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Editorial

Ethics: The new challenge for animal agriculture ☆

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Abstract

This paper introduces this volume dedicated to ethics in animal agriculture, in which moral responsibility of the actors of the animal production chain and relations between science, production and the society are analysed. Ethical concepts and their evolution through the ages, and ethical issues arising across different modes of production are presented. The diversity of viewpoints and interests of the stakeholders (farmers, technicians, scientists, consumers and citizens), relative to their values, cultures, and production conditions, is emphasized. The processes by which norms can be built while taking into account this diversity and societal objectives are illustrated at the levels of the profession, the country, Europe or the world. Ethics in animal production is a condition of the acceptability of the products, but also of the animal production sector as a whole.

Keywords: Animal bioethics; Animal agriculture; Ethical issues; Normative ethics

1. Introduction

On the basis of the concepts of human domination over nature, and of experimental science pioneered by Francis Bacon (1561–1626), and following the age of Enlightenment, the agricultural revolution, along with the industrial revolution, led during the 19th century to a rationalisation of the agricultural production, including that of animal production. The last 60 years saw the progress of industrialisation of this sector, together with a transition from a rural to an urban social structure, disconnecting the major part of the population from the agricultural production process. During this period, progress has been made in food security and self-sufficiency in terms of quantity, costs for the consumer, security of the products of animal origin and their physical quality (such as standardization, or marketability).

The increased intensification of animal production together with the accelerated introduction of new biotechnologies over the last two decades resulted in an increased detrimental environmental impact, deep food and sanitary crises (such as BSE, FMD, contaminants in meat), and a distrust of the population (Cunningham, 2003; Hodges, 2003). As a consequence, a new demand is now emerging, centred on what could be named "subjective quality", stressing on the ethical and sustainable aspects of livestock production.

This special issue presents the diversity of viewpoints expressed by the actors of the animal produc-

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tion sector and the relations between science, production and the society regarding ethics in animal production. It is based on the communications presented during the "Ethics in animal agriculture" session of the European Association for Animal Production held in Bled in 2004, jointly organised by its Management and Health and Livestock Farming Systems Commissions, and its Ethics Working Group.

2. Ethical concepts and issues

Ethics can be viewed as a set of rules of action within a given society, in accordance with its beliefs, for a harmonious development, or as the eye any individual turns on his/her actions. In terms of human–animal relationship, the moral status of the animal has changed through the ages (Pascalev, 2006-this issue), with, as a consequence, a growing emphasis on animal welfare and further ethical concerns, particularly with the development of modern biotechnologies.

The definitions of animal welfare are numerous and depend on the components taken into consideration. Biological functions (Broom, 1991) may be considered as central, giving rise to "objective" indicators such as productivity, behaviour, physiological parameters, anatomy and health. An alternative approach concerns the affective states of the animal: feelings, pain, suffering (Duncan and Fraser, 1997). Still another approach concerns living conditions respecting the "natural" conditions of a given species and allowing the species specific behaviour to be experienced (Rollin, 1993). The diversity of scientific dimensions of animal welfare consequently requires a multidisciplinary approach and a balance of science with philosophical components. In that sense, animal welfare is a mixture of science and values (Fraser, 2004).

With the animal becoming a commodity in an industrialised production system, efficiency has developed at the expense of the human–animal relationship or at that of the attention to the animal wellbeing. In this context, the situations resulting in great animal welfare concerns are numerous. For example, high producing dairy cows show higher prevalence of mastitis, metabolic diseases, or lameness. However, farmers or scientists involved in intensive production systems may claim that animal welfare is not at stake provided that adequate management is ensured, as illustrated by a case study involving an intensive dairy farm (Trevisi et al., 2006-this issue). Veal production in individual crates deprives calves of solid food and iron, limits their movements and social contacts and has pathological and ethological consequences, breaching all five freedoms as defined by Brambell (1965). Confinement, elective surgery (beak trimming, teeth clipping, tail docking or castration) are sources of concern in pig or poultry intensive breeding and even affect the breeders themselves (Larrère and Larrère, 2000; Porcher, 2004). Aparicio Tovar and Vargas Giraldo (2006-this issue) illustrate how the intensification process of the Iberian pig production, which was traditionally extensive, is detrimental to animal welfare. However, more traditional animal breeding and organic farming can also have drawbacks such as insufficient medical care or exposure to hazards (for example predators). Animal transport, within an integrated production process, or from the farm to the slaughterhouse, may result in a discomfort or in a higher death rate. Slaughter can also be a source of stress and pain (Webster, 1994; Burgat and Dantzer, 2001).

If animal scientists mainly focus on animal welfare, this field does not cover all the ethical aspects of animal production (Fraser, 1999; Christiansen and Sandøe, 2000). Selection is an age-old method used by breeders to create breeds or improve their characteristics. The rate of genetic progress has dramatically increased over the last decades with the use of technologies such as artificial insemination, embryo transfer (Schroten, 1992), and now *in vitro* fertilization, ovum pick-up, juvenile *in vitro* embryo transfer (JIVET), or marker-assisted selection. Without mentioning cases such as featherless broiler chicken or laying hens that are genetically blind, these enhanced methods of modifying the nature of individuals have had quick and deep consequences on performances and health (MacArthur Clark et al., 2006-this issue). Nowadays, new, more invasive biotechnologies (Pascalev, 2006-this issue) such as cloning and transgenesis are being developed and may soon arrive on the market of animal production. By acting on the genome, they have the potential to create and perpetuate new forms of life. Beside consequences on the very welfare of individuals or the ethical question of the patentability of life, the modifications induced affect animal integrity, which