



EUROPEAN COMMISSION

HEALTH & CONSUMER PROTECTION DIRECTORATE-GENERAL

Directorate C - Scientific Opinions

C2 Management of scientific committees ; scientific co-operation and networks

**Opinion of the Scientific Committee on Veterinary Measures
relating to Public Health**

on

**Identification of species/categories of meat-producing animals
in integrated production systems where meat inspection
may be revised**

(adopted on 20-21 June 2001)

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1. BACKGROUND

The SCVPH adopted an opinion on “revision of meat inspection procedures” for fattening pigs in February 2000. In this document a new combined approach inspection involving visual post-mortem inspection and, on a case by case basis, “classical” post-mortem inspection was formulated.

In the White Paper on Safety of Food, the Commission indicated a detailed action plan for food safety with strict deadlines for the preparation of new legislation for submission to the Council and Parliament, which included the revision of ante- and post-mortem inspections.

With a view to preparing its proposal, the Commission seeks the advice of the SCVPH on the following aspects:

2. TERMS OF REFERENCE

In the light of its above-mentioned opinion, the Scientific Committee on Veterinary Measures relating to Public Health is requested, as first step, to identify the possible meat-producing animals species/categories where an integrated system of animal production is commonly applied in the EU and where the post-mortem inspection currently applied could be revised for the identified species/categories, introducing a system as described for pigs.

3. INTERPRETATION OF THE TERMS OF REFERENCE

- An integrated system is one that operates in an integrated manner from birth through the rearing phase to slaughter. Such systems are independent of size and intensity; and could include all types of production systems such as organic farming, animal production in remote areas or industrialised systems. Thus, there is not necessarily equivalence between industrialised production systems and integrated production systems. The essential elements are further addressed under point 5.
- The Committee understands in this report the term ‘commonly’ here as ‘currently’

4. STATE OF ART

4.1. Current requirements

Meat and poultry meat inspections are currently subject to mandatory measures laid down in the Council Directives 64/433/EEC¹ and 71/118/EEC² respectively. The health mark is under the control of the

¹ O.J. N° B 121, 29.07.1964, p. 2012-2032

² O.J. N° L 055, 08.03.1971, p. 0023-0039

Official Veterinarian. Especially for mammals the regulations are still based on the principle of individual inspection and, if necessary, palpation and incision of lymph nodes, offal and carcass meat, supplemented where applicable by bacteriological, parasitological or chemical examination. Traditional inspection and control methods are extended by monitoring of residues in animals and animal products addressed in Council Directive 96/23/EC³. Residue analysis covers monitoring of a certain number of residues of pharmacological substances and of environmental contaminants in farm animals and in fresh meat obtained from such animals (Council Directive 86/469/EEC)⁴. It also includes the establishment of maximum residue limits of veterinary medicinal products in foodstuffs of animal origin (Council Regulation (EEC) No 2377/90⁵) as well as the prohibition on the use of certain substances having a hormonal or thyrostatic action, extended to beta-agonists having an anabolic effect (Council Directive 96/22/EC)⁶.

Biological hazards have to be surveyed, and the results kept by the operators or managers of establishments approved in accordance with Directives 64/433/EEC (fresh red meat), 71/118/EEC (fresh poultry meat) and 77/99/EEC⁷ (meat products). The competent authority of the Member States collects and evaluates the information that has to be reported to the Commission (Council Directive 92/117/EEC⁸).

4.2. History of changes to meat inspection

4.2.1. Poultry meat

In 1982 the European Commission assigned an expert working party (subgroup of the Scientific Veterinary Committee on health inspection of poultry) the task of developing alternative inspection techniques for broiler chickens⁹. This was to be done on the basis of the principle that the inspection of large uniform flocks of slaughter poultry can only be done in meaningful manner when reliable data are available from the farm. Two main factors were decisive in this approach, namely, (1) the health status of broilers and (2) the ever-increasing slaughter line speed, which has risen in the meantime to well over 10,000 birds per hour per slaughter line.

³ O.J. N° L 125, 23.05.1996, p.0010-0032

⁴ O.J. N° L 275, 26.09.1986, p. 0036-0045

⁵ O.J. L 224, 18.08.1990, p. 0001-0008

⁶ O.J. N° L 125, 23.05.1996, p. 0003-0009

⁷ O.J.N° L 26, 31.01.1977, p. 0085-0100

⁸ O.J. N° L 62, 15.03.1993, p. 0038-0048

⁹ Doc. VI/1886/84-FR (VIPB4/627) Rev. 1: Rapport sur une modification des dispositions concernant l'inspection sanitaire de la volaille de Directive 71/118/CEE, relative à des problèmes sanitaires en matière d'échanges des viandes fraîches de volailles.

