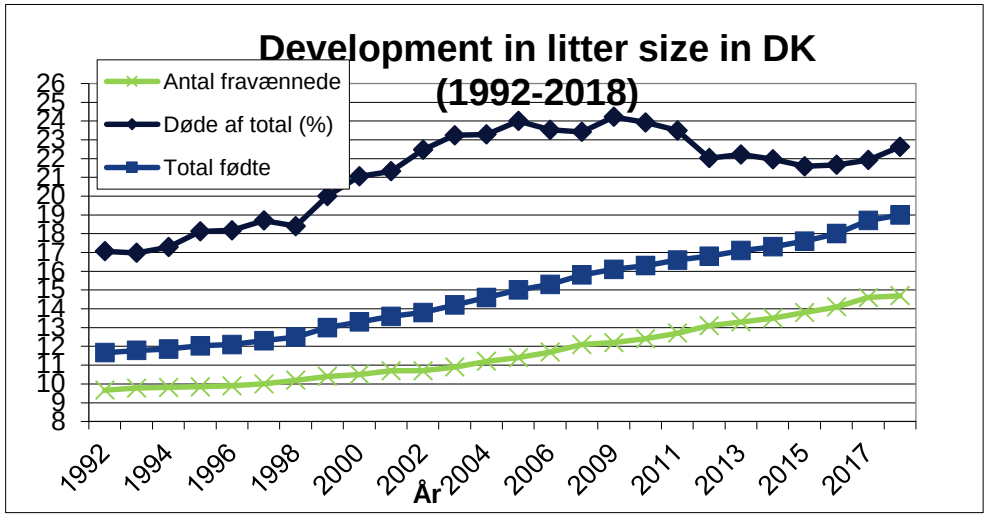
Ensuring sufficient feed for all piglets in large litters - eg use of nurse sows

Crate size too small for larger sows – different practises to improve conditions

DEVELOPMENT IN LITTER SIZE

Genetic selection for litter size =>

Sow give birth to more piglets than they have functional teats



BUT what is the problem ?

UNIQUE NURSING PATTERN

At birth:

- Colostrum present during 12-24 h
- Piglets sample milk from all teats continously
- Piglets gradually gain ownership to prefered teat

After birth:

- Stable teat order developed (if possible)
- Cyclic nursing pattern
- Milk letdown for 10-20 sec, approx hourly

Biological function of the nursing pattern:

- Equal distribution of resources to all offspring
- High survival of offspring
- Reduces competition within litter – no teat fighting –see video

BUT - Piglets defend their prefered teat if challenged

WHAT CHALLEGE THE TEAT ORDER ?

- High competition over teats:
  - Large litter size – more piglets than teats
  - Cross fostering – teat order distrubed
  - Nurse sow – teat order disrupted /disturbed

- Lack of space around the udder:
  - Narrow space at both or one site of the pen
  - Iron bars prevent free access to teats

Teat fight and missed milk let down

Indicators: weight loss, facial lesions, teat lesions – see more www.eurcaw-pigs.eu

