

Risk factors for sow and piglet welfare indicators in an on-farm monitoring system



K. Scott¹, G.P. Binnendijk², S.A. Edwards¹, J.H. Guy¹, M.C. Kiezebrink², H.M. Vermeer²

¹School of Agriculture, Food and Rural Development, Newcastle University, Newcastle upon Tyne, NE1 7RU, UK;

²Animal Sciences Group, Wageningen University and Research Centre, The Netherlands.

Introduction

Most existing welfare monitoring systems are based predominately on environmental and production-based descriptors; however these are not always the most valid tools with which to assess welfare.

The Welfare Quality® project aims to use predominately animal-based indicators of welfare, including amongst others, body injuries, body condition, and abnormal behaviour in an on-farm monitoring system.

Materials and Methods

A prototype monitoring system to evaluate sow and piglet welfare was devised and evaluated on 82 farms in the UK and the Netherlands.

Animal-based measures including aspects of behaviour, health and physiology were used to assess welfare.

A diverse range of production systems with different flooring types and feeding methods were sampled to enable risk factors for poor welfare outcomes to be explored.



Outdoor housing

Stall housing

Results

Welfare standards on the farms visited were generally good, with low levels of clinical injuries observed (Figure 1).

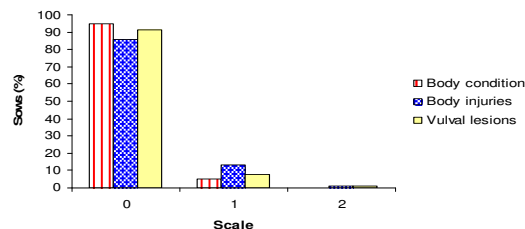


Figure 1: Pregnant and lactating sows in each score category for a variety of clinical measures (score 0 = good welfare; score 1 = compromised welfare; score 2 = unacceptable welfare).

Risk factors associated with housing, flooring and feeding systems were identified for certain indicators. Welfare indicators including fear of humans, assessed by the extent of withdrawal behaviour from an unknown human (Figure 2), did not differ between housing systems.

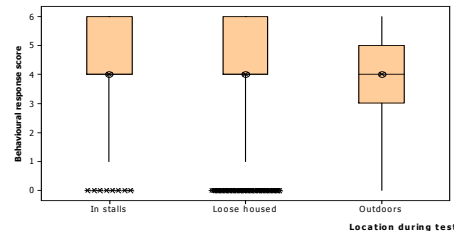
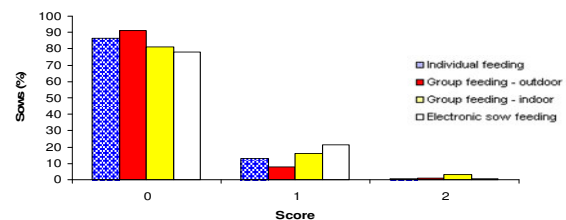


Figure 2: Distribution of behavioural response scores in a human approach test for pregnant sows in different housing systems (score 0 = extreme withdrawal response; score 6 = no withdrawal response)

Stereotyped behaviours tended to be more prevalent on farms where sows had no straw bedding. Mean bursitis scores were higher on farms with fully-slatted flooring than other floor types ($P < 0.001$).

Feeding method had significant effects on body injury score ($P < 0.001$) and vulval lesion score ($P < 0.001$) (Figure 3).

A - Body injuries



B - Vulval lesions

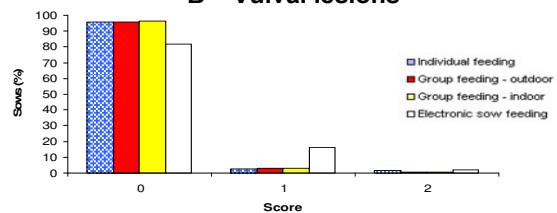


Figure 3: Influence of feeding method on A - body injuries and B - vulval lesions (score 0 = good welfare; score 1 = compromised welfare; score 2 = unacceptable welfare)

Conclusions

Large scale survey data of welfare outcome indicators offers good possibilities to determine the risk factors for sow and piglet welfare.

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