The proposal has been evaluated in a pilot study supported by the Commission (DG VI) and it took almost ten years from the start of the expert working party's activities to the partial realisation of the proposal (Council Directive 92/118/EEC¹⁰ of 17 December 1992).

4.2.2. *Red meat*

In 1984 a draft report¹¹ was prepared by a working group on "Ante and Post-mortem Inspection of Large Slaughter Animals" and submitted to the Scientific Veterinary Committee (SCV- Public Health section). The SVC prepared a two page interim report for the Commission suggesting measures for the improvement of inspection practices (e.g. ante-mortem inspection, health certification, pathogen monitoring etc.). The same year (1984) another report¹² was also prepared by an expert group, dealing with the microbiological problems of red meat at the slaughterhouse levels.

Working groups were also preparing reports on "Residues in meat" and hormones. Finally in 1989 a working group was established by the SVC (Public Health section) to prepare a final report on the "Ante-Mortem Inspection – Red Meat". This report was submitted to the SVC in 1990¹³, and an opinion given by the SVC in 1995¹⁴ giving consideration on elements of alternative meat inspection system, but no further action was taken.

However, at that time the proposals on alternative inspection systems, did not foresee the changing approach towards the development of Integrated Quality and Surveillance Systems by the producer and the (poultry) meat industry, nor a mandatory HACCP based control system.

In 2000 an Opinion on the "Revision of Meat Inspection Procedures¹⁵ from the Scientific Committee on Veterinary Measures relating to Public Health (SCVPH) recommended the introduction of an alternative meat inspection system in fattening pigs, minimizing cross-contamination by avoiding incision and palpation on the slaughter-line. The reduction of post mortem handling, however, requires the application of a vertically integrated plant-driven quality assurance system. Microbiological testing of carcasses for

¹⁰ O.J. N° L 62, 15.03.1993, p. 0049-0068

¹¹ Doc. VI/3187/84. Deliberations and Recommendations of the Working Group on Ante and Post – Mortem inspection of Large Slaughter Animals (Draft).

¹² Doc. 2054/VI/84-En. Draft report of the Working group "Microbiology in the Hygiene Production of Red Meat.

¹³ Doc. VI/6346/90-EN (PVET/EN/1030 – Rev1): Draft report to the Scientific Veterinary Committee on Ante-Mortem Inspection – Red Meat.

¹⁴ Report of the SVC (public health section) on revision of ante mortem and post mortem inspection procedures for an alternative inspection system. 1995.

¹⁵ Opinion of the Scientific Committee on Veterinary Measures Relating to Public Health on Revision of meat Inspection procedures. February 2000

food pathogens should be compared against microbiological standards established and monitored by the competent authority.

4.3. Assessment trends

The food industry at large is vested with the responsibility according to the legislation to ensure the safety of the goods they produce. For this purpose they are compelled to institute failsafe quality management systems beyond the less cost-efficient traditional (end-product oriented) approach. The consensus view is that the Hazard Analysis Critical Control Point (HACCP) concept should form the basis of such modernized systems.

HACCP programs in the meat industry have first and foremost been introduced to substantially reduce or preferably eliminate microbiological and chemical hazards in foods of animal origin. However the industry, when introducing modernized quality management, will have to encompass a great deal more than safety aspects: ultimately, their market position or even survival as an industry depends on the competitive edge they have over fellow producers. This explains why the quality departments of the more modern food industries tend to invest in so-called Failure Mode Effects Analysis (FMEA) strategies, an 'HACCP-like' system encompassing *all* relevant product quality aspects and covering elements 'from conception to consumption'. Such an approach has been described as 'Longitudinally Integrated Quality Assurance (LIQUA) as opposed to 'Longitudinally Integrated Safety Assurance (LISA). This situation has fueled discussions on whether such an approach would not 'under-emphasize' safety issues. There are, obviously, occasional conflicts of interest between technological or sensory considerations and safety. Safety must have the highest priority to which all other quality aspects are subordinate.

