

## **Freedom in Farrowing and Lactation (FFL21)**

August 12<sup>th</sup> and 13<sup>th</sup>, 2021 in Zoom

**Questions to presentations**

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Presentations without specific questions or clarifications are omitted. The complete list of and links to presentations can be found at

<https://www.freefarrowing.org/research/references/freedom-in-farrowing-and-lactation-2021-ffl21/>

## Day 1: Country change stories

### Sweden

- Anna Wallenbeck on when fixation was banned and if both sow stalls and farrowing crates were banned at the same time: Both (fixation in farrowing and dry sow stables) were banned when the Lex Lindgren legislation was set in action in the late 1980's.
- Anna Wallenbeck on whether Sweden adapted breeding goals to free farrowing, and if yes, how: Regarding breeding goals - as long as Sweden had pig breeding there was an indirect but not direct selection for animals suitable in loose housed systems. However, the Swedish breeding on dam-lines ended in 2012 and since then the genetics used in Swedish pig production origins from Norway, the Netherlands and recent years Denmark to some extent. The Norwegian system is approximately like Sweden, so probably some indirect selection for traits suitable in loose housed systems there.

### [Change experiences by a Swedish policy influencer](#) Mattias Espert

- Mattias Espert about situation of Mycoplasma hyopneumonia in Sweden: We are vaccination pretty much, maybe not all the farmers, and we do the vaccination at three weeks of age in the farrowing section.

### [Change experiences by a Swedish farmer](#) Jeanette Elander

- Jeanette Elander on whether she has aggressive sows on her farm and how she manages them in a loose system, especially when castrating piglets: I can't remember when we had an aggressive sow, it was a long time ago, but of course, it happened. If it is around farrowing then we have to follow the sow until she is finished the farrowing and take care about the pigs. Often they will be calm when they are ready. And for the people then we have to mark the box so they know where it will be so that they will be careful. But often after one week the sow will be friendly, so it is not a big problem. And we castrate the piglets outside the stable. We have a special place where we take the piglets and it's just because sometimes when we castrated them in the stable there were jumping sows, were stressed, and they could jump on the piglets, so we have a special area just outside the stable where we have tools for castration and there we do everything, so there is no screaming in the stable.
- Jeanette Elander on whether she has aggressive sows on her farm, how she manages aggressive sows, and how she castrates: [Aggressive sows] is not a big problem and I cannot remember when it last happened. Of course, it has occurred and then we have had to look after the sow until the farrowing is finished. After that, they usually calm down. For the safety of the staff in case of angry sows, we mark the box carefully, very rarely and usually get better after a week or so. you learn to read the sows body language. Castration is done in a special place just outside the stable where we also have everything we need. When we castrate in the stable it happened that the sows were stressed by cries of the piglets and jumped up and could even risk to stepping on the piglets.

### [Change experiences by a Danish policy influencer](#) Christian Fink Hansen

- Christian Fink Hansen about whether calculation of the carbon footprints they used includes the carbon cost of the buildings and the infrastructure, such as for concrete production, or whether it is only a day to day footprint: We tried to use the PEF standard [Product Environmental Footprint, <https://ec.europa.eu/environment/eussd/pdf/footprint/PEF%20methodology%20final%20draft.pdf>] when we do the calculations, and even using that is not completely

standardised. But yes, it includes the building, but when you have a building that lasts for 30 years or more it's only a very, very small proportion on that per-kilogram pork level. So, building and heating doesn't really matter when we discuss carbon footprint. It's the amount of feed and it is the handling and storage of manure.

#### [Change experiences by a Danish farmer](#) Asger Krogsgaard

- Vivi Aarestrup Moustsen for Asger Krogsgaard on whether the sows are closed in before or after farrowing on Asger Krogsgaard's farm: Before farrowing.
- Vivi Aarestrup Moustsen re. Question to Asger Krogsgaard's pens: As Asgar mentioned in his talk, he only has two rows in each section, and that was to keep the calm and quietness, both for the workers and the sows, so they don't get disturbed by what's happening in 60 pens, but only what's happening in 24 pens. It's a really nice farm to work in. The sows look up and come and chat but there is no fear, it is comfortable to walk even with a group of strangers and the sows are relaxed.

