

Review of wallowing in pigs: implications for animal welfare

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Abstract

Most modern production systems, especially in temperate climates, do not offer wallowing facilities to pigs and, to date, this has neither generated much concern in welfare science nor public debate on pig welfare. Nevertheless, wallowing is a natural behaviour of pigs which may be important to them. This paper systematically examines the overall importance of wallowing for pig welfare using principles developed in semantic modelling. As a first step, relevant citations were collected from the scientific literature. Secondly, since the importance of the attribute ('wallowing') is dependent upon the discrepancy between its best and worst levels, these levels were specified in relation to the status quo in pig husbandry, ie no pool (even during periods of overheating) and the ideal mud pool, respectively. Criteria for an ideal mud pool were formulated in terms of pool location and size, substrate, thermal conditions, body care and hygiene. Thirdly, available scientific information about wallowing was systematically described in relation to ten so-called weighting categories identified in semantic modelling (pain and illness, survival/heat stress, fitness, stress, aggression, abnormal behaviour, frustration, natural behaviour, preferences and demand). Fourthly, the welfare importance of wallowing was assessed by tentatively comparing it to several other welfare attributes, such as food, foraging substrate, social contact and non-castration. This leads to the suggestion that wallowing is important for pig welfare because of its multifaceted nature. It may even be very important when other forms of thermoregulation are sub-optimal. This paper, finally, discusses the 'ethical room for manoeuvre' concerning the (non-) implementation of mud pools in practice. An integrated approach is suggested to address related scientific, technological and ethical issues, because stakeholders are faced not only with scientific and technological gaps in knowledge but also with economical, ecological, food-safety and psychological barriers. As an important element of natural behaviour and positive welfare, the subject may provide an opportunity for pig farming. This should be recognised more explicitly in transition processes towards fully sustainable pig production systems.

Keywords: animal welfare, ethics, natural behaviour, pigs, semantic modelling, wallowing behaviour