



Overview of ongoing EFSA work on the meat inspection mandate

III Round Table on Meat Inspection – 14 December 2011

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- Background for meat inspection mandate
- Progress in the development of Scientific Opinions
 - Swine
 - Other species

Meat Inspection mandate

- Mandate from the European Commission (EC)
 - Annex 1 – Provision of Scientific Opinions
 - Annex 2 – Provision of Technical Reports
- Considering: domestic swine, poultry, bovine, domestic sheep and goats, farmed game and domestic solipeds
- Scientific Opinions on meat inspection for the different species to be delivered in a staggered manner:
 - Swine in September 2011
 - Poultry in June 2013
 - Other species in June 2013

- Annex 1:
 - Addressing biological and chemical hazards, as well as the potential impact on animal health and welfare of any changes to meat inspection
 - EFSA asked the BIOHAZ, CONTAM and AHAW Panels to deliver these Scientific Opinions
 - Each Panel has set up an *ad hoc* working group to assist developing the draft Opinions
- Annex 2:
 - EFSA asked the BIOMO Unit to deliver the Technical Reports defining harmonized epidemiological criteria (*separate presentation*)

Meat inspection

SCIENTIFIC OPINIONS

Terms of reference (Scientific Opinions)

- Identify and rank the main risks for public health (PH) that should be addressed by meat inspection at EU level.
- Assess the strengths and weaknesses of the current meat inspection methodology and recommend possible alternative methods, taking into account implications for animal health and welfare.
- Recommend additional inspection methods in case other previously not considered hazards have been identified above (e.g. salmonellosis, campylobacteriosis).
- Recommend possible alternative methods and adaptations of inspection methods and/or frequencies of inspections that provide an equivalent level of protection within the scope of meat inspection or elsewhere in the production chain that may be used by risk managers in case they consider the current methods disproportionate to the risk.
 - e.g. based on the risks or on data obtained using harmonised epidemiological criteria. When appropriate, food chain information should be taken into account.

Issues outside the scope of the mandate:

- Transmissible Spongiform Encephalopathies (TSEs)
- Issues other than those of PH significance that compromise fitness of meat for human consumption (e.g. sexual odour)
- Impact of changes to meat inspection procedures on occupational health of abattoir workers, inspectors, etc
- The definition of the responsibilities of the different actors (official veterinarians, official auxiliaries, staff of food business operators)

Meat inspection

SWINE

- Opinion adopted by BIOHAZ, CONTAM and AHAW Panels,
- Published 1st October 2011
- Structure of Opinion mirrors the TORs (plus Introduction)
 - Body of Opinion consists of conclusions and recommendations from the three Panels
 - The background docs from each Panel are attached as Appendices
 - Cross-references the Technical report on HEI produced by the BIOMO Unit (published jointly)

