Effect of sire on pig leg health in commercial organic herds

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In Sweden, the proportion of pigs from organic herds with leg joint remarks at slaughter has increased from 4 to 8 % over the past decade, partly due to osteochondrosis and partly to infectious inflammation (Erysipelas). This study assessed differences in locomotion, lameness, swollen joints and joint remarks at slaughter between sire breeds (Hampshire (H) and Duroc (D)) and between individual sires. In total, 180 Yorkshire x Landrace sows from organically certified commercial herds were inseminated with non-mixed semen from AI boars. The two sire breeds were evenly distributed among sows in each herd and production batch. Piglets were born from January to July 2012 and slaughtered at the same slaughter plant from July 2012 to January 2013. Locomotion, lameness and swollen joints were individually assessed at approximately 30 and 100 kg live weight and slaughter remarks were recorded for each individual pig. Analysis of variance was performed with the procedures GLM and MIXED in the SAS package, using a model that included the fixed effects of sire breed, herd (4) and gender and the random effect of individual sire within breed (42).

Preliminary results based on information from 698 pigs slaughtered from July to November 2012 indicate that the prevalence of clinical lameness increased from 5 to 21 % and that of swollen joints from 0.8 to 8.6 % over the growing/finishing period. However, the proportion of pigs with joint remarks at slaughter was only 2.4% and was not significantly correlated to any of the live leg health assessments. As expected, the recording of lameness was correlated to the recording of locomotion on both assessment occasions ($r=0.47$, $p=0.001$ at 30 kg; $r=0.44$, $p=0.001$ at 100 kg). There were no differences between sire breeds (H and D) for any of the leg health parameters investigated ($p>0.05$), but there were substantial variations in locomotion scores associated with individual sires, both at the first ($p=0.036$) and second ($p=0.086$) assessment. In conclusion, joint remarks reported at slaughter have no, or very weak, associations to clinical lameness and swollen joints. This study does not provide evidence that leg health can be improved by choice of sire breed, but the variation observed between individual sires indicates that leg health can be improved by choosing the best sires.