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Positive handling in late pregnancy and the consequences for maternal behaviour and production in sows

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Abstract

Fifty-two sows were subjected to a human approach test (HAT) at 2 weeks, and again at 3–4 days, before expected farrowing. Latency to contact and time spent exploring the experimenter, and overall confidence score (1 = low to 6 = high) were recorded. Fifty percentage of the sows received positive handling for 1 min twice daily, 5 days a week from first HAT to farrowing, whilst the others were controls without additional handling. Behaviour was video-recorded from 2 days before until 4 days after farrowing.

In the first HAT, 37% of sows immediately made contact with the experimenter (score 6), whereas 20% withdrew (scores 1 and 2). To give the sows a positive association to the handler, feed rewards were given. The sows accepted a feed nut from the hand significantly sooner than petting ($P = 0.05$). After 2 weeks of handling, the confidence score had increased significantly ($P < 0.001$), but a similar tendency occurred for controls ($P = 0.06$). For the most fearful sows (scores 1 and 2), the handling procedure resulted in a major increase in confidence score ($P < 0.001$).

There were no significant differences in piglet mortality or early lactation piglet weight gain between treatments. In the control group, sows with a high (6) initial confidence score tended to have shorter farrowing duration than sows with a low (1 or 2) initial confidence score ($P = 0.07$). For sows

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with a low initial confidence score, the positive handling resulted in a shorter farrowing duration, but the effect was not significant. In the last 8 h before farrowing, positively handled sows also tended to rest more than sows in the control group.

Keywords: Positive handling; Sows; Fear; Maternal behaviour; Piglet mortality

1. Introduction

Fear of humans is an important welfare indicator for many reasons. First of all, fear reactions are the most immediate responses that the animals show to potentially dangerous stimuli in the environment. Secondly, it is associated with physiological stress and has negative effects on growth, food intake (performance), important health parameters (immune status) and, not least, reproductive performance (Gonyou et al., 1986; Hemsworth et al., 1981, 1986, 1987, 1989, 1994, 1999; Boissy, 1995; Jones, 1997; Janczak et al., 2003a). Fear responses to humans show great similarities between different species of farm animals, and can be easily monitored both under experimental conditions (e.g. Janczak et al., 2003b), and on commercial farms (e.g. Hemsworth et al., 1994). Furthermore, fear responses are fairly consistent over time (i.e. represent a part of personality; Janczak et al., 2003b). Because of the many negative effects of fear of humans, this is an important measure of welfare as well as of great economic interest to the farmer. Even in larger herds, where handling may be minimised by increased technology and more effective handling facilities, there will still be situations where direct contact with the animals is necessary. Positive and consistent handling should therefore be of great importance in any production system.

What is positive handling? To be approached and touched by humans is not necessarily positive from the animal's point of view unless the animal associates something positive with this handling. It is sometimes assumed that talking to and petting the animals is perceived as rewarding in itself. However, the handling is only positive when the animal's behavioural responses during the actual treatment are positive (i.e. when it is perceived as something positive by the animal). This implies approach/seeking contact, but no avoidance, aggression or immobility.

In commercial practice most farmers would agree that using controlled and slow movements (patience), friendly voice, and a portable board for helping the sows in the right direction are all examples of positive interactions with the animals, whereas shouting, sudden and threatening movements and slapping/kicking the animals represent something negative. However, it is important to note that the effects of unpleasant treatments, such as forcing the pigs away whenever they approach may result in similar stress responses to inconsistent handling involving both positive and negative treatments (Hemsworth et al., 1987). It should thus be assumed that petting animals is positive only to the extent that the animals are exposed to this treatment regularly and associate something positive with this interaction.

Although, the individual fear level and the maternal abilities may be set at an early age (Janczak et al., 2003a), positive and consistent handling later in life may also have a great