

Wellbeing of Food Animals and Current Keeping Techniques: what is acceptable and what goes beyond acceptability?

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1. Introduction

Intensive animal farming, widely practiced in many countries, is criticized in Europe in connection animal welfare, environmental issues and food quality. Veterinary science is involved in many respects and challenged to find solutions, asking the right questions and pooling multidisciplinary expertise. Disciplines such as sociology, ethics, theology, behavioural sciences and genetics have to contribute, without forgetting economic implications.

The 12th Annual Meeting on **Hygiene of Meat and Poultry Meat** of the Veterinary Faculty, Freie Universität Berlin, focused on animal wellbeing. In this short overview, 21 presentations are briefly characterised and then put together to shape a picture of the overall subject from the author's point of view who served as chairman during the two-day program.

The individual contributions were in German and will be published as proceedings later this year.

2. Specific Issues

2.1. Genetics and breeding

Case study 1: Over decades, poultry breeding (*Gallus gallus*) has concentrated on productivity, i.e. tissue for human consumption with minimal by-products. The result is a highly favourable feed conversion. This approach has been efficient under the viewpoint of economical food production for a growing world population. Humans in affluent countries frequently keep a critical distance (Flock). These specialised breeds need also attention with respect to (their) health problems.

Case study 2: The PSE- syndrome was long regarded as a quality phenomenon observed primarily during post mortem inspection. However, clinical observation reveals sudden death, necroses and degeneration of the long muscle of the back. Background is a genetic failure for the Ryanodine receptor, which can be compensated with smooth and easy treatment along the whole line. In contrast, the fundamental solution would be an elimination of this defective gene from the animal stocks (Lahrman).

This syndrome may also cause pain to the animal during lifetime. It may serve as an eye opener for situations, which have been misjudged over decades: PSE is also a pain loaded ante mortem factor.

2.2. Technology of the food chains

In Germany, roughly 300 million birds are processed yearly. Catching and transport of poultry is a precondition for slaughter, however, under the given situation, only with high technical investment.

Case study 3: In the 1990s, mechanisation of catching and transport (modules) was intensified including transport of the birds in the abattoir. These days, lesions such as bruises or fractures or even death rates are considered to be caused by catching and transport (Langkabel *et al.*).

2.3. Amputation

Case study 4: Sexual odour of boar carcasses is caused by androstenone and scatole. In a survey with veterinary students (about same age), scatole was more frequently detected than androstenone, independent from the gender of the person (Schneider and Gäng).

Case study 5: In Europe, roughly 100 million male piglets are castrated per year, traditionally without narcosis. This is criticized by animal welfare, calling for alternative solutions. Narcoses have limitations (inhalation may transfer agents, injection is possible), elimination of boar odour by breeding is expected

to reduce fertility, sexing of sperms to produce only females is still in its beginning (Lahrman). The Veterinary profession is supposed to care for animal wellbeing; In fact, pig castration as a problem has been raised by large distributors and not by the Veterinary profession.

Case study 6: Alternatives: Problems may be circumvented by suppression of gonad activity through immunisation. Atrophy of the testicles is clearly visible. However, a checking post is needed, which is a matter of another discussion (Bader Mielke).

In addition, any administration of a veterinary medicinal product may raise concerns with the consumers again.

2.4. Practical approaches

Food animal keeping is under critical observation, mainly in industrial countries. Lack of transparency from the agroindustry may well contribute to some sort of mistrust from the public. Here, several types of labelling may indicate a change of philosophy. Beyond the requirements from legislation, information is given about the special chain being sort of answer to the public.

Case study 7: Animal welfare label “chicken” (*Gallus gallus*) uses breeds with slower growth rate, longer life span, more space per animal and access to outdoors. It is not ecological farming in the sense of EU Regulation, but not the “industrial” breed commonly used either. Offered at an intermediate price, it is said to be accepted happily by consumers (Bachmeier).

Case study 8: A major swine company in Germany developed several labels, dealing with animal welfare, post mortem lesion interpretation and an animal health related “piglet passport” monitor the source and the circumstances at that farm (Mischok).

2.5. The role of legislation and supervision

Basic legal requirements for animal wellbeing are in effect. If adhered to, these requirements should assure that animals are kept properly according to animal rights requirements. Such “basic” rules are needed, but they may not reflect all relevant individual needs of an animal. It is difficult to guarantee appropriate conditions on all farms, however, the important role of authorities cannot be overestimated.