Approach taken by BIOHAZ

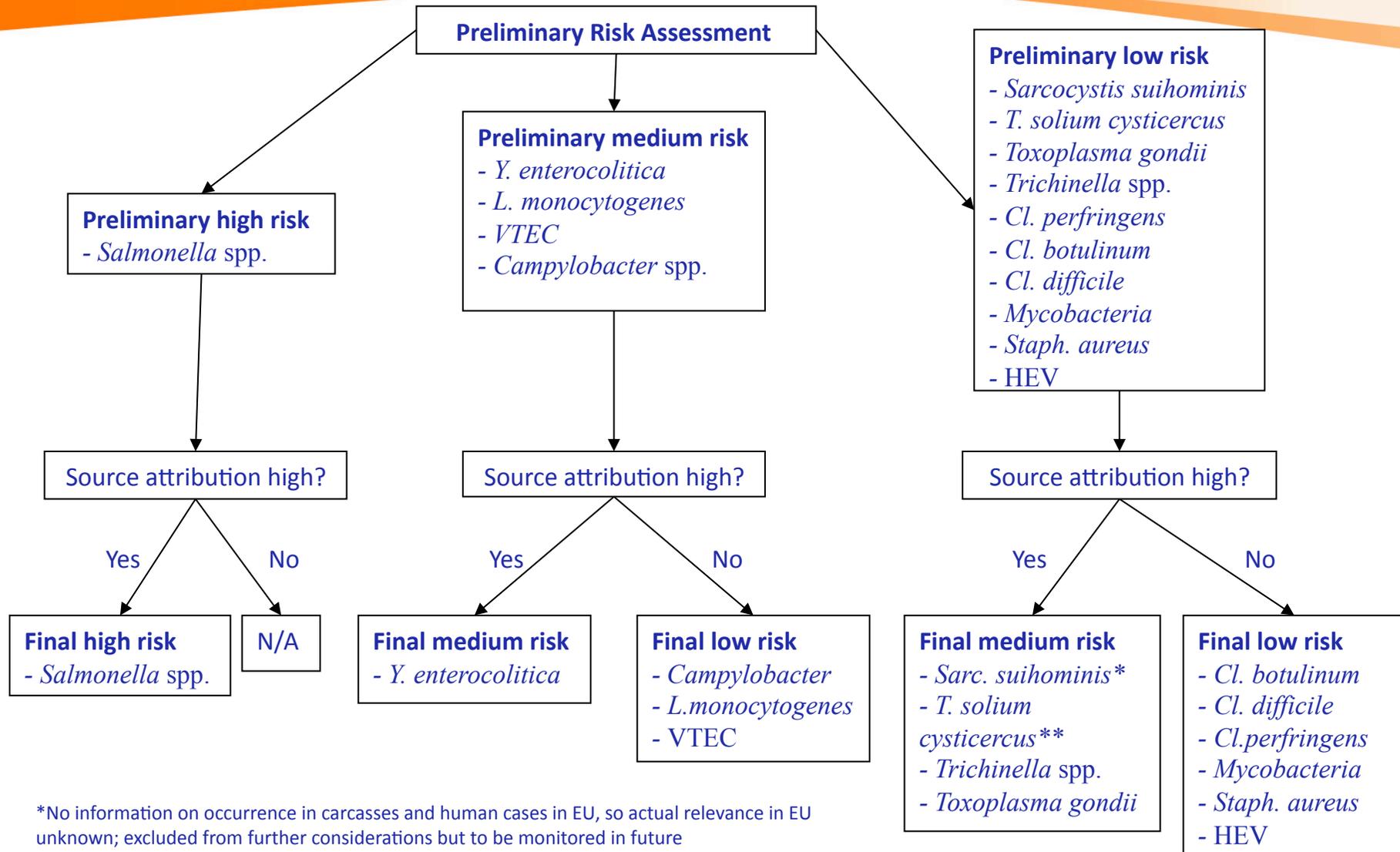
- Hazards from scientific literature were ranked qualitatively based on:
 - their prevalence in carcasses,
 - source attribution of human cases to pork
 - incidence and severity in humans

→ **Resulting in a shortlist of hazards**
- Following an assessment of current methods of meat inspection, alternatives/improvements were recommended
 - Including how to address hazards not covered by current methods:
 - Before pigs reach the abattoir
 - During processing at abattoir, if possible

BIOHAZ Preliminary classification of hazards

<i>Preliminary qualitative evaluation of the risk level: probability of occurrence against severity of consequences</i>		Severity of consequences			
		<u>High severity of consequences:</u> human cases >10/100000, and case-fatality <0.1%	<u>Medium severity of consequences:</u> human cases 1-10/100000, and case-fatality <0.1%	<u>Low severity of consequences:</u> human cases <1/100000, and case-fatality >0.1% human cases <1/100000, and case-fatality <0.1%	
Probability of occurrence	<u>High probability:</u> incidence on chilled carcass >5%	HIGH RISK <i>Salmonella</i>			
	<u>Medium probability:</u> incidence on chilled carcass 0.1-5%	MEDIUM RISK <i>Campylobacter</i> ³	MEDIUM RISK <i>Yersinia enterocolitica</i>	MEDIUM RISK <i>L. monocytogenes</i> ⁵ VTEC ⁴	LOW RISK <i>Toxoplasma</i>
	<u>Low probability</u> incidence on chilled carcass <0.1%			LOW RISK <i>Cl. botulinum</i> ^{1,5}	LOW RISK <i>Sarcocystis suihominis</i> ^{1,2} <i>T. solium cysticercus</i> <i>Trichinella</i> <i>Cl. difficile</i> ^{1,5} <i>Cl. perfringens</i> ^{1,5} <i>Mycobacterium</i> <i>Staph. aureus</i> (MRSA) ⁵ HEV ^{1,2}

BIOHAZ - Final classification of hazards



*No information on occurrence in carcasses and human cases in EU, so actual relevance in EU unknown; excluded from further considerations but to be monitored in future

**Not currently considered relevant in the EU pig population; excluded from further considerations but to be monitored in future

Conclusions - Biological hazards

SWINE

To identify and rank the main risks for public health

- Qualitative risk assessment based on:
 - prevalence on carcasses,
 - incidence and severity of disease in humans,
 - source attribution of hazards to pork.

