

## ETHICS: THE NEW CHALLENGE FOR LIVESTOCK PRODUCTION

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### Changes in the animal production sector

During the last 150 years, in Europe and North America, the agricultural world experienced dramatic changes. Thanks to the concepts of experimental science and of domination of humankind on the nature pioneered by Francis Bacon (1561-1626), and following the age of Enlightenment, the agricultural revolution, along with the industrial revolution, led during the 19<sup>th</sup> century to a rationalisation of the agricultural production, including animal production. The last 60 years saw the progress of the 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 done in food security and self sufficiency in terms of quantity, in costs for the consumer, in security of the products of animal origin, and in their physical quality (such as standardization, marketability).

The increased intensification of animal production, together with the accelerated introduction of new biotechnologies during the last two decades, led to increased detrimental environmental impact, deep alimentary and sanitary crises (such as BSE, FMD, contaminants in meat), and distrust of the population (Hodges, 2003). As a consequence, a new demand emerged, centred on what we could name “subjective quality”, stressing on ethical and sustainable sides of livestock production.

### Ethical issues and concepts

Ethics can be viewed as rules of action set inside a given Society, in accordance to its beliefs, for an harmonious development, or as the eye that any individual turns on his/her action. In terms of human-animal relationship, stewardship and domination of humankind on nature, denying any moral value to animals, prevailed for long (Burgat, 1997). In the Duty ethics advocated by Immanuel Kant (1724-1804), if moral value is denied to animals, an indirect moral duty towards them is commended, for the respect of the categorical imperative. Meanwhile, utilitarianism, following Jeremy Bentham (1748-1832), developed the paradigm of optimisation of happiness inside the Society, including all sentient beings, of which animals, in the interested parties (“the question is not can they reason? nor can they talk? but, can they suffer?”). This view led to the creation of the Royal Society for the Prevention of Cruelty to Animals in Great Britain in 1824, and respect for animal welfare became the main ethical component considered in animal production.

#### *Animal welfare*

Definitions of animal welfare are numerous, and depend upon the components taken into consideration. Biological functions (Broom, 1991) may be seek as “objective” indicators: productivity, behaviour, physiological parameters (hearth rate, respiratory rate, stress indicators,...), anatomy, health can be used for that purpose. A second way is to consider the affective states

of the animals: feelings, pain, suffering (Duncan and Fraser, 1997); a third way is relative to living conditions respecting the “natural” conditions of a given species and allowing species specific behaviour to be experienced (Rollin, 1993). As a result, two families of methods for assessing animal welfare (Broom, 1997; Vessier *et al*, 1999; Johnsen *et al*, 2001) coexist: those based on the breeding environment and conditions (Bartussek, 1999), and those based on observation of the animals (Capdeville and Vessier, 2001). The diversity of scientific approaches to animal welfare, which can lead to different solutions for one problem, as pointed by Fraser (2004), requires a multidisciplinary process, and a balance of science with philosophical components; in that sense, animal welfare is a mixture of science and values. In fact, for operational reasons, the concept of the five freedoms (freedom from thirst, hunger and malnutrition; freedom from discomfort; freedom from pain, injury and disease; freedom to express normal behaviour; freedom from fear and distress), set up by the Brambell Committee in 1965 (FAWC, 1992), is the most popular.

With animal becoming a commodity in an industrialised production system, efficiency developed at the expense of the human-animal link or of the care for animal well-being. In this context, situations in which animal welfare concerns are high are numerous. For example, high producing dairy cows show higher prevalence of mastitis, metabolic diseases, or lameness. Veal production in individual crates deprives calves of solid food, of iron, reduces the possibilities of moving and of social contact, with pathological and ethological consequences, breaching all five freedoms. Confinement, convenience surgery (beak trimming, teeth clipping, tail docking or castration) are sources of concern in intensive breeding of pigs or poultry, and affect even the breeders themselves (Larrère and Larrère, 2000; Porcher, 2004). More traditional ways of breeding animal, and organic farming, can also lead to drawbacks such as insufficient medical care or exposure to hazards (such as predators). Animal transport, inside an integrated production process, or from farm to slaughterhouse, may result in discomfort, or elevated death rate. Slaughter can be a source of stress and pain. (Webster, 1994; Burgat, 2001; Denis, 2001)

If animal scientists focused mainly on animal welfare, this field does not cover all ethical aspects of animal production (Fraser, 1999, Christiansen and Sandøe, 2000).