4.3.1. Public and Animal Health

4.3.1.1. Public and Animal Health issues related to meat inspection

The objectives of meat inspection legislation are to protect the consumers as well as to ensure good animal health and animal welfare. Consequently, *both* objectives need to be addressed in any alteration of the currently applied systems. The quality assurance systems in place or currently adopted by industry could serve such a function, provided a multidisciplinary, longitudinally integrated, approach would be adopted. Fig 1 is a non-quantitative graphic representation of a targeted approach towards quality assurance in general and towards public and animal health assurance in particular:



Fig. 1 Quality Management in Industry

4.3.1.2. Meat inspection

Meat inspection should also be recognised as a major source of information on the occurrence of animal and public health hazards in primary production and also of the prevalence of hazards entering the food chain. In the future, collection of this information will be one of the key functions of the meat inspection procedure, since it will provide information enabling appropriate risk management interventions in the food chain.

5. REQUIREMENTS OF AN INTEGRATED SYSTEM

5.1. From Farm to Chilled Meat

An integrated system is one that operates in an integrated manner from birth through the rearing phase to slaughter. An integrated system therefore requires information to be transferred backwards and forwards between the farm and the abattoir. The good functioning of an integrated system require full accountability, and transparency in all parts.

Parts of the integrated system that must be considered includes the following:

- Animal (associated criteria): origin source, pre-wean, weaned or equal, production stage (eggs, milk – fattening – end of production), identification and documentation and use of feed-forward / -back data;
- Good Practice Farming (GPF), identification and farm registration, (building construction, including climate, separation of units within the farm, quarantine facilities, animal density, medication practices, medical records (including disease, treatment, vaccination and medicated feed), performance monitoring, consumption of feed/water (indicators), cleaning/disinfection, pest control, waste control (e.g.: manure handling);
- Production system related: husbandry, housing, feeding: feed/water, origin source, feed (processing, storage, additives), transport, lairage /slaughter, inspection procedures, end products control; overall cleanliness , pest control, documentation;
- Records including documentation of e.g.: indicators of performance in that system, animal movements, medical records;
- Transport: loading/unloading, loading density, cleaning/disinfection practices, transport time, documentation, climate, mixing of animals or of groups of animals from different origins;
- Lairage: cleaning/disinfection, resting time, animal driving system, climate, animal density, record of result of ante mortem inspection, isolation area (suspect animals and rejects from ante-mortem inspection whose fate must be recorded);
- Slaughter: systematic analyses of potential hazards (including microbiological monitoring), implementation of appropriate control, documentation and feed-back, identification and trace back retained/maintained; trace forward with notification of appropriate authorities; product recall strategy in plan;
- Processing/chilling: capacity of cooling, separation of units, type of chilling, hygiene and cleaning and disinfection.

The above list is not complete and only intended to be a basis for consideration of each species/category.

Integrated systems have to provide data from the living animal, including information about the "on farm" circumstances through to the chill and processing stage. The information required will include the data from primary production concerning the environment and management, the transport, the lairage, abattoir data and through to the chilled meat stage.

5.2. Guidelines for establishing an integrated production system

The following points could be considered to give guidance in establishing an integrated production system:

- The ability to assess the system within a singular epidemiological frame that could utilise all information collected along the food/feed chain and to maximise food safety.
- The integrated system should be possible to describe in the sense that all parties or stakeholders to this system must be clearly defined and identifiable. In other words whether or not potential partners are party to the system should be clear. Furthermore it would in some situations be desirable to define these integrated production systems geographically e.g. the husbandry systems in that geographical regions along with evidence of a properly functioning integrated system in place.
- No participant should be able to enter or leave without a clearly defined procedure, ensuring that those entering are fulfilling all the requirements of the system. Those that leave should do so completely avoiding any “half in” or “half out” participation.
- There should be a free flow of information and transparency between all parties in the system.
- It should be ensured that no feed is allowed to enter the production system or animals go to slaughter, unless they originate from holdings or feed that comply with the systems’ requirements. The farms or animal holdings must not deliver animals to abattoirs outside the system to ensure the holding is monitored as a whole and no animal(s) must be lost to allow a better monitoring result than in reality. If abattoirs take deliveries from holdings outside the system, those animals should be separated all along the food chain, and safeguards put in place to protect the integrity of the integrated system.
- No foodstuff (meat or meat products) should leave the system unless complying with the system requirements.
- There should be a comprehensive veterinary supervision of the complete system and the responsibilities and accountability for the good functioning all along the system should be unambiguously allocated. The supervision of the system would be of it as an epidemiological unit rather than its particular parties. The supervision must include the possibility of withdrawing the approval or recognition of the integrated system.
- Those responsible for the epidemiological monitoring of the system should be clearly identified. Furthermore that responsibility would include collecting all the information and analysing those data to estimate of the risks in the system. Therefore there must be an ongoing risk assessment that should give indications of necessary risk management measures to be taken if needed.