Case study 9: Cattle kept permanently outdoors cannot be handled easily. So, preparation for slaughter and the technical performance of processing raises problems. Outdoor shooting with bullets, shackling and hoisting with a tractor is a solution (Stenzel-Kaiser & Bucher).

Case study 10: Despite of relevant legal (static) requirements, the risk related approach (in this case, risk is non compliance with animal wellbeing) is possibly even more important. In such cases, change in keeping techniques, even closing down of the site, is an option (Hopp).

2.6 Animals in transport

Case study 11: Transporters are designed to fit the needs of animals in transport. However, also technical requirements (technical traffic rules and safety) are required, not always fitting together. Double decks for cattle are difficult because of the ceilings needed for the animals: The higher the truck, the higher the risk of traffic accidents. Another problem is the street control: These days, communication spreads easily, posts may be circumvented with an increase of transport time (Eggers). As an alternative, control may happen at the place of start, with high efforts from the administration side.

Case study 12: Transport conditions may be best served by training and dialogue and using the forward and back principle of communication. Post mortem terminals may serve here as tools for data collection. Feed back to the farm may help to solve the problem at the site. Examples for poultry are given (Mischok).

2.7 Animals at the abattoir

Case study 13: Observing the stunning sites and the facilities for slaughter gives clear indications for stunning procedures. Old and inappropriate pre stun drive-ways, electro-stunning devices without checking possibility, wrong or inadequate positioning of stunning devices at the animal, or the general state of the devices may still be found. In any case, it is not enough to document problem points, something should be done immediately (Scheibl).

Case study 14: These days, plenty of lesions post mortem is due to the conditions at the farm of origin, which is true for poultry (several types of contact dermatitis), pigs (tail biting), or cattle (loser cows). Post mortem post is an appropriate opportunity to record such lesions. For this, a clear identification and definition of lesions are needed (Fries).

Case study 15: Lesions can be observed and recorded using terminals, which is required for cattle and pigs as well. Results can be attributed to the farm of origin. A catalogue of defined lesions for regions rather than individual abattoirs is proposed to monitor problems is proposed (Steinmann *et al.*).

3. Discussion (the role of society)

Present lines with their technology from farm to the product are effective and from the economic point of view cost efficient. They are critically viewed from the animal wellbeing point of view.

So, we need a critical discussion as well. Yet, there is lack of assessment. We observe a given situation, which we are not able to assess for the good of the animal. In any case, such help is clearly needed and should be discussed among all interested and involved parties.

Both, human beings and animals should be included in such an analysis: Humans are influenced by their society's history and location.

Questions for man:

- How did we arrange our relation with the animals?
- What right should be given to the animal?
- What sort of questions may be asked?
- Are we clear with our emotions? What is driving us personally?

Questions for the animal:

- What is their contribution?
- What is our compensation for this?
- How can we ask them?
- How may they answer?
- How can we understand these answers?
- Who is supposed to help with such questions?

3.1. Animals and pain

In the past we have focused much on parameters of animal efficiency and paid little attention to parameters measuring pain in animals. Knowing very little about the feelings of animals about pain, how can we assess what is tolerable and what is unacceptable (going beyond the point of compliance)?

Case study 16: Without any discussion: Animals feel pain. However, we cannot ask the animal, so we need clear indicators for the pain as such. Measurable indicators are available (Martens).

3.2. Our European history

Historically, our society's attitude towards animals is ambiguous. Competition for food and feed, also sometimes in defence, has led to extinction of large wild animals in Central Europe as well as in other regions. Centuries later, our urbanised society has little (if any) contact to farming and food production and looks at food animals from another angle. This leads to criticism of animal farming, often without knowing the reality of modern farms.

Case study 17: From the beginning of civilised societies, law and religious codices embrace animal rights and animal protection as important means to survive. Each year, 3.5 million head of cattle and 55 million pigs are slaughtered in Germany, and 2.7 million animals are used for animal trials. Such numbers are likely to include cases, where animals are not treated as they should be. Also the acting persons and the pressure on them should be taken into consideration (Schulze Schleithoff). We cannot exclude that acting persons are under pressure they cannot bear. Feeling hopeless themselves, they may also treat animals inappropriately.