#### *Integrity, intrinsic value*

Selection is an age-old method used by breeders in order to create breeds, or to improve their characteristics. The rate of genetic progress increased dramatically during the last decades with the use of biotechnologies such as artificial insemination, then embryo transfer (Schroten, 1992), and more recently marker-assisted selection. Without mentioning cases such as featherless broiler chicken or genetically blind laying hens, these traditional but enhanced ways of modifying the nature of individuals have had quick and deep consequences on performances and health. Now, new biotechnologies, more invasive,

such as cloning and transgenesis, are developed and may soon arrive on the market of animal production. By their action on the genome they have the potential to create and perpetuate new forms of life. Even if this would have no consequence on the welfare itself of the individuals (but we know that, at this time, hard consequences in terms of suffering, abnormalities and death are associated with these techniques), the induced modifications affect animal integrity. Rutgers and Heeger (1999) defined animal integrity as “the wholeness and completeness of the animal and the species-specific balance of the creature”. Breach of animal integrity, in a biocentric ethical point of view, is a morally relevant fact. The Swiss constitution recognizes the “dignity of creatures” in relation to transgenesis, genetic engineering of non-human beings being allowed only if their own good is not impaired (Balzer *et al*, 2000; Brom, 2000b).

The Animal Health and Welfare Act (1992), in Netherlands, supports the concept of intrinsic value of animal life (Verhoog, 1992). For Taylor (1984), animals and all other living beings have inherent worth: they develop, grow and maintain their life, and, as such, are due moral consideration. For Rollin (1992), animals have interests (needs, wants, goals) which matter for them. If they have some conscious awareness of these interests, of their *telos*, then humans have duties towards them. These zoocentric views go beyond the pathocentric, utilitarian position (Heeger and Brom, 2001).

#### Sustainability

Hans Jonas (1979), observing that “Modern technology, informed by an ever deeper penetration of nature and propelled by the forces of market and politics, has enhanced human power beyond anything known or even dreamt of before. It is a power over matter, over life on earth, and over man himself; and it keeps growing at an accelerated pace.”, concluded “Act so that the effects of your action are compatible with the permanence of genuine human life”, setting, in his Imperative of Responsibility, the basement of a sustainable development.

Livestock production has direct consequences on environment, biodiversity (in livestock and wildlife spheres), landscape, sociological structure, and (micro- and macro-) economics: as such, it covers the three pillars of sustainability: ecological (agro-environmental), social and economical, and shares ethical principles, particularly, responsibility towards Society and future generations. This relationship is now more and more acknowledged (Gibon *et al*, 1999; Thompson and Nardone, 1999; McGlone, 2001).

#### Driving forces

Among new priorities and values set by the Society are ethics and sustainability. In Europe, improvement and harmonization of regulations, through the Council of Europe and European Union, is in progress. The new Common Agricultural Policy (Agenda 2000) links now direct payments to farmers with high standards of animal welfare (Winter *et al.*, 1998). Research in this field increased notably, and higher education developed new curricula, for example in Europe (Lund, 1997, Marie *et al.*, 2003).