Salmonella HIGH relevance

Yersinia enterocolitica MEDIUM relevance

Toxoplasma gondii MEDIUM relevance

Trichinella MEDIUM relevance

Manual handling of meat including use of palpation/incision techniques during *post-mortem* inspection mediates cross-contamination.

To assess the strengths and weaknesses of the current meat inspection system

Strengths

***Ante-mortem* inspection enables:**

Using food chain information (FCI)

The detection of clinically observable zoonoses,

Animal identification and traceability, and evaluation of cleanliness of pigs.

***Post-mortem* inspection enables:**

Detection of visible faecal contamination,

Macroscopic lesions caused by some zoonotic agents

To detect *Trichinella* spp. by laboratory examination.

Weaknesses

Current *ante-* or *post-mortem* inspection cannot macroscopically detect the bacterial and parasitic foodborne hazards of most relevance

Conclusions - Biological hazards

SWINE

Recommend inspection methods fit for new hazards currently not covered by the meat inspection system

- The only way to ensure effective control of the hazards of relevance identified is to establish:

A comprehensive pork carcass safety assurance, combining measures applied on-farm and at-abattoir

- A prerequisite for this system is setting targets for these hazards to be achieved on carcasses.
- These targets would also inform what has to be achieved earlier in the food chain.

Conclusions - Biological hazards

SWINE

At abattoir level, the risk reduction for these hazards can be achieved through programs based on GMP/GHP and HACCP, including:

- hygienic and technology-based measures aimed at avoiding cross-contamination; with additional interventions such as surface decontamination of carcasses if necessary;
- heat- or freezing-based treatments of carcass meat to inactivate parasites if necessary and as alternative to laboratory testing of carcasses;
- FCI should be used to differentiate incoming pigs in respect to hazard risks based on herd status *via* sampling at farms or abattoirs, and to differentiate risk-reduction capacity of abattoirs (process hygiene).

At farm level, the risk reduction for the main hazards can be achieved through measures such as:

- herd health programs, closed breeding pyramids, GHP and GFP
- categorisation of animals based on the carrier state of these agents

Conclusions - Biological hazards

SWINE

Recommend adaptations of current methods

- Palpation/incisions used in current *PM* inspection should be omitted **in pigs subjected to routine slaughter**, because the risk of microbial cross-contamination is higher than the risk associated with potentially reduced detection of conditions targeted by these techniques.
- The use of these manual techniques during *PM* examination should be limited to **suspect pigs identified** through FCI/AM inspection or *PM* visual detection of relevant abnormalities where it would lead to risk reduction.
- *Post-mortem* examination involving palpation and incision, where necessary, should be **performed separately from the slaughter line** operation and accompanied with laboratory testing as required.
- Elimination of abnormalities on aesthetic/meat quality grounds can be ensured through **meat quality assurance systems**.

- **The CONTAM Panel assessed the current meat inspection methodology related to the occurrence of chemical compounds in pigs**
Such compounds can result:
 - from the exposure of pigs to contaminants in feed materials
 - following the application of authorised and possibly non-authorized drugs
- **The CONTAM Panel evaluated all substances addressed in the current legislation, particularly the substances listed in Council Directive 96/23/EC**
- **A general flow chart was developed for ranking the chemical substances of potential concern into four categories taking into account:**
 1. the outcome of the National Residue Control Plans (NRCP) for the 2005-2009 period
 2. substance specific parameters such as toxicological profile and the likelihood of the occurrence of residues in pork

