



Water and the Welfare of Farm Animals

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Chapter 9

Water and the Welfare of Farm Animals

Marina A.G. von Keyserlingk, Clive J.C. Phillips, and Birte L. Nielsen

Abstract Provision of adequate water supplies is essential for the welfare of farm animals. Water forms the largest component of an animal's body and is an essential nutrient required for all biological functions, including temperature regulation, digestion, foetal development, and production. This essential nutrient can only be restricted for short periods of time. Water deprivation results in substantial welfare concerns, as it can hinder biological functioning, and has been associated with morbidity and, in cases of extreme deprivation, mortality. It is likely associated with a highly negative emotional state in farm animals (e.g. in humans referred to as thirst). Both quality and quantity of water may limit water intake, and management factors such as high stocking density at the water source can also negatively affect water intake. Providing examples from the primary production species, cattle, pigs, and poultry, we describe the importance of water quality and quantity in food animal production.

9.1 Introduction

The importance of water in the maintenance of life becomes clear when one compares it to that of solid food. It has long been known that animals deprived of water live for a much shorter period of time than their counterparts deprived of food (French 1956). Fitzsimmons (1979a, b) recognized that thirst, the subjective sensation resulting from a lack of water, is only surpassed for its impact on welfare by

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