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The use of the concept Animal Welfare in European conventions, regulations and directives

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1. Welfare as a factor in sustainability

A system or procedure is sustainable if it is acceptable now and if its effects will be acceptable in future, in particular in relation to resource availability, consequences of functioning and morality of action (9). There are several possible reasons why an animal production system, or other system which uses animals, might not be sustainable. However, the earliest reason is often one which impinges upon the general public's values in a way which the members of the public find unacceptable. Widely considered reasons for unsustainability are that a resource becomes depleted so much that it will become unavailable to the system, or that a product of the system accumulates to a degree which prevents the functioning of the system. Where there is depletion of a resource or accumulation of a product, the level at which this is unacceptable, and hence the point at which the system is unsustainable, is usually considerably lower than that at which the production system itself fails. Unacceptability is often due to effects on other systems.

One major reason why animal usage systems may be regarded by the public as unacceptable, and hence become unsustainable without some modification, is that the product adversely affects human health. Another reason is their effect on the welfare of animals which are used in the system. There is a point at which the welfare of the animals is so poor that the majority of the public consider the system to be unacceptable. Hence animal welfare and public attitudes to it must be considered wherever the sustainability of an animal production or other animal use system is evaluated.

No system or procedure is sustainable if a substantial proportion of people find aspects of it now, or of its consequences in the future, morally unacceptable. Hence each of the following is unsustainable, not just the first two: a manufacturing process which rapidly and irreversibly uses up all of the world supply of a rare metal; a pharmaceutical synthetic process whose by-product kills all fish in a river; a wild animal pest control programme which causes severe pain or other poor welfare to the animal; an organic farming system in which the incidence of a debilitating disease condition is higher than on conventional

farms so that the welfare of the animals is worse overall. Public concern about animal welfare has increased rapidly in recent years (5, 19, 11, 20, 21) and, as a result of public awareness of the impact of human actions on the welfare of animals, more practices have become unacceptable.

2. Welfare, health, stress, feelings and needs

Welfare and related concepts are explained in each of the relevant Reports of the Scientific Veterinary Committee and the Scientific Committee on Animal Health and Animal Welfare. Scientists who write about welfare and its assessment are generally agreed that welfare refers to animals, including humans, but not to other organisms or inanimate objects. Also, the study of the welfare of individuals is a scientific discipline in which various measurements can be used as indicators and welfare varies over a range (4, 11, 14). Hence welfare can be poorer as well as better. There is also wide-ranging agreement that, when assessing welfare, efforts should be made to assess degrees of suffering or happiness and the extent of any pathology and its consequences. Some authors accentuate feelings largely or exclusively (15, 16) when referring to welfare whilst others concentrate most on health aspects. Dawkins (13) and Fraser et al (17) emphasise that both must be included. My definition of welfare: "the state of the individual as regards its attempts to cope with its environment" includes feelings and health (3, 6, 7). 'Environment' may refer to that which is outside an individual or outside a particular response system. Welfare is a characteristic of an individual at a certain time and the state of the individual can be assessed so welfare will vary over a range from very good to very poor. Welfare concerns how well the individual fares, or goes through life.

Health, like welfare, can be qualified as good or poor and varies over a range. It refers to body systems, including those in the brain, which combat pathogens, tissue damage, or physiological disorder. All of this is encompassed within the broader term welfare so health is a part of welfare. It is therefore incorrect to write about "health and welfare" and the name of the E.U. Scientific Committee, of which I am a member, is erroneous.

Stress is a term which has often been used in an imprecise and confusing way by scientists (22, 23). It is of little use if it just means pertaining to the activity of the hypothalamic-pituitary-adrenocortical system or if it means any taxing stimulation. For most people, stress implies the effects of some challenge to the individual which disrupts homeostasis, rather than just activating simple, energetically cheap control mechanisms. A further area of general agreement amongst scientists studying the attempts of individuals to cope with challenge is that there are many coping systems. Hence it is incorrect to speak of "the stress response" if this means that there is only one. There are

many different responses which are used by individuals in challenging and potentially adverse situations.

If stress implies some degree of adversity for the individual, the key question is how much adversity? The definition of stress which I find most useful is: "stress is an environmental effect on an individual which overtaxes its control systems and results in adverse consequences, eventually reduced fitness" (modified after 2, 10). The environmental variable which has the effect on the individual can be called a stressor. Using this definition, stress may or may not involve the activation of the HPA axis but stress is never good for an individual. Stimulation, some of which may be initially unpleasant, is necessary for the development of many aspects of systems for coping with challenge and individuals which are prevented from having adequately varied experience may prove unable to cope with certain problems. However, such ultimately beneficial stimulatory effects are not stress. Stress always involves poor welfare. However, welfare can also be poor where the individual is having difficulty in coping, for example during pain or depression, but where there is no likelihood of fitness reduction.