3.3 A Global issue: Who has the right to decide, who is supposed to contribute?

Confronted with ethics, we may ask: whose ethics from which point of view is relevant for us? How many ethics do we have? Whose ethics should we follow? We have to respect animal rights (bioethics). But it is not always clear when we must compromise to reach a decision. Different points must be taken into consideration:

- Production: without it, no animal keeping and no food production
- Economics: without it, no production
- Bioethics: without it, no acceptance from society and consumer's point of view

In any case, we cannot ignore the growing demand of billions of humans for food of animal origin, when others may consider food from farmed animals as unethical. Mass animal farming or industrial farming is not unethical as such.

Case study 18: Animal right positions from the industrial countries' point of view may be viewed as offensive for developing countries. The utilitarian concept gives some insight into the role of animal wellbeing in animal farming. In phase 1 (low standard), animal wellbeing triggers increase of productivity, in "phase 2" (with high investment in facilities), we may observe decreasing productivity. The dilemma: the standards are defined by industrialised countries, which cannot be afforded by developing countries (Zessin).

"Global standards" may use models such as indicated by Zessin, taking into account animal rights as well as human feelings. Based on this, industrialised countries have to re-consider their position, too.

Case study 19: Observations from a camel market in South Egypt with transport indicate clearly, that the assessment of situations cannot be regarded only from the human point of view. In these pictures, animals have to put up with conditions, which appear cruel and unbearable to us (Große). Again, such pictures illustrate, that the reactions of animals are not the only criterion to assess a given situation. This case also shows the split ethics on the globe; our human attitude is deeply influenced by our individual situation, and the answers in industrialised countries may differ fundamentally from those in countries with low living standards, where people are struggling for survival.

Case study 20: Approaching the issue from the position of religion, a Christian pastor interprets what The Holy Bible means if man is told to cultivate the earth, which refers to the historic competition between man and animal for food. If we decide to eat meat, justice must be done to the animal. Ethics of agriculture include the concept of sustainability, too. Consumers should be aware of their role. However, the number of animals on a site is not necessarily an issue (Friebe).

An ethical approach towards food animal keeping must not mean a smallholder approach. The animal does not recognise the magnitude of a site. What counts, is the circumstances for the animal and its individual wellbeing.

Case study 21: The German Constitution includes animal welfare and the treatment of animals as living beings as well. Changing attitudes in the society should be taken into account by politicians when setting standards for future development. Widely used amputations in food animals and the administration of antimicrobial substances to food animals are important issues. Concerning animal rights and animal wellbeing, parameters should be established on international levels to reduce regional/national disparity (Goldmann).

4. Summary

This review gives a summary of 21 papers presented and discussed during a two-day symposium at the Veterinary Faculty of the Free University Berlin. The focus was on animal wellbeing beyond the point of legal requirements.

Animal keeping is presently a main concern in public discussions in Germany. However, we should keep in mind that the attitude of humans toward animals is influenced by region and society as well as personal experience.

It was agreed that pain in animals must be prevented. However, the significance of individual wellbeing has not yet been fully scrutinised and deserves further attention.

Zusammenfassung

Umgang mit Nutztieren: Wo liegen Grenzen der Nutztierhaltung?

Thema auf der diesjährigen Frühjahrstagung des Panels VPH am Fachbereich Veterinärmedizin der FU Berlin war der Umgang mit Nutztieren. Diese Synopse fasst die 21 vorgestellten Vorträge aus der Sicht des Autors zusammen.

Die Tagung hatte zum Ziel, den Begriffen „Tierschutz“/ „Tierwohlbefinden“ Inhalte zuzuordnen, die über die in Rechtsregulativen festgelegten „cm-Anforderungen“ hinausgehen.

Die Haltung der Nutztiere ist gegenwärtig ein zentrales Thema der öffentlichen Diskussion in Deutschland.

Zu beachten ist, daß auch die Haltung der Menschen gegenüber dem Tier geprägt ist vom gesellschaftlich politischen und regionalen Umfeld und von persönlicher Erfahrung.

Schmerz beim Tier ist zu vermeiden. Allerdings sind die Komponenten individuellen Tierwohlbefindens nicht immer klar und bedürfen weiterer intensiverer Bearbeitung.

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