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The welfare implications of large litter size in the domestic pig I: biological factors

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Abstract

*Increasing litter size has long been a goal of pig breeders and producers, and may have implications for pig (*Sus scrofa domestica*) welfare. This paper reviews the scientific evidence on biological factors affecting sow and piglet welfare in relation to large litter size. It is concluded that, in a number of ways, large litter size is a risk factor for decreased animal welfare in pig production. Increased litter size is associated with increased piglet mortality, which is likely to be associated with significant negative animal welfare impacts. In surviving piglets, many of the causes of mortality can also occur in non-lethal forms that cause suffering. Intense teat competition may increase the likelihood that some piglets do not gain adequate access to milk, causing starvation in the short term and possibly long-term detriments to health. Also, increased litter size leads to more piglets with low birth weight which is associated with a variety of negative long-term effects. Finally, increased production pressure placed on sows bearing large litters may produce health and welfare concerns for the sow. However, possible biological approaches to mitigating health and welfare issues associated with large litters are being implemented. An important mitigation strategy is genetic selection encompassing traits that promote piglet survival, vitality and growth. Sow nutrition and the minimisation of stress during gestation could also contribute to improving outcomes in terms of piglet welfare. Awareness of the possible negative welfare consequences of large litter size in pigs should lead to further active measures being taken to mitigate the mentioned effects.*

Keywords: animal welfare, birth weight, litter size, mortality, piglet, sow