

# Report on Workshop 3: Free Farrowing Systems

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## Statements (5-7 minutes)

Three short presentations with the aim to describe the ideal free farrowing pen:

### 1. **Classification of Free Farrowing Systems** (Sandra Edwards)

To learn from different systems in experiments and practice:

- Area (total, nest, creep, dunging, ...)
- Layout – functional areas
- Flooring – dry, insulating, soft is important
- Walls- height/solid/open/doors/material
- Climate-ventilation, heat, ambient temperature
- Light – level, spectrum
- Substrate – nesting material: place of provision, time
- Need of creep: first 24 h udder is place to be, aid in collecting piglets for human care

### 2. **Benefits of Free Farrowing Systems** (Lene Juul Pedersen)

- Freedom to move around: Thermal zones (functional areas, better hygiene, less heat stress, better thermal environment piglets)
- Sow health and piglet growth/survival:
  - Less stress, Higher Feed intake, Higher weaning weight
- Free behaviour: better surveillance possible, control of heating system piglets

### 3. **Anita Hoofs - Successfactors Pro Dromi** (Anita Hoofs)

- Pro Dromi system developed by farmers
- Motivated stakeholders
- Nesting material with “sow smell”
- Micro climate choice: cool sow, warm piglets
- Learning to eat together: same place & time
- Environmental enrichment

## **Reactions to presentations:**

- Norwegian experiences show that shape of functional areas does matter (wide nest): >6-7 m<sup>2</sup> pen size depending on parity
- Production results from Pro Dromi show less peripartur losses, less crushing in first 48 h, but total mortality at weaning not different
- Cost of enrichment/nesting material is relatively low and compensated by better results
- Enrichment (replacement of straw) can reduce length of parturition
- Is the nesting material (jute bag) still dry after manipulation? Yes: than it can improve drying of piglets
- Environmental enrichment can also prevent piglets to manipulate mother

### **General discussion on the design of free farrowing pens:**

- **Functional areas:** a wider nest (1.8 versus 2.4 m) gives more successful nursings
- Temporary (floor) heating in the nest area is important to minimise post-partum temperature drop in piglets
- A specific creep for the piglets is not necessary, but a warm place is. Piglets learn that light is associated with heat, but light itself does not attract piglets to the creep.
- Straw as nesting material can be provided via a rack, but from the floor is preferred by the sow
- Swedish experiences with 15 kg instead of 0,5 kg long straw around farrowing are very positive for nest building behaviour of the sow and quicker birth process, farmers adopt it
- Size of pen: Danish and Norwegian experiences show that at least 6-7 m<sup>2</sup> is necessary to separate functional zones
- Creep area of piglet nest could be integrated in the lying area of the sow, in the first 24 h the piglets will not lie separated from the sow. Creep area decreases sow lying area and restricts movements. Often creep is too large compared to remaining lying and dunging area for the sow.
- Specific micro climate for piglets and sow is necessary. Room temperature should not be adapted to the piglets needs to prevent the sows from heat stress.
- Function of nesting material (straw) is also to insulate the piglets and to let them dry up within the first two hours after birth. If no straw is available a heat source is necessary and radiation is preferred above floor heating. Preferably controlled on an individual pen level. The temperature drop in the newborn piglets is less with radiant heating because the drying up process is quicker. The room temperature can be lowered then.
- The use of straw must be limited if it has to fit into the present systems with suboptimal ways to remove straw and manure. New systems without obstacles for straw application are needed.
- A (partly) solid floor is also necessary to reduce ammonia emissions from the slurry pit. This is especially the case in DK and NL.
- Smell and learning to eat together with the mother seems to be important, but is later in life and maybe worth a specific workshop on aspects around weaning.
- Why is there a partition between the lying and dunging area in the FAT2 pen instead of threshold? Better separation of functional zones, but takes more space
- The presence of stockpeople always results in better results and with a good human-animal relation this shouldn't disturb the farrowing sows. Drying the piglets and attendance results in less mortality.
- In free farrowing pens surveillance is easier and of more importance compared to systems with crates.
- Sloped walls instead of protection rails seem to work well, closed pen partitions around the nest area and open around dunging/activity area contribute to separation of functional areas

### **Main conclusions from the discussion:**

- Sow and piglets need functional zones: lying/nesting, dunging, eating (not in nest),
- Floor quality: Solid, drained, dry, soft, grip (no slip = better responsiveness of sow)
- Nesting material and environmental enrichment available
- Human surveillance

These conditions cannot be met in a system with temporary crates, although this might be attractive for commercial farms for a transition period. They can also not be seen as independent measures, they are closely related. Floor quality is also important to prevent shoulder wounds, maybe rubber coatings could be an improvement. So a definition of solid floor is necessary.