

Welfare criteria in housing of rabbits

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ABSTRACT: The main welfare indicators to assess rabbit housing are mortality (unavoidable low), morbidity (unavoidable low), physiological parameters in the species-specific standard, species-specific behaviour and performance on a high level. Group housing of does with kits is possible if an individual electronic nest box recognition system is used. At the moment, the disadvantages (especially the labour-intensity, the production costs, difficulties of health control and implementation of new does into the group) do not allow the use of group housing on farm-level. The single housing of does with kits remains the main housing system also in the near future which can be characterized by detailed measures and parameters. Growing rabbits are mainly kept in groups with a tendency towards pen housing with different kinds of enrichment (e.g. wood sticks as gnawing material).

Key words: Welfare indicators, Single housing, Group housing, Growing rabbits.

INTRODUCTION – Breeding and growing rabbits are kept to a large extent in intensive husbandry systems, mainly in cages with wire nets or slatted floor. The housing of rabbits is related to behavioural, hygienic, environmental and welfare aspects. From 2000 to 2005 an European research network – the COST action “Multi-facetted research in rabbits: a model to develop a healthy and safe production in respect with animal welfare” was working. The main results of the working group 2 “Welfare and housing” concerning the welfare indicators are summarized in this paper.

WELFARE INDICATORS IN RABBIT HOUSING – The meaning of “welfare” has been defined by many authors, as well as many definitions of welfare have been given (see literature in Verga, 2000 and Hoy and Verga 2006). According to the literature, the same welfare indicators used for other farm animals may be used on rabbits too (Verga, 2000). The main welfare indicators are listed in the Table.

None or a low (unavoidable) mortality is the most important welfare criterium. Also, the health status of the rabbits is a main welfare parameter. The morbidity rate including infectious factorial diseases and injuries should be low and unavoidable. Hormone levels, heart rate variation and immune reactions can be used as indicator for the housing conditions but have to be discussed only in the relationship with other parameters (behaviour, morbidity). Examples are given by Verga (2000). The practical problem exists that those parameters cannot be measured directly in the rabbitry. Special technical equipment is necessary.

Table: Main welfare indicators for rabbits (after Verga 2000, Hoy, 2005, Hoy and Verga 2006)

Mortality: no or low (unavoidable) mortality

Morbidity: pathologies (“internal diseases”, infectious factorial diseases); injuries – the morbidity should be low and unavoidable

Physiology: hormone levels, heart rate variation, immune reactions – the physiological parameters should be in the species-specific standard

Behaviour: ethogram, reaction to behavioural tests – species-specific behaviour

Performance (production): growth, feed conversion, fertility rate – the performance should be on a high level

The presence of “abnormal behaviours” (e.g. stereotypies) may indicate some problems for the animals. But, pawing on the floor or gnawing at the walls may also be considered “normal” behaviour in an inadequate environmental context. Other significant parameters of acute loading or stress may be evaluated looking at other behaviours, such as feed intake behaviour, social and maternal behaviour (see literature in Hoy and Verga 2006). As far as the “normal” behaviour is known ethological observations can lead to results and assessments concerning changes or disturbances in behavioural parameters caused by inadequate environmental conditions. A review on the nursing behaviour, the behaviour of kits, breeding does in cages and of growing rabbits is given in Maertens and Coudert (2006).

Parameters of performance (live weight development, feed conversion, fertility) also belong to the welfare criteria. A high performance is no proof for a high welfare level. But, a low performance is an indicator for problems in housing, environment and management.

So, housing of rabbits in conformity with animal welfare and protection means

- not more than unavoidable mortality,
- uninjured body,
- good health condition (not more than unavoidable treatments),
- species-specific behaviour and
- development of animals corresponding to age and sex (Hoy 2005).

Non-conform with animal protection are rabbitries where injuries, pain and avoidable sufferings occur in rabbits, which could be avoided with necessary care and health-prophylactic measures (vaccination, medication, hygiene).

So, the following general requirements for housing of rabbits can be summarized:

- no pain, no avoidable sufferings and no injuries caused by housing (floor, walls, equipment),
- protection against predators, ectoparasites and endoparasites,
- provision of feed and water corresponding with the need of rabbits (mostly ad lib),
- protection against adverse climatic conditions,
- removal of gases, dust and pathogenic germs from the rabbit house,
- a good handling of animals (safe and quick catching – no frightening, no injuries),
- separation of rabbits from their excrements by using perforated floors if possible (especially in the intensive housing),
- from time to time use of “all in – all out” with cleaning and disinfection,
- enriched housing system – e.g. 2nd floor/elevated platform for the rabbits.

HOUSING OF BREEDING RABBITS – Group-housing facilitates social contact between does, allows more total space and variation and permits the expression of natural reproductive and maternal behaviour. Although the advantages from a welfare perspective may be clear, group-housing leads to major changes in management and housing, and is associated with specific new (welfare) problems:

- A free entrance of does to nest boxes of other does may cause a high mortality of kits.
- Aggression may prevail in groups of does with negative impact on productivity.
- The system requires high hygienic standards to prevent infectious diseases.
- The system is by its complexity labour-intensive.
- Production costs in group-housing systems are higher than in regular individual housing systems (Ruis 2006).

Summarizing the actual knowledge it must be concluded that at the moment the disadvantages (especially the labour-intensity, the production costs, the difficulties of health control and implementation of new does into the group) do not allow the use of group housing on farm-level.

Concerning the single housing of breeding rabbits it can be summarized that the cages (size, equipment etc.) used in rabbitries may be suitable for the production and they may be not against the welfare as well (Szendrő 2006), provided that good management and handling are carried out. Moreover, environmental enrichment may improve also breeder rabbits' welfare.

DIRECTIVES AND GUIDELINES FOR RABBIT HOUSING UNDER WELFARE ASPECTS

In the Netherlands, Directives on the welfare in rabbit housing exist since 2006, April 21. The requirements of breeding and growing rabbits to the housing are defined. So, minimal space requirements, cage sizes, floor quality, microclimate, light regime, access to water and feed and the management are defined. In May 2007 guidelines for the housing of rabbits under the aspects of animal protection and welfare were published in Germany (Hoy 2007). Minimum requirements for the housing of breeding and growing rabbits similar to the Dutch Directives are summarized. Enriched cages should be used allowing the rabbits to have access to material for engagement and – if possible – to an elevated platform. The elevated platform (the “third level”) for breeding rabbits seems to be more important than an enlarged cage size. It allows the does to jump away from the kits. But, further research is necessary to demonstrate the possible effects of the application of a platform in a two-floor cage on behaviour, hygiene, health and performance of does and kits.

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