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ORIGINAL ARTICLE

Feed presentation options in Swine early fattening mitigates *Salmonella* shedding and specifically modulates the faecal microbiota

P. Lebel[1,2,3], A. Letellier[1,2,3], J. Longpré[1,2,3], B. Laplante[4], E. Yergeau[5] and P. Fravalo[1,2,3]

1 Faculty of Veterinary Medicine, NSERC Industrial Research Chair in Meat-Safety (CRSV), Université de Montréal, Saint-Hyacinthe, Quebec, Canada
2 Faculty of Veterinary Medicine, Swine and Avian Infectious Disease Research Centre (CRIPA), Université de Montréal, Saint-Hyacinthe, Quebec, Canada
3 Faculty of Veterinary Medicine, Groupe de Recherche et d'Enseignement en Salubrité Alimentaire (GRESA), Université de Montréal, Saint-Hyacinthe, Quebec, Canada
4 F. Ménard Inc., Ange-Gardien, Quebec, Canada
5 Centre INRS-Institut Armand-Frappier, Institut national de la recherche scientifique, Université du Québec, Laval, Canada

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Correspondence
Philippe Fravalo, Faculty of Veterinary Medicine, NSERC Industrial Research Chair in Meat-Safety (CRSV), Université de Montréal, Saint-Hyacinthe, Quebec, Canada.
E-mail: philippe.fravalo@umontreal.ca

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Abstract

Aims: The object of this study was to determine the impact of only modifying the processing and/or particle size of pig feed on *Salmonella* shedding and faecal microbiota.

Methods and Results: Pigs were fed a diet that varied only by their processing (pellet or mash) and their particle size (500, 750 or 1250 μm) for 21 days. *Salmonella* detection in faeces and seroconversion were determined. Faecal microbiota was assessed by Ion Torrent amplicon sequencing and real-time PCR. Significantly fewer pigs ($P < 0{\cdot}05$) shed *Salmonella* in the groups fed mash 500 (1) and mash or pellet 1250 (5 each) compared to the commercial reference group (15) fed pellet 500. Both mash processing and large particle size raised the proportion and number of bacteria from the *Bifidobacterium*