#### [Change experiences by a German policy adviser](#) (slides PDF) Matthias Chapman-Rose

- Matthias Chapman-Rose on how the German legislation decided on 6.5 sqm: Changing animal welfare legislation is not easy. It is like, what you put in at the beginning of a parliamentary process, at the end you get something out that is often different. We started in the coordination procedure, debating and discussing and looking into scientific findings and everything. We were debating between 6 and 10 sqm at the beginning. 6.5 sqm is basically a compromise, where the majority in parliament voted on 6.5. It's not rocket science.

## Day 2: Current work of participants

#### [BeFree farrowing pen in practice](#) Christian Auinger

- Sandra Edwards: In the BeFree pen the piglets are born far from the creep box. Do you recommend supplementary heat at the birth site?  
Christian Auinger: Hello Sandra, yes it is recommended to work additionally with heat lamps at birth

#### [Free-lactation crates: Impact on sow welfare](#) Keelin O'Driscoll

- Keelin O'Driscoll on whether sows had any nest building material in their study: No, they didn't. We give our sows just a length of rope that's tied on to the feeding dispenser. That's all they get. That's the standard enrichment that they get in our pig unit. We've not yet been able to find a way to provide loose material to sows easily in our unit yet.
- Keelin O'Driscoll on easiness to turn in their system: If you remember the picture that I showed, it's kind of evidence that I think the most comfortable of the sows when she has her head or rear oriented towards the feeding trough, because the crating when opened isn't really wide enough to lie crosswise in the pen. You can see that as well from the recorded behaviour on which way they were lying. There were only lying up and down the length of the pen rather than width-ways. When being in the room you can see that they can turn very easily but it's probably not comfortable to lie cross-ways because they'll bump into the crate.
  - The sows had just enough space to turn around, but relative to most pens without a crate it was a bit narrow - we calculated about 3.4m<sup>2</sup> for the sow. The pens are 2.1 wide, but even when open the crate is not the width of the entire pen.
- Keelin O'Driscoll on the procedure of crates being open for five days after moving in and then being closed from 16:00h to 09:00h before being closed continuously: This idea was from our farm manager. There's six free pens in our entire pig unit. They're used as part of the normal running of the unit. The farm manager would usually use them for sows that he considers are a bit stressed by going into the crates, or maybe gilts that aren't used to being confined. What he found works well for those, is that if

you just put them into the pen with the crate open for the first few days then his perception is that it's not as stressful for the pigs as if you put them straight into a confined crate, So, we thought that would be interesting to put them in for the first days with the crate open just as they are being used being separated from the other sows that they could turn around a bit, and then close it just at night so gradually get used to being confined. But keeping a close eye to see when milk let-down starts. It wasn't really more work for the farm staff. It was an easy thing to do for us. This is again subjective, but we were taking cortisol samples with a swab that we put into the sow's mouth and let her chew. The student who did the sampling said it was much easier to get the samples from the sows in the free crates. They seemed much more relaxed and chewed the swab very easily whereas the ones in the confined crates were trying to turn their head away, seemed more restless and unsettled than the ones in the free crates, but that's just something we noticed, we didn't have objective way of scoring that at the time.