Driving forces for implementation of this ethical agenda can be upstream, or downstream. In a social market economy, upstream regulations (Mellor and Bayvel, 2004) may force further progress, the additional cost being supported by the community, as in Switzerland or in EU. At this day, the attempts of the EU to have its high animal welfare recognized by the WTO, and by this way extended, failed (Hobbs *et al.*, 2002, Chatellier *et al.*, 2003). The recently set-up OIE Working Group on animal welfare (Bayvel, 2004) may offer an opportunity to establish internationally recognized welfare standards, taking account of the globalisation of animal production. On the other hand, in a liberal free trade economy, ethical concerns are endorsed, on a voluntary basis, by food industries and retailers, through labels or schemes, and financed by the consumer.

#### A necessary progress for acceptability

Progress towards a better taking account of the ethical issues in animal production is a condition of product acceptability in the future (van Genderen, and de Vriend, 1999; Brom, 2000a; Bennett *et al*; 2002).

Furthermore, it is also a condition of social acceptability of the animal production sector, which remains an important (central) element of rural development.

#### References

- Balzer, P., Rippe, K.P., Schaber, P. (2000). Two concepts of dignity for humans and non-human organisms in the context of genetic engineering. *J.Agric.Environm. Ethics*, **13**: 7-27.
- Bartussek, H. (1999). A review of the animal needs index (ANI) for the assessment of animals' well-being in the housing systems for Austrian proprietary products and legislation. *Livestock Prod. Sci.*, **61**: 179-192
- Bayvel, A.C.D. (2004). The OIE animal welfare strategic initiative – Progress, priorities and prognosis. Proceedings of the Global conference on animal welfare : an OIE initiative, Paris, 23-25 February 2004: 13-17.
- Bennett, R.M., Anderson, J., Blaney, R.J.P. (2002). Moral intensity and willingness to pay concerning farm animal welfare issues and the implications for agricultural policy. *J.Agric.Environm. Ethics*, **15**: 187-202.
- Brom, F.W.A. (2000a). Food, consumer concerns, and trust: Food ethics for a globalizing market. *J.Agric.Environm. Ethics*, **12**: 127-139.
- Brom, F.W.A. (2000b). The good life of creatures with dignity: Some comments on the Swiss expert opinion. *J.Agric.Environm. Ethics*, **13**: 53-63.
- Broom, D.M. (1991). Animal welfare: concepts and measurement. *J.Anim.Sci.*, **69**: 4167-4175.
- Broom, D.M. (1997). Welfare evaluation. *Appl.Anim.Behav.Sci.*, **54**: 21-23
- Burgat, F. (1997). Animal, mon prochain. Odile Jacob Ed., 254 pp.
- Burgat, F., Dantzer, R. (2001). Les animaux d'élevage ont-ils droit au bien être? INRA Editions, 191 pp.
- Capdeville, J. et Veissier, I. (2001). A method of assessing welfare in loose housed dairy cows at farm level, focusing on animal observations. *Acta.Agric.Scand., Sect.A. Animal Sci. Suppl.*, **30**: 62-68
- Chatelier, V., Guyomard, H., Le Bris, K. (2003). Les négociations agricoles multilatérales des cycles de l'Uruguay et de Doha: bilan et perspectives pour les productions animales. *INRA Prod.Anim.*, **16**: 301-316.
- Christiansen, S.B., Sandøe, P. (2000). Bioethics: limits to the interference with life. *Anim.Reprod.Sci.*, **60-61**: 15-29.
- Denis, B. (2001). L'animal et l'éthique en élevage. *Ethnozootecnie, H.S. N°2*, 114 pp.
- Duncan, I. et Fraser, D. (1997). Understanding animal welfare. In: *Animal Welfare*, Appleby, M.C., Hughes, B.O. Eds, CAB International, 19-31.
- Farm Animal Welfare Council. (1992). FAWC updates the five freedoms. *Vet. Rec.*, **131**: 357.
- Fraser, D. (1999). Animal ethics and animal welfare science: bridging the two cultures. *Appl.Anim.Behav.Sci.*, **65**: 171-189.

