

A model to induce cannibalism outbreak on pigs based on frustration of exploratory behaviour

Marie-Christine Meunier-Salaün¹, Diana Quent¹, Aurélie Thivat² and Valérie Courboulay²

¹PEGASE Agrocampus Ouest INRA, France, ²IFIP-Institut du Porc, France;

marie-christine.salaun@inra.fr

A model of cannibalism in pigs was built from the frustration of investigation, generated in two trials by the withdrawal from the fifth day of fattening period (FP) of the pen enrichment supplied during the post weaning period (PW). Three levels of enrichment were applied: in Trial 1 (T1): slatted floors and progressive supply of chain-plastic pipe or cord (E-) vs no object (A) (12 pens/treatment: A vs E-); Trial 2 (T2): straw bedding (E+) vs slatted floor with progressive supply of objects (E-) (12 pens/treatment: E- vs E+). During the first four days of the FP, piglets had cords and plastic pipes (P) vs no material (A) (6 pens per treatment: T1: A/A, A/P, E/A, and E-/P; T2: E-/A, E-/P, E+/A, and E+/P). Behaviour was video recorded every 2 weeks during PW, then daily during the first four days and finally at Day 7 of the fattening period. The social interactions, tail biting, pen and object investigation performed in pens for two hours were submitted to variance analysis (Proc Mixed SAS). Tails and ears injuries were scored three times in PW and daily for the two first weeks in FP (χ^2 test). During PW, enrichment promoted interest towards object (T1: 2% total scan for E- vs 0 for A; $P < 0.05$), and more straw investigation compared to objects ones (T2: 23.2 for E+ vs 3.5% total scan for E-, $P < 0.05$). No severe tail and ears lesions were observed in both trials. At Day 4 of FP, the withdrawal of objects did not strongly affected the behaviour, except in T2 showing more positive social interactions (33 for E-/A vs 23% total items for E-/P; $P < 0.05$). Cannibalism outbreak was only limited to three pens in T2 (E+/A, E-/A, E-/P), and any case at Day 7, highlighting multifactorial causes of cannibalism.