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ASPA 24th Congress Book of Abstract

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This study suggests that allowing the sow in a pen instead of crate 4 days after farrowing doesn't increase the total number of crushed piglets as long as piglet growth and sow performance. In particular, one AP system (APc) has resulted in lower mortality during the more risky period 24h after farrowing, but further research is required in order to reduce crushing, especially after opening.

O094

Hopping displacements of rabbit kept in a collective housing system

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Restriction of movement expressed as the inability of performing three consecutive hops is considered a main welfare consequence in farmed rabbits, whereas few information on their hopping behaviour is available. The present study compared the hopping behaviour of 72 reproducing does of two genotypes (Grimaud vs. Hycole) housed in 18 collective parks (2.0 m × 1.0 m, 4 animals) without enrichment, or enriched with a platform, or with platform and pipes. After weaning of litters (33 d), the activity of does was video-recorded for 24 hours. Single, double, triple, and multiple consecutive hops were scored during 30 min per h. The data (total number of events and rate of total events during 12-h observation per park) were submitted to ANOVA by PROC GLM of SAS with genotype, pen enrichment and interactions as main effects and pen as an experimental unit.

On average, 985 hopping events per pen were observed during 12 h which corresponded to 20.5 hopping events per rabbit doe in 30 min. Single hops accounted for 56.1% of total hopping events; double hops stand at 19.6%, while triple hops and multiple hops at 12.7% and 11.6% respectively, without significant differences according to genotype or park enrichment.

Taking into account the location, hopping events observed on the floor were obviously higher in non-enriched pens compared to pens with platform or platform + pipes (100%, 72.0% and 83.2% of total events; $p < .001$). The difference was significant for single (54.6%, 42.6% and 51.8% of total events; $p = .06$), double (22.3%, 12.2% and 14.5%; $p = .001$) and triple hops (12.2%, 9.21% and 9.88%; $p = .10$). As for hops performed to move between the floor and the platform, their rate was significantly higher in pens containing only the platform compared to those with platform + pipes (16.6% vs. 9.90%; $p < .001$) which was also associated with a higher rate of hopping events on the platform in the former pens compared to the latter (11.4% vs. 6.92%; $p < .001$).

In conclusion, the hopping pattern was similar in the two genotypes. The presence of the pipes reduced the use of platforms, as for the lower number of hopping events between the floor and the platform and on the platform. Most hopping events did not overcome two (75.7% of total events) or three consecutive hops (88.4% of total events). Further data are necessary at different time points to get more knowledge about the behaviour of rabbits under commercial conditions with special reference to hopping behaviours and motivations.

SESSION 19 – FEED EFFICIENCY AND GROWTH PERFORMANCE – II

O095

Evaluation of *Lactobacillus plantarum* and *Lactobacillus reuteri* as feed additives for swine

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In swine farming, effective alternatives capable to reduce antibiotic consumption are needed to cope with the increasing concern of antibiotic resistance. In this perspective, functional feed additives, such as probiotics, are able to sustain the health status and reduce the risk of diseases development, that have become a fundamental tool to prevent pathological conditions in livestock. The aim of this study was to evaluate *Lactobacillus plantarum* and *Lactobacillus reuteri in vitro* for their functional characteristics and *in vivo* for their effect on animal performance and health. Firstly, *L. plantarum* 4.1 and *L. reuteri* 3X7, isolated from swine by Biotecnologie BT were genetically characterized by PCR reaction. Subsequently, their resistance to pH, temperature and digestive process were evaluated. Furthermore, the Lactobacilli mucosa adhesion ability was assessed on IPEC-J2 cell line. For the *in vivo* trial, 350 weaned piglets (28 ± 2d) were randomly divided into four experimental groups receiving basal diet respectively supplemented with: i) CTRL no supplementation; ii) PLA 2 × 108 CFU/g of *L. plantarum*; iii) REU 2 × 108 CFU/g of *L. reuteri*; iv) PROBIO 1 × 108 + 1 × 108 CFU/g for both bacterial strains. Growth performance and faecal consistency using a four-point scale (faecal score 0–3; considering diarrhoea ≥2) were recorded individually. Faecal samples were collected for the evaluation of main bacterial families, and blood serum aliquots were obtained for the assessment of metabolic parameters. In vitro characterization revealed a great resistance to a wide range of pH (3,4,5,7) for both species. At pH 2 a statistically significant reduction of bacterial growth was observed ($p < .05$). Both species showed