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One Health

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Posters

45. Comparison of ammonia and greenhouse gases emissions associated to fattening pigs kept either on fully or partly slatted floor

Philippe F.-X.^{1*}, Laitat M.², Wavreille J.³, Nicks B.¹, Cabaraux J.-F.¹

¹. Department of Animal Productions, FMV, ULg

². Clinical Department of Production Animals, FMV, ULg

³. Department of Production and Sectors, Walloon Agricultural Research Centre, Rue de Liroux, 8, 5030 Gembloux, Belgium

***Corresponding author:** fxphilippe@ulg.ac.be

The aim of this study is to compare the emissions of ammonia (NH₃) and greenhouse gases (nitrous oxide, N₂O; methane, CH₄; carbon dioxide, CO₂) during the fattening of pigs kept either on fully or partly slatted floor. Two successive batches of 24 fattening pigs (Piétrain X Belgian Landrace) were divided into two groups housed in two separated pens of 9m² of surface area (0.75m²/pig) and fitted with either a fully or a partly slatted floor, with the slurry pit only under the slatted parts. Experimental rooms were automatically ventilated with continuous recording of ambient temperatures and ventilation rates. Gaseous concentrations were measured by photo-acoustic detection during 3 periods of 6 consecutive days throughout each fattening period. Housing system with partly slatted floor did not reduce NH₃-emissions (on average 6.6g NH₃/pig.day for both slat type) but are associated with reduced emissions of greenhouse gases (0.22 vs. 0.28g N₂O/pig.day; 4.44 vs. 4.89g CH₄/pig.day; 1.29 vs. 1.48kg CO₂/pig.day).

46. Effect of a fibrous diet on growth performance, carcass characteristics and gut health of fattening pigs

Philippe F.-X.^{1*}, Antoine N.², Cabaraux J.-F.¹, Cassart D.², Mainil J.³, Nicks B.¹, Wavreille J.⁴, Laitat M.⁵

¹. Department of Animal Productions, FMV, ULg. ². Department of Morphology and Pathology, FMV, ULg. ³. Department of Infectious and Parasitic Diseases, FMV, ULg. ⁴. Department of Production and Sectors, Walloon Agricultural Research Centre, Rue de Liroux, 8, 5030 Gembloux, Belgium. ⁵. Clinical Department of Production Animals, FMV, ULg.

***Corresponding author:** fxphilippe@ulg.ac.be

Two successive batches of 24 fattening pigs were divided into two groups fed ad libitum either a standard diet based on cereals (STD, 19% non-starch-polysaccharides, NSP) or a fibrous diet based on sugar beet pulp (HFD, 31% NSP). Diets were isoenergetic (2225 kcal/kg net energy) and isoproteic (16% crude protein). Pigs were fattened from 35 to about 110 kg. The average daily gain was reduced by 10% with HFD (788 vs. 877 g/day, P<0.001), as possible result of decreased feed intake (2.26 vs. 2.47 kg/day, P>0.05) and deteriorated feed conversion ratio (2.88 vs. 2.82, P>0.05). The carcass traits associated with HFD showed reductions of dressing percentage (75.8 vs. 78.9%, P<0.001), muscle thickness (61.7 vs. 66.2 mm, P<0.05) and backfat thickness (11.3 vs. 13.9 mm; P<0.05). At the end of the fattening period, fecal bacteria counts associated with HFD showed higher results for *Lactobacillus* (10.21 vs. 9.84 log₁₀ of cfu/g of faeces dry matter, P<0.05) and *Bifidobacterium* (9.47 vs. 8.87, P<0.01) but lower results for *Enterobacteriaceae* (4.83 vs. 5.97, P<0.001). The stomach weight and the total digestive tract weight of pigs fed HFD was higher than that of pigs fed STD (0.73 vs. 0.51 kg, P<0.001, and 4.89 vs. 4.28 kg, P<0.05, respectively). Gastric lesion score was decreased with HFD (0.93 vs. 1.55, P<0.05). It may be concluded that HFD impaired growth performance and carcass traits but may contribute to better gut health. The source and amount of fiber should be further explored to combine favourable effects on health and performance.