In order to understand the needs of animals, the range of functional systems e.g. controlling body temperature, nutritional state etc., (1) must be understood. A need is a requirement, which is part of the basic biology of an animal, to obtain a particular resource or respond to a particular environmental or bodily stimulus. The need is in the brain and there are needs to carry out actions as well as those for particular resources. Needs can be identified by studies of motivation and by assessing the welfare of deprived individuals (6, 10, 12, 18, 19, 24).

3. Usage of terms in Council of Europe and European Union agreements and legislation

The term welfare is used in the European Convention for the Protection of Animals Kept for Farming Purposes (1976), for example Article 2 refers to "principles of animal welfare laid down in Articles 3 to 7" and Article 7 refers to what is "necessary to safeguard the welfare of the animals". In the Articles of the Convention, and of Recommendations resulting from it, it was made clear that welfare was affected by adequate provision of food, water, care, freedom of movement, space, temperature, ventilation etc. according to the needs of the animal. In earlier Recommendations resulting from this Convention there was some ambiguity about the exact meaning of welfare and of its relevance to health. However, in the most recent Recommendations such as those on pigs and turkeys, there is a more modern usage of the term welfare, for example there is reference to "requirements for good welfare including good health" (Preamble (4)). When referring to developments in breeding and biotechnology, it is said

that these "shall not adversely affect the welfare, including especially the health of turkeys" (Preamble (7)). There is also reference to the feelings of the animals, for example when referring to emergency killing of turkeys "This must be done without causing undue pain, agitation or other forms of distress" and shall "rapidly render the animal insensible to pain and distress". There is reference to needs in the Convention, for example an animal "shall be given the space appropriate to its physiological and ethological needs in accordance with established experience and scientific knowledge." However, the realisation that the needs themselves are in the brain so are not physiological or ethological but that it is the fulfilment of needs which require physiological change or certain behaviour to be shown, led to the use of "biological needs" or just "needs" in later Recommendations. Examples for pigs are "environment and management have to fulfil the animal's biological needs rather than trying to adapt the animals to the environment by procedures such as mutilations" (Preamble (6)) and there should be research "to ensure that the needs of the pigs are met and hence their welfare, including their health, is good." (Preamble (9)).

The Directives and Regulations of the European Union which relate to the protection of animals, also refer to welfare, health, suffering and needs. The Council Directive 98/58/EC concerning the protection of animals kept for farming purposes, follows the more old-fashioned wording of the 1976 Council of Europe Convention, saying that owners and keepers should "ensure the welfare of animals under their care and ensure that those animals are not caused any unnecessary pain, suffering or injury" (Article 3). This does not take account of the widely-held concept of animal welfare as varying from very good to very poor. Reference to needs in Article 7 is also in the Convention form.

There is reference to welfare in Directive 91/630/EEC laying down minimum standards for the protection of pigs: research must "take into account the welfare of sows in varying degrees of confinement" (Article 6). Regulation EEC 3254/91 concerning the ban on leghold traps refers to "developing humane trapping methods" (Article 3.2), implying, as most scientists do, that for a trap to be humane, the welfare of the trapped animal must be good to a certain high degree. Legislation on slaughter and transport also uses these terms. For example, Directive 93/119/EEC on the protection of animals at the time of slaughter or killing requires facilities etc. which "spare animals any avoidable excitement, pain or suffering" (Article 4) and Regulation EEC 1255/97 on staging points during transport states "animals should be guaranteed the best possible welfare conditions" (Annex C.1).

A recent Directive is that (1999/74/EC) laying down minimum standards for the protection of laying hens." In the preamble this refers to: the Convention and to needs

(3), "Welfare conditions" and "certain other needs cannot be met in cages" (7), consideration of "welfare and health" (9), and "studies on the welfare of laying hens in various systems of rearing" (10). In three of the above five references, a scientist would use the words in a more precise way. The Articles of the Directive make detailed provisions which will improve welfare but the only reference to welfare, stress, feelings or needs is in Article 2(c) "litter" means: any friable material enabling hens to satisfy their ethological needs". The detailed provisions of Directives, refer to changes in housing, feeding etc. which do indicate that the welfare and needs of animals are taken into account during their formulation. However, despite the regular use of scientific reports on animal welfare matters, the phraseology of legislation often fails to use terms like welfare and needs in an up-to-date precise way.

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