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Case control study on environmental, nutritional and management-based risk factors for tail-biting in long-tailed pigs

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Abstract

A case control study with a questionnaire was carried out to compare feeding practices, diet composition, housing and management in 78 herds with or without a history of tail-biting in undocked pigs (*Sus scrofa*) in Finland. Tail-biting was measured as the mean annual prevalence score of tail-biting damage (TBD) for a farm. Logistic regression parameters were calculated separately for risk factors present in piglet (lactation), weaner, and finishing units. Risk factors found in piglet units for TBD were slatted floors and area of slats. In the weaner units, slatted floors, area of slats, use of whey or wheat in the diet, and use of purchased compound feeds were associated with a risk of TBD. In the finishing units, slatted floors, area of slats, increasing number of finisher pigs at the farm, absence of bedding, liquid feeding, several meals per day, specialised production type and a group size greater than nine pigs were found as risk factors for TBD. Increased farm size was connected to risk for TBD in the overall dataset. The nutritional risk factors seem to operate together with other risk factors, but with relatively lower odds. The risk factors of undocked herds in this study seem to be similar to the risk factors from earlier studies of docked pigs. This study provides information which can be used to refine decision-support tools for management of the potentially higher risk for tail-biting among long-tailed pigs, thus aiding compliance with EU law and enhancing pig welfare.

Keywords: animal welfare, environment, feeding, pig, risk factor, tail-biting