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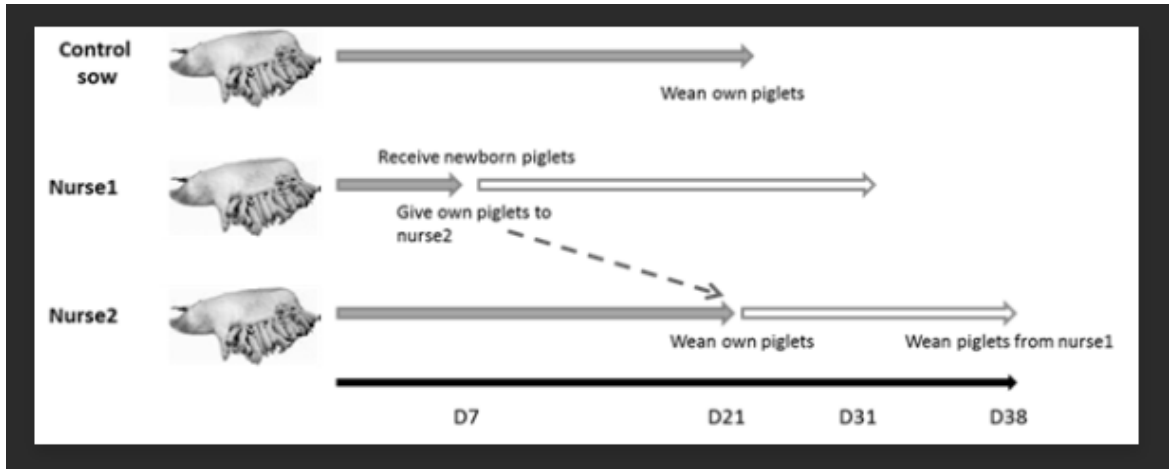
Ensuring sufficient feed for all piglets in large litters – no perfect solution but neccesary to ensure survival

Crate size too small for larger sows – different practises to improve conditions

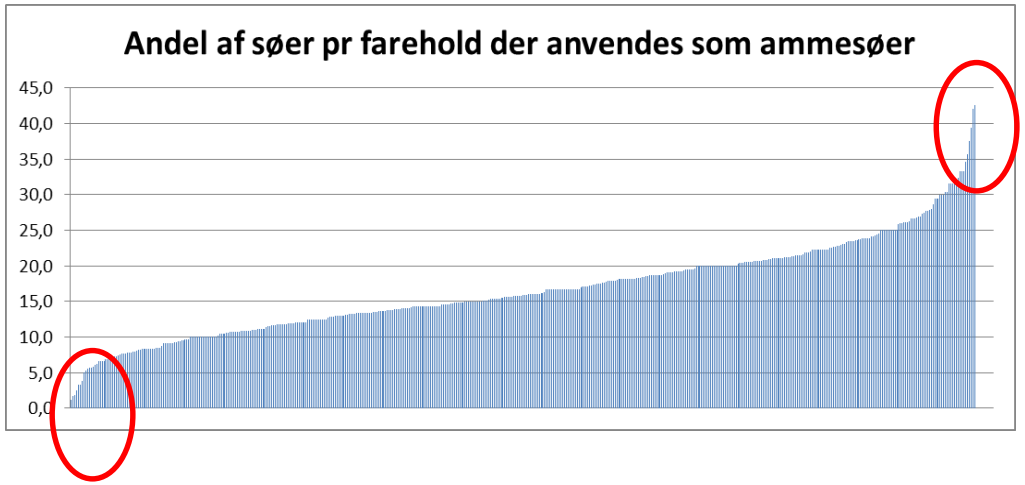
NURSE SOWS

Sows wean own piglet to nurse surplus piglets from large litters

Different strategies exists



Percentage of sows per batch used as nurse sows in 631 DK pig herds (Sørensen et al., 2016)



NURSE SOWS ARE NOT THE PERFECT SOLUTION....

Welfare risks of fostered piglets and nurse sows:

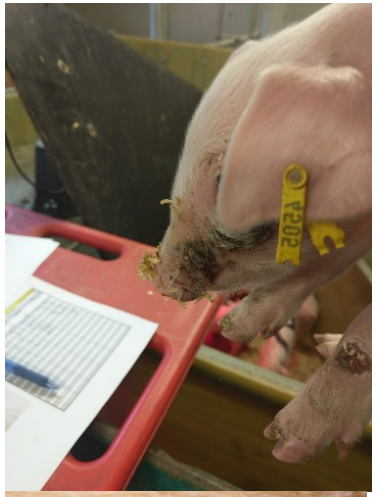
- More teat fights and increased risk of lesions in fostered piglets
- Lower growth rate in piglets fostered by a nurse sow
- Increased risk of teat lesions and bursae in nurse sows
- Acute stress in nurse sows – but not prolonged stress
- Milk letdown inhibited for avg 4-5 h after introduction of piglets
- A few sows refuse to accept piglets