CONTAM - Ranking of potential concerns for chemical compounds

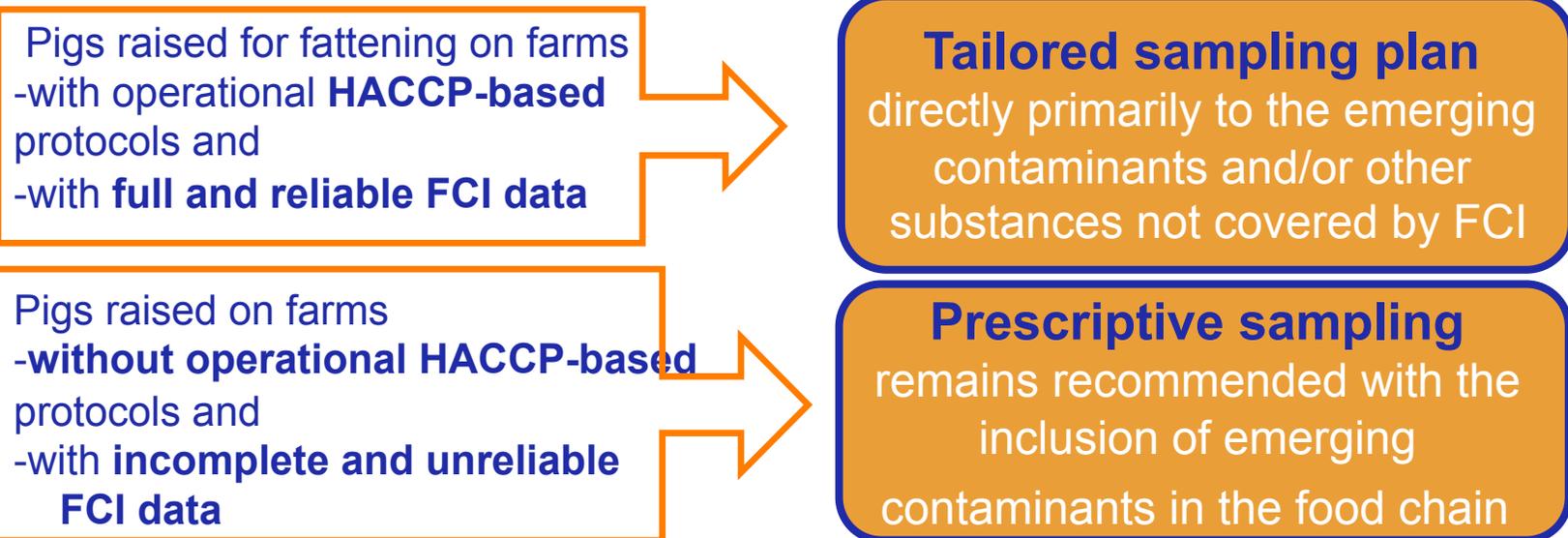
Group Category	Prohibited substances	Veterinary Medical Products	Contaminants
Negligible potential concern	<ul style="list-style-type: none"> •Chloroform •Colchicine 	<ul style="list-style-type: none"> •VMPs below MRLs 	<ul style="list-style-type: none"> •Dyes
Low potential concern	<ul style="list-style-type: none"> •<i>Aristolochia</i> spp. •Thyreostats •Stilbenes •Steroids •Resorcylic acid lactones •Beta-agonists •Chlorpromazine •Dapsone 	<ul style="list-style-type: none"> •VMPs exceeding MRLs 	<ul style="list-style-type: none"> •Organochlorines (OCs) •Organophosphates (OPs) •Perfluorinated compounds (PFCs) •Toxic secondary plant metabolites •Mycotoxins (except ochratoxin A)
Medium potential concern	<ul style="list-style-type: none"> •Nitroimidazoles •Nitrofurans 		<ul style="list-style-type: none"> •Non-dioxin-like polychlorinated biphenyls (NDL-PCBs) •Chemical elements (cadmium, mercury and lead) •Ochratoxin A
High potential concern	<ul style="list-style-type: none"> •Chloramphenicol 		<ul style="list-style-type: none"> •Dioxins and dioxin-like polychlorinated biphenyls (DL-PCBs)

Conclusions – Chemical hazards

- Chemical substances in pork are unlikely to pose an immediate or short-term health risk for consumers. Aggregated results from the NRCP (2005-2009) show a **low number of non-compliant samples**.
- However, certain **bioaccumulating compounds** are of potential concern as they will contribute to the overall exposure.
- **Dioxins and DL-PCB** which are known to bioaccumulate in the food chain and therefore were ranked as being of high potential concern. As these substances are not yet included in the Council Directive 96/23/EC, they have been considered as new hazards.
- Ranking of chemical compounds should be updated regularly when new data become available.
- The current prescriptive system of sampling for residues and contaminants is well established. But, it has a limited flexibility and there is apparently insufficient integration between results of the quality controls of official feed and food national controls.

