

# Risk-based meat inspection: Implementation experiences in Germany and integration of animal-oriented welfare criteria

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## Abstract

The paper describes the experiences from seven pilot projects in Germany on implementing the risk-based meat inspection: analysing the status quo per slaughter house, defining the specific risks of the region of the supplying herds, creating the preconditions for recording and exchanging a meaningful set of data for the food chain information including animal health and welfare criteria, training of risk-oriented logistic slaughter and adding targeted inspection procedures in case of increased food safety risks indicated for entire herds or slaughter batches.

## Introduction

Implementing the risk-based meat inspection with its three goals: improvement of food safety, animal health and animal welfare – understanding the obstacles

After the so-called “Hygiene Package” of the new EU food safety concept was issued in 2004 and put in force in 2006, the German federal risk assessment authorities predominantly thought of ONE national “prescription” of how to implement the risk-based meat inspection in all slaughterhouses in the country. Furthermore, according to the traditional understanding of the food safety responsibility, the general expectation was that the new approach has to be implemented predominantly by the official veterinary food safety services. This was mainly due to the difficulty of switching from the traditional prescription of “what to do” to “reaching food safety goals”. Another difficulty was the disposal of the food safety responsibility to the food business operator, with the veterinary authority mainly controlling the self-control.

After these basic principles of the new food safety paradigm were better understood, it became obvious that there is not ONE way to implement the risk-based meat inspection in all slaughter facilities, but several ways to achieve the same goal. The reason for this flexibility is that slaughterhouses with their specific set of pig supplying farmers have very different supply chain conditions (number and size of herds, quality of cooperation between suppliers and slaughterhouse, quality of information exchange, etc.). Even the risk patterns vary between regions and slaughterhouses (outdoor holdings vs. confinement; small vs. large pig units, straw or wood chips litter vs. slatted floor, etc.).

However, apart from the intended improvement of food safety by targeted process optimisation measures in the pre-harvest stage and risk-based inspection methods at the slaughter line, the modernization of the meat inspection has the additional goals of:

- a) improving herd health by a feedback system for slaughter check results, and
- b) improving animal welfare by adding animal-oriented welfare criteria recorded during unloading the animals and at slaughter to the feedback system.

## Material and Methods

Since the integration of the risk-based elements including the food chain information about the pre-harvest stage of meat production and the recordable animal-oriented welfare criteria is not yet a standardised routine in the current meat inspection systems in Germany, the objective of our research is to develop a system of assessing the health status of pig herds and a feedback system for animal-oriented welfare criteria as tool for farmers and veterinarians to improve the animal health and welfare status of pig supplying herds.

Animal-oriented welfare criteria (injuries, disease, pain, cachexia, etc.) indicate deficiencies in animal husbandry, genetics, and animal handling (both in the herd and during the transport). These “output” criteria are to be added to the

traditional used “input” criteria that evaluate and measure only the housing conditions for the animals (space per animal, slatted or plain floor, etc.).

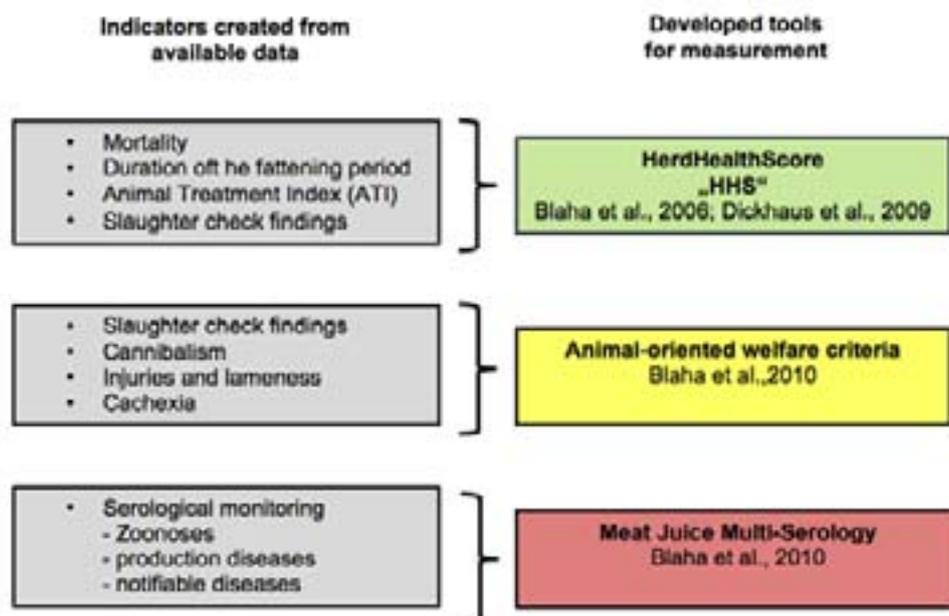
So far, the ante-mortem inspection of slaughter pigs conducted by the official veterinarian during unloading and lairage has been targeted to assure that only animals fit for slaughter were entering the slaughter line, and with this, the food chain. Although during the traditional meat inspection procedure cases of very severe violations of animal welfare rules and obvious cruelty were reported to the appropriate authority, less severe, but measurable deficiencies in animal welfare have not been routinely documented for each individual herd.

