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Conference details

Communication type :	Date:	Location:	Total Expense (USD):
Oral presentation	07/12/16 to 07/16/16	Edinburgh, Scotland	2032.86

Conference title: The International Association for Applied Ethology (ISAE) 50th Anniversary conference

Communication title

Know thy neighbour – does loose housing at farrowing and lactation positively influence sow welfare post-weaning?

ABSTRACT

Legislation and consumer pressure is leading to a global shift in sow housing. Pig welfare concerns have led to a reduction in confinement during pregnancy and more recently when sows are having (farrowing) and feeding (lactation) their piglets. Crate-free systems allow the sow to move freely, but must also maintain a high level of productivity. This study characterized behaviour, skin injuries (lesions) and body condition of sows mixed into groups of up to six after weaning from a loose-housed farrowing and lactation system (PigSAFE pens, PS, n = 22) or a conventional crate (C, n = 24). PS allowed tactile contact between neighbouring pens. Eight groups, housed together during gestation, were mixed back into the same group at weaning. Sow weight and back-fat depth were measured on entry and exit from the farrowing system. Behavior observations for 11 hours post-mixing measured aggressive interactions (fight, bully, bite) between sows. Fresh lesions were counted before mixing, and one, four and 24 hours post mixing. Time spent lying next to, and aggressive interactions between PS or C neighbours (N) and non-neighbours (NN) was calculated on a per sow basis. C sows did not show a difference in aggressive interactions or duration spent lying with sows that were neighbours or not ($P > 0.05$). However, PS sows spent more time lying next to ($N = 55.0 \pm 11.1$, $NN = 20.3 \pm 4.9$), and had fewer fights ($N = 0.07 \pm 0.04$, $NN = 0.3 \pm 0.08$), bites ($N = 1.0 \pm 0.04$, $NN = 2.0 \pm 0.7$), and bullies ($N = 0.2 \pm 0.1$; $NN = 0.8 \pm 0.3$) per sow towards N than NN (all $P < 0.05$). Over lactation, PS sows lost less weight ($PS = -22.5 \pm 2.8$ kg, $C = -36.6 \pm 3.8$; $P = 0.04$) and tended to lose less back-fat ($PS = -4.9 \pm 0.8$ mm, $C = -7.3 \pm 1.1$; $P = 0.09$) than C sows. PS sows received more lesions to the front of the body ($PS = 15.6 \pm 3.0$, $C = 7.5 \pm 0.8$), whereas C sows had more at the rear ($PS = 2.7 \pm 0.4$, $C = 7.6 \pm 1.5$), leading to a housing \times lesion location interaction ($P < 0.001$). For the frequency of wounding aggression, there was a behaviour \times system interaction ($P = 0.009$), as PS sows had fewer fights ($PS = 0.9 \pm 0.20$, $C = 2.3 \pm 0.4$) and delivered more bites than C sows ($PS = 7.4 \pm 2.4$, $C = 4.8 \pm 0.9$), but had a similar frequency of bullies ($PS = 0.9 \pm 1.3$, $C = 0.9 \pm 0.8$). Better body condition at weaning and greater familiarity between individuals could benefit the production potential of loose-housed sows, as well as improving their on-farm well-being.

COMMUNICATION OUTCOMES

ISAE is the premier conference for applied farm animal behavior and welfare research, showcasing the latest research, which is often not published anywhere else. The topic of sow housing systems – moving from confinement to group housing and loose-housing pens – is a current global ‘hot topic’. In 2013, sow gestation stalls were banned in Europe and here in the US, several states, including Michigan, have put in place a ban. In addition, several large US companies will soon no longer source pork from producers using sow stalls throughout gestation. In Europe, there are also moves towards completely crate-free systems for sows during farrowing and lactation, as well as gestation. These systems may also increase here in the US. Therefore, the latest research on the behavior, welfare and productivity of sows in loose-farrowing and group-gestation systems are of international interest. Although the data in this abstract are from research conducted at Scotland’s Rural College (SRUC) in Edinburgh, prior to my position here at MSU, the subject of sow housing and aggression is the subject of the project I am working on here. In addition, SRUC, who are hosting the 2016 ISAE conference, are collaborators on the current MSU project. Therefore, this conference provides the unique opportunity for project personnel from across the Atlantic to get together in person, as well sharing outcomes of important sow welfare research.

This year’s ISAE is particularly special, it is the 50th anniversary year. The general conference theme of “Past and Future: Standing on the Shoulders of Giants”, aims to reflect on how far the study of applied ethology has come, to celebrate its founding members, and look to the future. It is set to be the biggest ever ISAE conference, providing better than ever networking opportunities with applied ethology researchers from across the globe. Because of this, the behavior and welfare lab at MSU will have a strong presence at the 2016 ISAE conference in Edinburgh, with Dr. Siegford, Myself, along with several students (both undergraduate and postgraduate) due to attend. Showcasing the quality of MSU’s behavior and welfare faculty, staff and student research capabilities at an international level, will help strengthen and promote the group for future expansion in a country where farm animal welfare issues are of increasing concern to US consumers.

PREDICTED TRAVEL EXPENSES

Item		amount (in USD)
Conference registration	\$	566.00
Airfare	\$	1466.86
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Total	\$	2032.86