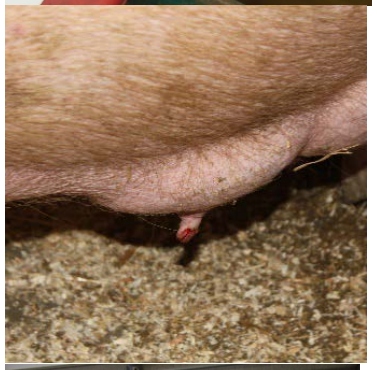
(sørensen et al., 2016) (Kobek-Kjeldager et al. 2020 Schmidt et al.,2018)

Health control by batch production is broken down

Risk of weaning at lower age due to space limitations

Prolonged crating ?





ALTERNATIVE TO NURSE SOWS

”Rescue deck”

- Piglets are raised on milk replacer
- Reduced growth, abnormal behaviour
- Consider as early weaning in some countries – and therefore not legal

Automatic milk replacer in farrowing pen:

- Sows nurse 16-20 piglets
- Teat fights/lesions, reduced growth
- Larger piglets benefit more than smaller piglets
- Cost and space in pen is limiting factors

(Kobek-Kjeldager et al., 2020a,b,c,)

No perfect solution to deal with large litter size – keep an eye on indicators – see thematic factsheets on www.eurcaw-pigs.eu

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Ensuring sufficient feed for all piglets in large litters

Crate size too small for larger sows and litter – different practises to improve conditions

EU DIRECTIVE: FARROWING PENS

Council Directive 2008/120/EC requires:
Sows:

Accommodation for pigs must be constructed in such a way to allow the animals to rest and get up normally

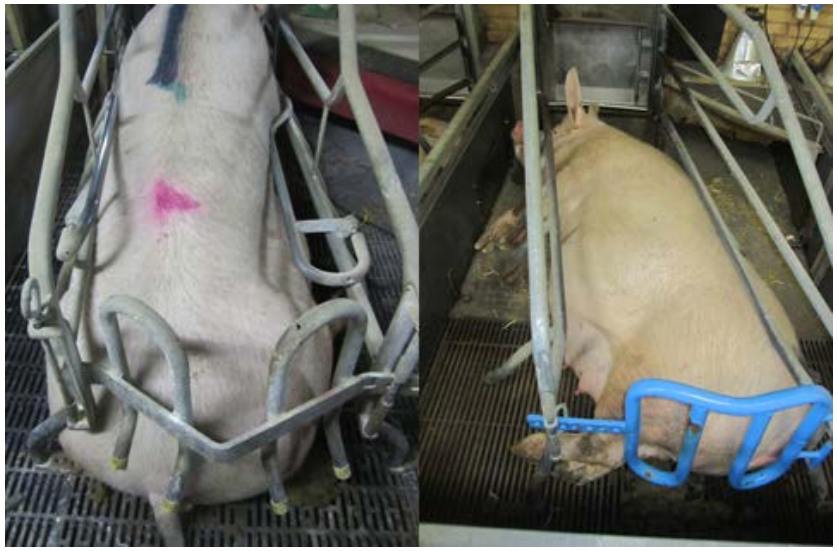
An unobstructed area behind the sow/gilt for the ease of natural or assisted farrowing

Piglets:

The piglets must have sufficient space to be able to suckle without difficulty.

A part of the total floor, sufficient to allow the animals to rest together at the same time, must be solid or covered with a mat, or be littered with straw.

Are there sufficient space for the sow to rest and get up normally ?



Are there sufficient space for piglets to suckle without difficulties?

