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Suspended pieces of wood as environmental enrichment for commercially housed pigs: effects on animal-based welfare measures

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Animal-based measures are part of the Welfare Quality® protocol as effective indicators to assess pigs' welfare at farm. The present study aimed to determine if the introduction of suspended pieces of wood as environmental enrichment may affect animal-based welfare measures of growing-finishing pigs under commercial farm conditions. In a commercial pig unit, 513 growing pigs were housed indoors into 27 pens (19 animals/pen, 1.0 m²/pig). While half of the pens remained barren, the other half was equipped with environmental enrichments: two pieces of wood suspended on a chain at pig head level. Twenty pens (10 barren+10 enriched) were randomly selected and assessed at 2-week intervals during the trial (20 weeks). Manure on the body, wounds, bursitis, and lameness were scored at individual level according to a 3-point scale; tail biting and hernias were scored on a 2-point scale. Furthermore, the number of pigs removed from the experiment due to health problems and the causes of removal were monitored. Prevalence of each measurement was expressed as percentage of individuals affected on the total of assessed animals. Data were statistically treated using a generalized linear model, with enrichment as fixed factor. The number of pigs removed from the experiment did not statistically differ between treatments. The main causes of pigs' removal were tail biting and lameness. The pigs housed in the enriched pens showed a lower prevalence of wounds (score 1) than barren-housed pigs (3.87 vs. 5.43%; $P \leq 0.05$). On the contrary, the pigs kept in the enriched condition showed higher (although not significant) prevalence of lameness (score 1: 1.97 vs. 1.07%) and bursitis (score 1: 3.29 vs. 2.14). The others indicators did not differ between treatments. Even though the higher lameness prevalence detected in the enriched-housed pigs requires further investigations, the reduced incidence of moderate wounds suggests that suspended pieces of wood might be used as effective environmental enrichments for pigs.