

© 2013 Universities Federation for Animal Welfare
 The Old School, Brewhouse Hill, Wheathampstead,
 Hertfordshire AL4 8AN, UK
www.ufaw.org.uk

Animal Welfare 2013, 22: 219-238
 ISSN 0962-7286
 doi: 10.7120/09627286.22.2.219

The welfare implications of large litter size in the domestic pig II: management factors

**EM Baxter^{*†}, KMD Rutherford[†], RB D'Eath[†], G Arnott[†], SP Turner[†], P Sandøe[‡], VA Moustsen[§],
 F Thorup[§], SA Edwards[#] and AB Lawrence[†]**

[†] Animal Behaviour and Welfare, Animal and Veterinary Science Research Group, SRUC, West Mains Road, Edinburgh EH9 3JG, UK

[‡] Department of Large Animal Sciences and Institute of Food and Resource Economics, University of Copenhagen, Groennegaardsvej 8, DK-1870 Frederiksberg, Denmark

[§] Danish Agriculture and Food Council, Pig Research Centre, Axelborg, Axeltorv 3, DK-1609 KbhV, Denmark

[#] School of Agriculture, Food and Rural Development, University of Newcastle, Newcastle Upon Tyne NE1 7RU, UK

* Contact for correspondence and requests for reprints: Emma.Baxter@sruc.ac.uk

Abstract

*Increasing litter size has long been a goal of pig (*Sus scrofa domesticus*) breeders and producers in many countries. Whilst this has economic and environmental benefits for the pig industry, there are also implications for pig welfare. Certain management interventions are used when litter size routinely exceeds the ability of individual sows to successfully rear all the piglets (ie viable piglets outnumber functional teats). Such interventions include: tooth reduction; split suckling; cross-fostering; use of nurse sow systems and early weaning, including split weaning; and use of artificial rearing systems. These practices raise welfare questions for both the piglets and sow and are described and discussed in this review. In addition, possible management approaches which might mitigate health and welfare issues associated with large litters are identified. These include early intervention to provide increased care for vulnerable neonates and improvements to farrowing accommodation to mitigate negative effects, particularly for nurse sows. An important concept is that management at all stages of the reproductive cycle, not simply in the farrowing accommodation, can impact on piglet outcomes. For example, poor stockhandling at earlier stages of the reproductive cycle can create fearful animals with increased likelihood of showing poor maternal behaviour. Benefits of good sow and litter management, including positive human-animal relationships, are discussed. Such practices apply to all production situations, not just those involving large litters. However, given that interventions for large litters involve increased handling of piglets and increased interaction with sows, there are likely to be even greater benefits for management of hyper-prolific herds.*

Keywords: animal welfare, cross-fostering, human-animal interaction, litter size, nurse sow, split suckling