

Abattoir data provide information on pig welfare at herd level in different production systems

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Our aim was to evaluate whether lesions related to animal welfare (housing and behaviour) recorded at routine meat inspection were associated with production system (conventional indoor (CI), conventional free-range (CF) or organic free-range (OF)). We evaluated meat inspection data from 1,096,756 pigs (from 78 CI herds (533,765 pigs), 25 CF herds (269,933 pigs) and 37 OF herds (293,058 pigs) slaughtered at one Danish abattoir during 2013-2015. Generalized linear mixed model with production type, year and quarter of slaughter as fixed effects and herd as random effect were constructed. Pigs raised in CI systems exhibited minor variations in the prevalence of lesions through quarter 1-4 of each year. Across the study period, the within-herd prevalence of leg swellings, hoof abscesses, skin lesions and tail lesion was 3% [1%; 7%], 1% [1%; 2%], 1% [1%; 13%] and 1% [0.1%; 9%]. In CF and OF herds, we saw the same pattern of variation in the prevalence of skin and tail lesions through the quarters of each year. Skin lesions were most prevalent in quarter 3. The prevalence of tail lesions was highest in quarter 1 and 4. In CF and OF herds the within-herd prevalence of leg swellings, hoof abscesses, skin lesions and tail lesions was 1.5% [0.6%; 3%], 0.7% [0.1%; 2%], 3% [0.3%; 21%] and 2.5% [0%; 9%]. Odds for skin and tail lesions were approximately 3 times higher in CF and OF pigs compared to conventional pigs ($P < 0.001$). Odds for leg swellings and hoof abscesses were approximately 1.5 times higher in CI pigs compared to CF and OF pigs ($P < 0.001$). Large herd effects (ICC 21-24%) on the occurrence of skin and tail lesions suggested possibilities for herd-specific interventions. Data on lesions obtained by routine meat inspection can provide useful information for assessing welfare at herd level when retrieved from one abattoir.