- Keelin O'Driscoll on tear staining as welfare or stress indicator: Well we got the idea for using this from some of the work that Jeremy Marchant Forde has done. He's published a few papers where he's tried to validate tear staining, the size of the dirty stain below and around the eye relative to the size of the eye, which has been used as a measure of stress in rats, So, we had done a little bit of work trying to validate a scoring system previously by taking pictures of pigs eyes and then we used a software to draw around the size of the stain and of the eye and then validate the way we are scoring this. Just to get people to practice with the pictures. We weren't really sure. So, we cleaned the sows' faces before moving in. There were a lot of them had dirty stains around their eyes anyway. And then we scored them again when they came out again. And surprisingly even after only five weeks of in the crates there was a difference between, just in the left eye, between the sows in the free and the closed. I don't fully understand what it is that makes the stain larger when the animals are stressed. It's just the first time we used the measure in an experimental scenario. I know that some of the published work has related to or has looked at staining when animals have good enrichment or less good enrichment, and the validation work has used minipigs that were socially stressed or not socially stressed. The staining was associated with conditions that are considered to be less good for animal welfare. We had all our free farrowing or free lactation pens in one room and our control pens in another room, so air quality might theoretically have been an influence. But that does not explain, why there was no difference in the right eye, only in the left.
  - DeBoer SP, Garner JP, McCain RR, Lay DC Jr, Eicher SD and Marchant-Forde JN 2015. An initial investigation into the effects of social isolation and enrichment on the welfare of laboratory pigs housed in the PigTurn system, assessed using tear staining, behaviour, physiology and haematology. *Animal Welfare* 24, 15–27.
  - Marchant-Forde AEM and Marchant-Forde JN 2014. Social status and tear staining in nursery pigs. *The Proceedings of the 48th Congress of the International Society for Applied Ethology*, Vitoria-Gasteiz, Spain, 145 pp
  - H. Telkänranta J. N. Marchant-Forde and A. Valros. Tear staining in pigs: a potential tool for welfare assessment on commercial farms *Animal* (2016), 10:2, pp 318–325

#### [From crate to temporary crating in an experimental farm: performances and behaviour](#)

Nicolas Villain

- Nicolas Villain on how French breeds will cope in (their) free system: We were a little afraid before having the new pens, because the sows we have are Landrace\*Large White with Pietrain mal and they had an history of high crushing rate even if crated. So, we were a bit afraid but the crushing was not that high compared to other pig producers that installed the pens. In France in the new buildings pig producers now

have the choice between temporary crating because they are afraid of new legislation. But many of them are installing the crates that are moving up to save piglets from crushing. There are a lot of them installed this pen to save more piglets from crushing. This means that French breeds are known from crushing a lot. But the thing we noted was that we had a new worker coming that had a strong relation with the sows and the crushing just went down when this person arrived on the farm. So, that was really interesting.

- Nicolas Villain on whether the whole experimental farm switched from permanent to temporary crating in the new system: We had old crates and we wanted to go temporary crating, so we had all farrowing rooms with the new pens and we just had the same herd throughout the process so there were the same sows in both systems. We compared before and after the transition.
- Nicolas Villain on when they confined sows before farrowing: We confined the sows two to three days before farrowing. They're all crated on Mondays and the crates are opening the next Monday, so we have the period of seven days. The farrowing can take place on Wednesday or Thursday. So, it was one more or less day before and after. We had the objective of seven days of crating maximum.
  - Sandra Edwards: Nicolas: what was the procedure for opening the crate?  
Nicolas Villain: The opening of the crate takes place five days after farrowing when workers already castrated piglets. The procedure depends on the sow behaviour. If the sow is friendly we open the crate entering the pen in the "sow zone". When the sow is aggressive we open the crate using space near the nest as we are protected. We can see workers performing the opening on our video presentation.

#### [Free farrowing and family feeding: toward improved gut health and daily gain of piglets](#)

Annalisa Scollo

- Annalisa Scollo on whether she investigated the feeding behaviour of the piglets with the family trough and how piglets were weaned:  
[Feeding behaviour] is very variable between litter, so we need to increase the number of piglets involved. however, several differences emerged among piglets weaned at 28 days or later: family feeding seems to improve growth and imitating behaviour especially in the late lactation. we are planning trials to stimulate the trough use also for a conventional weaning age.