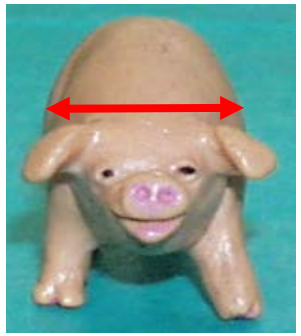
Can 14-16 piglets rest together at the solid floor when 4 wk old ?

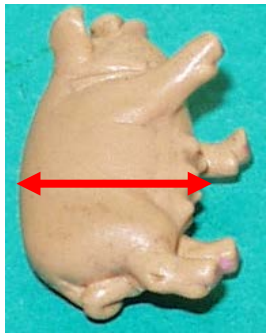
INSPECTION FOR INSUFFICIENT SPACE

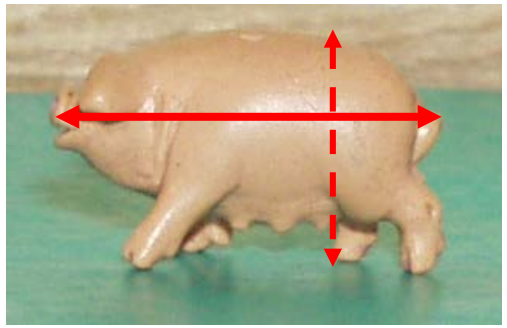
Indicators on sows and piglets:

Measure length of crate inside bars – length and width

Measures of sows and piglets





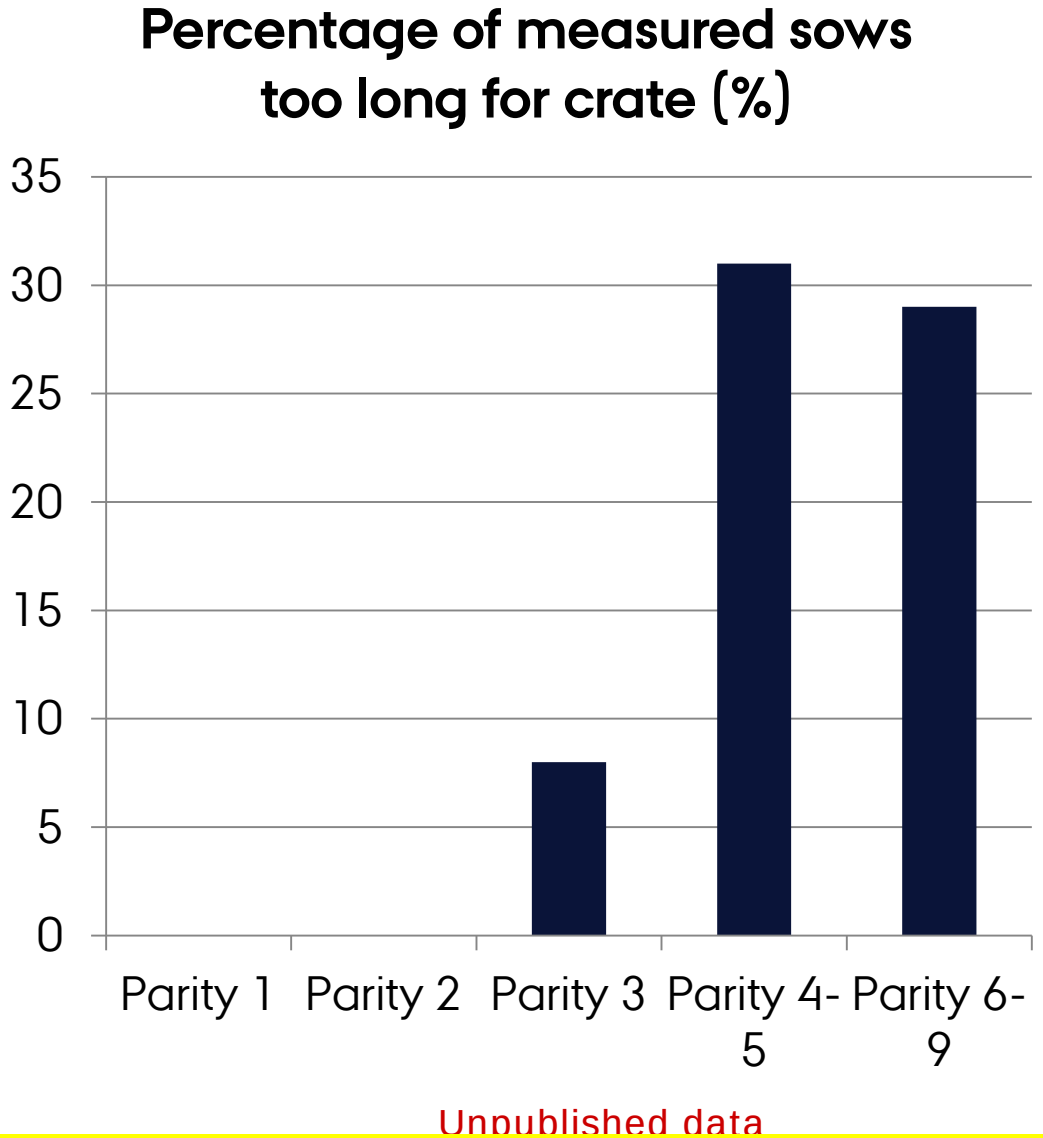


Body lesions on sows

Udder and teat lesions on sows

Facial and carpal joint lesions on piglets

SPACE FOR SOWS



Unpublished data

Problems with small crate size may be large and challenge sow welfare

Older sows are particularly at risk – equipment exists to adjust pen size

MORE TOPICS RAISED YESTERDAY....

A solution to space limitations in crates => change to pens for loose sows

- How is best practise of pens for loose housed sows ?
- Pens size, crating during few days or not, floor type ?
- Improved sow welfare during nest building

Are there alternative nest materials than straw – some countries banned straw due to risk of african swine fever.

What are the major welfare risk around farrowing ?

FARROWING PENS FOR LOOSE SOWS

<u>Designed pens for loose sows with zones and concrete floor</u>

Nesting behaviour and nest materials

Functional areas - Possble with larger pen size – above 6-7 sqrm

Functional areas allow for thermoregulation

More space- more expensive

<u>Pens with fully slatted floor and simi-crating</u>

Nesting materials limited

No zone division and thermoregulation

Possibility for crating sows 3-5 days post partum

Smaller pen – less expensive

Piglet mortality – a topic or not ?

PIGLET MORTALITY, IS IT A CHALLENGE?

In DK and A: Increased mortality in pens => 3d crating (Hales et al, 2013)

In “experienced” countries (S, UK, Schweiz): no difference in large herds investigations(Weber et al., 2007; KillBride et al., 2012; O’Reilly et al., 2006; Bäckström et al., 1994; Swedish study)

Why different results:

- Litter size
- Lack of experience of sow and caretaker
- Smaller pen size in combination with larger litter in DK/A
- Use of foster sows in pens
- Lame and/or diseased sows

Farrowing pens for loose sows will be reviewed by EURCAW in 2021

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REMIND YOU OF NEST BUILDING

Innate behaviour and strong motivation

Seek isolation 1-2 days prior to parturition

Walks several km to find nest site and gather nest materials

Prefers an isolated and protected nest site

High activity during nest building- sampling, digging, arranging matrials.

Initiated by hormones- terminated partly by feed back from a functional nest site

NEST ENSURES..