5.3. Monitoring and Traceability

For the above system to function it is essential that a continuous flow of information from and to safety assurance personnel involved is established. A prerequisite for this is the creation of a failsafe animal identification and

registration system allowing traceability of foods of animal origin to the source of production. On the basis of this documentation the competent authority will be in a position to better assess the public health risks involved in the pre-harvest production, slaughter, further processing and marketing of foods of animal origin. Only when these conditions are met can a simplified ante mortem clinical examination before slaughter be considered. To allow the primary producer to be 'pro-active' in terms of human and animal disease prevention, post mortem findings need to be fed back from the inspection authorities.

5.4. Identification of hazards connected with fresh meat

Hazard is defined as a biological, chemical or physical origin agent in, or condition of, food with the potential to cause an adverse health effect. New agents must be expected to emerge. However, major concerns relate to the following categories:

1. Hazards of public health concern with no health concern to animals (e.g. : thermotolerant *Campylobacter* spp, and human pathogenic verotoxigenic *Escherichia coli* VTEC);
2. Hazards for the animal production system which are also of concern for humans (e.g. *Salmonella* and chemical contaminants in feed such as medications, dioxins, mycotoxins);
3. Hazards of animal health concern or predominating in the animal population of limited concern to human health (e.g. Foot and mouth disease, swine fever) but of great economic concern.

The presence of a hazard does not necessarily indicate a risk. Therefore any change in the meat inspection system must follow an assessment of risk. Indeed traditional meat inspection has been based on or modified to some degree according to risk (e.g. cattle of different ages having different post mortem inspection requirements in terms of *Cysticercus bovis*; or removal of the requirement of detailed inspection of mesenteric lymph nodes in pigs). There will be new emerging risks in the future therefore the epidemiological situation must be carefully observed in order to, if necessary, adapt control measures.

However, unless the hazard has been recognised specific controls can not be applied. There is also a need to identify disease transmission risks for the production system that are threats to production and/or the animal welfare such as foot and mouth disease or swine fever. The finding of lesions at meat inspection might serve as indicators.

For every species or category of animal there are a number of factors that must be considered and the information must be underpinned with quantitative data. For many of the species/categories the hazard and its occurrence has not yet been established. A structured approach might help to elucidate this aspect for a Risk Assessment and completed for each species and category as suggested below:

- Identification of hazards
- Hazards for animals
- Hazards for humans
- Animal prevalence
- Prevalence in the processing environment
- Incidence in the human population
- Linkage between human illness and food of animal origin

6. MEAT-PRODUCING ANIMALS WHERE A REVISED INSPECTION SYSTEM MAY BE APPLIED

The meat producing animals shown the table 1 are suitable for consideration for an alternative system of ante and post mortem meat inspection. This is not an exhaustive list of meat producing animals where the integrated system can be applied. Additional entries could be considered provided that there is evidence that they meet the criteria described previously and it may be appropriate to apply sub categories.

Table.1 Examples of meat producing animals, other than fattening pigs, that may meet the requirements for simplified meat inspection based on an integrated production system

Animals	Animals that may be produced in an integrated system
Cattle:	Beef Veal calves
Sheep	Lambs
Poultry	Chicken Turkey Geese Ducks Quail Guinea fowl
Rabbits	Fattening rabbits

In the case of poultry there has previously been modification to the meat inspection based on an integrated protocol (see 3.2.1). In the case of fattening pigs the proposed concept for revised meat inspection has at this time not been implemented. There is increasing evidence that there are already a number of production systems

in Member States where they satisfy the criteria for application of simplified meat inspection.

7. CONCLUSIONS

Revision of the meat inspection for categories of animals listed in table 1 is justified, provided that the production system for each category of animals is integrated and addresses the issues identified in this report, including a continuing assessment of risks in the production system.

8. ACKNOWLEDGEMENTS

This report of the Scientific Committee on Veterinary Measures relating to Public Health is substantially based on the work of a working group of the Committee.

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