Recommendations – Chemical hazards

- Risk-based sampling strategies taking into account FCI:



- To include competent *ante-* and *post-mortem* inspection criteria for the identification of illicit use of substances and to encourage analyses at the farm level.
- Any measures taken to improve the efficacy of meat inspection protocols need to address the compliance of imports from Third Countries into the EU with these strategies.

Approach taken by the AHAW Panel

- Focused on the implications for AHAW of any changes to the current meat inspection system, as proposed to address public health hazards
 - implications relate principally to **monitoring and surveillance during meat inspection**
 - it also considers direct impact of the proposed changes on the health and welfare of animals
- Methods
 - Qualitative: *Literature review, Expert opinion (insights into direction of changes)*
 - Quantitative: Modeling (magnitude of the changes)

Conclusions – AHAW

- Meat inspection is a key component of the overall surveillance system for pig health and welfare but information is currently underutilized.
- Proposed changes to the pig meat inspection, as visual only, will lead to some reduction in the detection probability of diseases and welfare conditions.
 - minimal difference for diseases/conditions that affect several organs and
 - substantial for early cases of a range of diseases
- To mitigate the reduced detection probability, palpation and/or incision should be conducted as a follow-up to visual inspection whenever relevant abnormalities are seen.
- Risk categorisation, based on increased usage of FCI on pig health and welfare, may provide opportunities for improved surveillance and monitoring.
 - it may result in surveillance being conducted on biased samples that are not representative of the entire population with respect to AHAW.
- Categorisation based on food-borne human health risks will likely have medium positive impact on pig health and welfare surveillance.
 - This would be less beneficial if journey times from the farm to the abattoir were increased.

Recommendations – AHAW

- There should be an assessment of the relative contribution of meat inspection to the overall system of surveillance and monitoring of pig health and welfare.
- There should be a critical evaluation of the efficiency and utility of risk-based approaches to meat inspection of pigs, using risk categorisation from the perspective of pig health and welfare.
- There should be development and application of standards (including indicators of welfare outcomes and major endemic diseases) to enable ongoing evaluation of the quality of pig health and welfare surveillance during meat inspection.
- Options should be examined to better utilise existing abattoir data and records on pig health and welfare.

Meat inspection – Other mandates

- Poultry
 - Deadline June 2012
 - 6th Working group held on 23 November
 - Outsourcing activities: report on overview on current practices of poultry slaughtering and meat inspection findings in the EU
- Bovine, small ruminants, farmed game and solipeds
 - Deadline for all these species is June 2013
 - Working groups set up, first meetings have already taken place – Work in progress
 - Stakeholders technical meeting foreseen

CONTAM Panel - Progress Overview

- CONTAM Panel agreed on its 40th Plenary meeting (20-22 September 2010) to set up a single WG to draft all the requested opinions. WG composition may vary depending on specific needs.
- Draft planning:

Species	Number of WG meetings planned	Number of WG meetings already held	Possible endorsement
Poultry	4	4	January 2012
Bovine/ Small Ruminants	5	1	September 2012
Domestic solipeds and farmed-game	4	0 1 st WG mtg: September 2012)	May 2013

- **Poultry and Bovine**

1. WG identified diseases/conditions of AHAW importance
1. Contract on data collection and modelling “Contribution of meat inspection on animal health surveillance” (External reports: Poultry in November 2011, Bovine in May 2012)
2. WG assessment on implication for AHAW of proposed changes by BIOHAZ or CONTAM

- **Other species (small ruminants, solipeds and farmed game)**

1. Identification of diseases/conditions of AHAW importance (work initiated)
1. Contract on data collection and modelling “Contribution of meat inspection on animal health surveillance” (External reports: expected in June 2012)
2. WG assessment on implication for AHAW of proposed changes by BIOHAZ or CONTAM

ANY QUESTIONS?



THANKS FOR YOUR ATTENTION!

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