- Thermal protection for piglets
- Guide piglets towards udder at birth
- Bonding between mother and offsspring
- Soft surface protects againt knee abrasion

<u>Good nesting materials:</u>

Straw, braches, peat

Jute sack and shreded paper

Robe and branches attached to crate

www.eurcaw-pigs.eu

High nesting activity stimulates maternal behaviour

MORE KNOWLEDGE ON : WWW.EURCAW-PIGS.EU

Review (under output- scientific output):

Scientific knowledge on biology and behavioural needs,

Key factors for welfare control:

- Space and freedom to move
- Comfortable climate
- Nest building and exploration
- Litter size and competition
- Mutilations

EU Legislation

Improved practises


EURCAW-Pigs – January 2020 – version 1.0
Review on farrowing housing and management

EURCAW Pigs

Review on farrowing housing and management

Lene J. Pedersen[1], Antonia Patt[2], Marko A.W. Ruis[3], Anita Hoofs[3], Herman M. Vermeer[3], Hanne Kongsted[1]

[1] *Aarhus University, Denmark*
[2] *Friedrich-Loeffler-Institut, Germany*
[3] *Wageningen Livestock Research, The Netherlands*

THEMATIC FACTSHEETS

Five focus areas for inspections

Relevance for pig welfare in conjunction with welfare indicators

COMFORTABLE CLIMATE

Sows and piglets have different thermo-neutral zones:

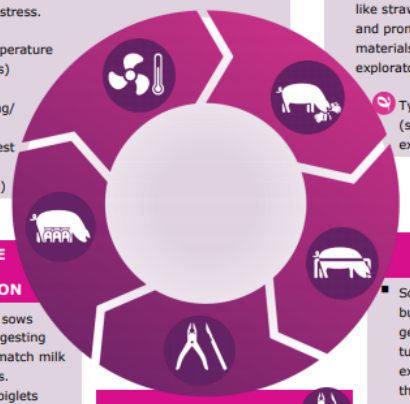
- A typical farrowing room temperature around 22-24°C is below the thermo-neutral zone (34°C) of newborn piglets, and therefore hypothermia at birth is a risk.
- The sows' thermo-neutral zone, in contrast, is around 16-20°C. Crated sows and sows with large litters are particularly sensitive to heat stress.

- Panting, and temperature of the room (sows)
- Huddling/shivering/ pilo-erection, and temperature in nest area, and size of nest area (piglets)

NEST BUILDING AND EXPLORATION

- Sows have a strong motivation to build a nest. When the performance of nest building is prevented, this leads to stress.
- A complete nest built of materials like straw provides thermal comfort, and promotes piglets' growth. Nest materials also provide piglets with exploratory materials.

- Type of nest building material (sows), and type of exploratory material (piglets)



LITTER SIZE AND COMPETITION

- Highly productive sows have difficulties ingesting sufficient feed to match milk yield/requirements.
- When number of piglets outnumbers functional teats this can hamper establishment of a teat order.
- Large litters are associated with reduced birth weight and growth, and higher piglet mortality.

- Underconditioned sows
- Teat lesions
- Runs and mortality (piglets)
- Facial/carpal joint lesions (piglets)

MUTILATIONS

- Best practices to reduce the need for tail docking, are through reducing the presence of known risk factors.
- In order to reduce the need for teeth-grinding, litter size can be reduced and sufficient space for suckling provided.
- Methods for reducing pain and stress (fear) during surgical castration include providing anesthesia and/or analgesia prior to and after castration.

SPACE AND FREEDOM TO MOVE

- Sows need space for nest building, lying-down and getting-up movements, turning around, and exploration. If not possible, this results in frustration and stress.
- Piglets need space around the udder to get access to their preferred teat. They also need space for a thermally comfortable nest area where they all can rest together.