18. Fraser, D. (2004). Applying science to animal welfare standards. Proceedings of the Global conference on animal welfare: an OIE initiative, Paris, 23-25 February 2004, 121-127.
19. Gibon, A., Sibbald, A.R., Thomas, C. (1999). Improved sustainability in livestock systems, a challenge for animal production science. *Livest.Prod.Sci.*, **61**: 107-110.
20. Heeger, F.R., Brom, F.W.A. (2001). Intrinsic value and direct duties: from animal ethics towards environmental ethics? *J.Agric.Environm. Ethics*, **14**: 241-252.
21. Hobbs, A.L., Hobbs, J.E., Isaac, G.E., Kerr, W.A. (2002). Ethics, domestic food policy and trade law: assessing the EU animal welfare proposal to the WTO. *Food Policy*, **27**: 437-454.
22. Hodges, J. (2003). Livestock, ethics and quality of life. *J.Anim.Sci.*, **81**: 2908-2911.
23. Johnsen, P.F., Johannesson, T., Sandøe, P. (2001). Assessment of farm animal welfare at herd level: many goals, many methods. *Acta Agric.Scand.*, **30**: 26-33
24. Jonas, H. (1979). *Das Prinzip Verantwortung. Versuch einer Ethik für die technische Zivilisation*. Insel Verlag, Frankfurt am Main.
25. Larrère, C., Larrère, R. (2000) Animal rearing as a contract? *J.Agric.Environm.Ethics*, **12**: 51-58.
26. Lund, V. (1997). Postgraduate teaching in farm animal welfare and ethics. *Anim.Welfare*, **6**: 105-121.
27. Marie, M., Edwards, S., von Borell, E., Gandini, G. (2003). Teaching animal bioethics in Europe: Present situation and prospects. *Proc.54<sup>th</sup> Ann.Meet.EAAP*, Roma.
28. McGlone, J.J. (2001). Farm animal welfare in the context of other society issues: toward sustainable systems. *Livest.Prod. Sci.*, **72**: 75-81
29. Mellor, D.J., Bayvel, A.C.D. (2004). The application of legislation, scientific guidelines and codified standards to advancing animal welfare. Proceedings of the Global conference on animal welfare: an OIE initiative, Paris, 23-25 February 2004: 249-256.
30. Porcher, J. (2004). *Bien-être animal et travail en élevage*. Educagri-INRA Ed., 264 pp.
31. Rollin, B.E. (1992). *Animal rights and human morality*. Prometheus Books, 248 pp.
32. Rollin, B.E. (1993). Animal welfare, science and value. *J. Agric. Env. Ethics* **6** (supplement 2): 44-50.
33. Rutgers, B., Heeger, R. (1999). Inherent worth and respect for animal integrity. In: *Recognizing the intrinsic value of animals*. Dol M. *et al.* Eds, Van Gorcum, 41-51.
34. Schrotten, E. (1992). Embryo production and manipulation: ethical aspects. *Anim.Reprod.Sci.* **28**: 163-169.
35. Taylor, P.W. (1984). Are humans superior to animals and plants? *Environm. Ethics* **6**: 149-160.
36. Thompson, P.B., Nardone, A. (1999). Sustainable livestock production: methodological and ethical challenges. *Livest.Prod.Sci.*, **61**: 111-119.
37. van Genderen, A., de Vriend, H. (1999). Farm animal breeding and the consumer, in *The future developments in farm animal breeding and reproduction and their ethical, legal and consumer implications*, EC - ELSA project, 66-84.
38. Veissier, I., Sarignac, C. et Capdeville J. (1999). Les méthodes d'appréciation du bien-être des animaux d'élevages. *INRA Prod. Anim.*, **12**: 113-121.
39. Verhoog, H. (1992). The concept of intrinsic value and transgenic animals. *J.Agric.Environm. Ethics*, **5**, 147-160.
40. Webster, J. (1994). *Animal welfare*. Blackwell Sci. Ed., 273 pp.
41. Winter, M., Fry, C. & Carruthers, S.P. (1998). European agricultural policy and animal welfare. *Food Policy*, **23**: 305-323.