Identifying feeding behaviour of pigs with extreme growth rates during lactation and nursery periods

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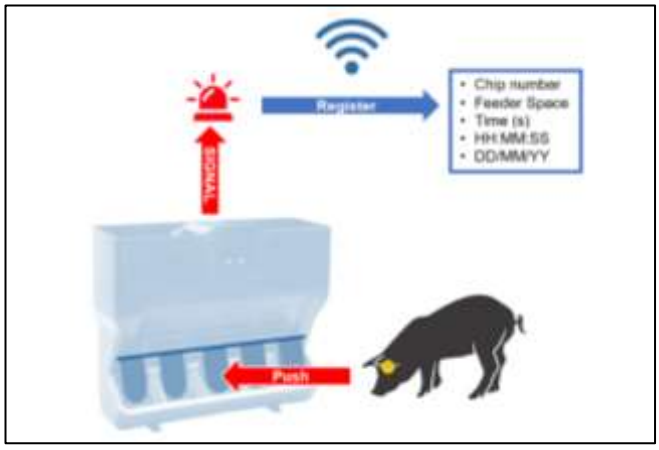

Figure 1 - Schematic representation of the operation for capturing information through the electronic feeder *(Mpigdata S.L. Madrid, Spain)*.

Pigs with different feed consumption the first three days after weaning achieve higher growth rates in the nursery period [1]. Furthermore, animals in fattening period, displaying differing performances, show different patterns of feeding behaviour [2]. These differences in feeding behaviour could be stem from early development growth, such us lactation or nursery period. Thirty pigs (male and female, 58d-old) were selected among a group of 128 to identify differences in feeding behavior among pigs exhibiting extreme growth rates during the lactation and nursery period. Pigs were allocated into four categories, assigned according to their growth rate in lactation (F-: Fast; S-: Slow) and nursery (-F: Fast; -S: Slow) period. Animals were raised in 16 pens (8 pigs/pen) that contained an electronic feeder (Mpigdata S.L. Madrid, Spain) with 5 feeding mouths. Individual interaction data with the feeder was collected using ear tags equipped with sensors (figure 1) during weeks 1 and 4 post-weaning. The number of visits to the feeder per day/(V/day), time per visit (s/V) and total accumulated time per day (min/day) were evaluated and subsequently analysed using the linear mixed model in Rstudio. During the first week after weaning, Fast- pigs in lactation period spent more min/day in the feeder (p=0.038) and showed a trend towards making more V/day (p=0.065) and spending more s/V (p=0.079) in the feeder compared to the Slow-pigs. Moreover, pigs that were chosen as -Fast during the whole nursery period, exhibited at first week more V/day and spent more min/day in the feeder (p<0.05). No difference was found in the interaction between lactation and nursery growth. During the fourth week, interactions were observed between growth in the lactation and nursery periods regarding V/day (p=0.001), and there were trends in the interaction of s/V (p=0.072) and min/day (p=0.067). F-S pigs showed a higher number of V/day to the feeder than the S-S pigs and F-F pigs. The S-S pigs tended to spend less min/day at the feeder compared to both the F-S groups and F-F pigs. Finally, the F-F pigs showed a tendency to spend more s/V in the feeder than the other groups. In conclusion, growth during lactation influences feeding behaviour early after weaning. Early feeding behaviour also appears connected with the different performance calculated by the end of the nursery period. Furthermore, feeding behaviour differences become higher as the animal grows, being closely related to the performance of piglets during lactation and nursery.

[1] L Fabà, T. Hulshof, K. Venrooij, H. and Van Hees, "Variability in feed intake the first days following weaning impacts gastrointestinal tract development, feeding patterns, and growth performance in nursery pigs", *J. Anim. Sci*, Vol. 102, skad419, 2024.
[2] G. Carcò, L. Gallo, M. Dalla Bona, M. A. Latorre, M. Fondevila, and S. Schiavon, "The influence of feeding behaviour on growth performance, carcass and meat characteristics of growing pigs". *PLoS One*, vol. 13, e0205572, 2018

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