#### [Potential implications of using different farrowing systems in UK \(\[link to report\]\(#\)\)](#) Claire Barber

- Claire Barber on the models she presented: My understanding is, that the longevity of the sow was assumed to be the same, also the replacement rates etc. We haven't seen a huge amount of evidence in the UK for that being changed, but the model could include that if there were differences. I understand that what I presented goes on the assumption that it's the same across the systems. In terms of the weaning weights being higher, that was considered and as I mentioned a lot of the costs could be mitigated, if we had optimisation of some systems. That was one of the things that hopefully could be looked at. We did try to investigate whether rearing mortality was decreased for piglets in free farrowing systems and we found very little data in the UK on that. That's something we'd really like to have a look again if we find more information. We've only had anecdotal evidence.

## **External references posted by participants**

- China: see CIWF website for case study of a very large Chinese company which decided to go free farrowing:  
<https://www.compassioninfoodbusiness.com/media/7439835/china-case-study-group-housing-for-sows.pdf>
- Norway, Emma Baxter in chat: Norway - Kielland et al. 2018 paper on pre-weaning mortality in loose herds: <https://doi.org/10.1017/S1751731117003536>  
I had to google translate a lot: <https://www.animalia.no/globalassets/ingris---dokumenter/arsstatistikk-2020-007---endelig.pdf>
- Calculation of the carbon footprints by Christian Fink Hansen et al.: Product Environmental Footprint (PEF):  
<https://ec.europa.eu/environment/eussd/pdf/footprint/PEF%20methodology%20final%20draft.pdf>
- Comparison of nest-building materials in farrowing crates  
<https://doi.org/10.1016/j.applanim.2018.02.008>
- DeBoer SP, Garner JP, McCain RR, Lay DC Jr, Eicher SD and Marchant-Forde JN 2015. An initial investigation into the effects of social isolation and enrichment on the welfare of laboratory pigs housed in the PigTurn system, assessed using tear staining, behaviour, physiology and haematology. *Animal Welfare* 24, 15–27.
- H. Telkänranta J. N. Marchant-Forde and A. Valros. Tear staining in pigs: a potential tool for welfare assessment on commercial farms *Animal* (2016), 10:2, pp 318–325
- Marchant-Forde AEM and Marchant-Forde JN 2014. Social status and tear staining in nursery pigs. *The Proceedings of the 48th Congress of the International Society for Applied Ethology*, Vitoria-Gasteiz, Spain, 145 pp
- Nest-building behaviour and activity budgets of sows provided with different materials  
<https://www.sciencedirect.com/science/article/abs/pii/S0168159117303313>
- Rebecca Veale: In the UK our government has categorised enrichment as optimal and sub-optimal - this is applicable to all pigs.  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/908108/code-practice-welfare-pigs.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908108/code-practice-welfare-pigs.pdf)
- Re.: Does the fearfulness of the piglets to humans after weaning show any correlation with that of their mother during lactation: Like Mother Like Child: Do Fearful Sows Have Fearful Piglets? <https://www.mdpi.com/2076-2615/11/5/1232>
- Straw vs. peat as nest-building material – The impact on farrowing duration and piglet mortality in loose-housed sows  
<https://www.sciencedirect.com/science/article/abs/pii/S1871141318304396>
- Swedish Sow Money (“Suggpengen”): <https://jordbruksverket.se/stod/lantbruk-skogsbruk-och-tradgard/djur/extra-djuromsorg-for-suggor> (in Swedish; Google translate “hole” means “body condition”)
- Re.: Combined farrowing/nursery pens: Video of a German demonstrator farm:  
<https://www.youtube.com/watch?v=BOzfKLFzjw> (a little view inside is possible by this Video)
- Re.: Retailers, consumers, citizens and welfare. AHDB in the UK has some interesting work on consumer insights <https://ahdb.org.uk/retail-and-consumer-insight>