- Body lesions, and space allowance (sows)
- Teat lesions, and space to suckle for piglets
- Facial/carpal joint lesions (piglets)

Legal requirements

Related to the five focus areas for inspections

Space and freedom to move	**Council Directive 2008/120/EC** "The accommodation for pigs must be constructed in such a way as to allow the animals to: - have access to a lying area physically and thermally comfortable (…) which allows all the animals to lie at the same time, - rest and get up normally. (…)." {Annex I, Chapter I, point 3} "An unobstructed area behind the sow or gilt must be available for the ease of natural or assisted farrowing." {Annex I, Chapter II, point B4} "Where a farrowing crate is used, the piglets must have sufficient space to be able to be suckled without difficulty." {Annex I, Chapter II, point C2}
Comfortable climate	**Council Directive 2008/120/EC** "A part of the total floor, sufficient to allow the animal to rest together at the same time, must be solid or covered with a mat, or be littered with straw or any other suitable material." {Annex I, Chapter II, point C1}
Nest building and exploration	**Council Directive 2008/120/EC** "in the week before the expected farrowing time sows and gilts must be given suitable nesting material in sufficient quantity unless it is not technically feasible for the slurry system used in the establishment." {Annex I , Chapter II, point B3} For exploration "pigs must have permanent access to a sufficient quantity of material to enable proper investigation and manipulation activities, (…)." {Annex I, Chapter I, point 4}
Litter size and competition	**Council Directive 98/58/EC** "Natural or artificial breeding or breeding procedures which cause or are likely to cause suffering or injury to any of the animals concerned must not be practiced. (…)." {Annex , point 20} "No animal shall be kept for farming purposes unless it can reasonably be expected, on the basis of its genotype or phenotype, that it can be kept without detrimental effect on its health or welfare." {Annex, point 21} **Council Directive 2008/120/EC:** "No piglets shall be weaned from the sow at less than 28 days of age unless the welfare or health of the dam or the piglet would otherwise be adversely affected. However, piglets may be weaned up to seven days earlier (…)." {Annex I , Chapter II, point C3}
Mutilations	**Council Directive 2008/120/EC** {Annex I, Chapter 1, point 8} "Neither tail docking nor reduction of corner teeth must be carried out routinely but only where there is evidence that injuries to sows' teats or to other pigs' ears or tails have occurred. (…)." "(…). If castration or docking of tails is practised after the seventh day of life, it shall only be performed under anaesthetic and additional prolonged analgesia by a veterinarian."

Welfare indicators for inspections

To identify welfare issues related to farrowing housing and management

FOCUS AREA	INDICATOR	SHORT DESCRIPTION	INDICATOR FACTSHEET
Space and freedom to move	Body lesions (sows)	Sows are scored for presence of fresh or healed lesions.	https://edepot.wur.nl/516964
	Space allowance (sows)	Space available to sows within the crate is assessed.	
	Teat lesions (also 'Litter size and competition')	Udder and teats are scored for presence of fresh or healed lesions.	https://edepot.wur.nl/513898
	Space to suckle for piglets	The dimensions are assessed in terms of giving piglets enough space for suckling over the entire nursing period.	
	Facial/carpal joint lesions (piglets) (also: 'Litter size and competition')	Face and carpal joints are scored for presence of fresh or healed lesions.	https://edepot.wur.nl/513897
Comfortable climate	Panting (sows)	To detect signs of heat stress, sows are observed for signs of panting.	Under construction
	Temperature of the room (sows)	Basic conditions are checked by documenting the room's temperature.	
	Huddling/shivering/ pilo-erection	To detect signs of cold stress, piglets are observed for huddling/(..).	https://edepot.wur.nl/517119
	Temperature in nest area (piglets)	Basic conditions are checked by documenting the nest area's temperature.	
	Size of nest area	Space available to piglets in the nest area is assessed, to verify a comfortable lying area for the entire litter.	
Nest building and exploration	Type of nest building material (sows)	Nest building material is assessed for its suitability.	https://edepot.wur.nl/516953
	Type of exploratory material (piglets)	Exploratory material is assessed for its suitability.	
Litter size and competition	Underconditioned sows	It is evaluated whether sows are in the proper condition.	https://edepot.wur.nl/514267
	Runts and mortality	Litters are checked for occurrence of runts, based on four different criteria; the percentage of mortality is calculated.	Under construction

All indicator factsheets ""Farrowing housing and management": https://edepot.wur.nl/513361

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