Assessments at unloading and lairage are to be included and criteria such as lameness, abscesses, body condition and cannibalism lesions as well as abrasions due to animal abuse are to be documented per herd. Furthermore all findings during slaughter with respect to animal welfare such as beating marks, multiple abscesses, chronic arthritis, and excessive disease-related slaughter check results per herd that indicate pain and suffering of the animals at farm level or during transport and lairage are to be cumulated for benchmarking the health and welfare status of all pig herds that are supplying animals to the slaughter plant in question.

## Results

Our research team has started to consult seven large scale slaughterhouses as pilot projects. All operators of the seven enterprises including the corresponding official meat inspectors were at the beginning fully concentrated on changes in the meat inspection procedure at the slaughter line with the expectation to implementing the “visual” meat inspection – the food business operator targeting at reducing the meat inspection costs, and the official veterinarians being afraid of lowering the food safety assurance. Our research team succeeded over time to make understood that first the food business operator TOGETHER with his supplying farmers has to create the necessary preconditions for being able to provide the responsible veterinary authority with a meaningful set of data for the food chain information. Graph 1 shows the major elements for implementing the risk-based meat inspection.

Graph 1: Developed tools for measurement of food safety risks, animal health status and welfare level



## Discussion

The initial misunderstanding of the risk-based meat inspection as only “visual” inspection without incision and palpation lead to a prolonged implementation of the new European food safety concept in Germany. The major obstacle was that in the beginning all intended changes were thought to be only necessary at the slaughter line. It took some time to overcome the food processors’ expectation of reducing the costs for the meat inspection and the fear of the official veterinarians that the food safety assurance level could be lower than the level guaranteed by the traditional meat inspection. In all pilot projects, after the three stakeholder groups (food business operators, farmers and veterinary authority) understand the need to first organise a functioning food chain information system, slaughterhouse-specific systems of the risk-based meat inspection start to develop, and will gradually improve over time. One major experience is that a good cooperation between the food business operator and the farmers is as crucial for the implementation of the new system as the permanent exchange of information about the developmental process with the veterinary authority from the very beginning.

## Conclusions

Despite quite good steps forward in the pilot projects, there is still the traditional scepticism towards the food chain information parts that are based on the data given by the farmer, when no official controls are possible to verify them. Especially the development of the meat juice multi-serology, covering the major latent zoonoses (Salmonella, Yersinia, Toxoplasma, Trichinella and Mycobacteria) in pigs without the involvement of the farmer and/or the private veterinarian made the official veterinary authority more appreciative of the new food safety concept. The acceptance of the need to provide the food chain information from the farm by the farmers, which is also necessary for the success of the new system, can be remarkably improved, if the meat juice multi-serology is also providing useful information about the occurrence of production disease pathogens such as Mycoplasma hyopneumoniae, Influenza A, Actinobacillus pleuropneumoniae, and PRRSV. Adding to the multi-serology the testing against notifiable diseases such as Classical Swine Fever and Aujeszky’s Disease would increase the value of such a serological monitoring system with the opportunity of sharing the costs by the three stakeholder groups: the state, the farmers and the food business operator.

## References

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