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Farm animal welfare: assessing risks attributable to the prenatal environment

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Abstract

An ever-expanding scientific literature highlights the impact of the prenatal environment on many areas of biology. Across all major farmed species, experimental studies have clearly shown that prenatal experiences can have a substantial impact on outcomes relevant to later health, welfare and productivity. In particular, stress or sub-optimal nutrition experienced by the mother during pregnancy has been shown to have wide-ranging and important effects on how her offspring cope with their social, physical and infectious environment. Variation in the conditions for development provided by the reproductive tract or egg, for instance by altered nutritional supply or hormonal exposure, may therefore explain a large degree of variation in many welfare- and productivity-relevant traits. The scientific literature suggests a number of management practices for pre-birth/hatch individuals that could compromise their later welfare. Such studies may have relevance for the welfare of animals under human care, depending on the extent to which real life conditions involve exposure to these practices. Overall, the findings highlight the importance of extending the focus on animal welfare to include the prenatal period, an aspect which until recently has been largely neglected.

Keywords: animal welfare, early life, farming, foetal, gestation, prenatal