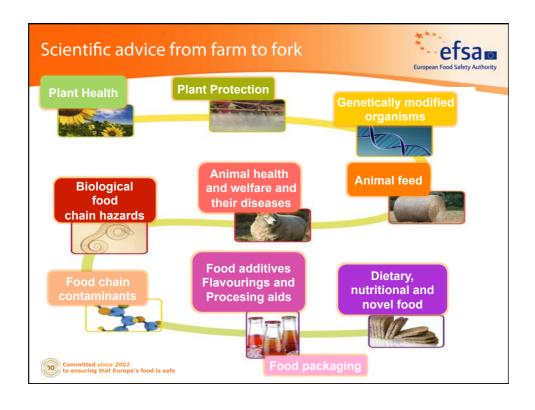


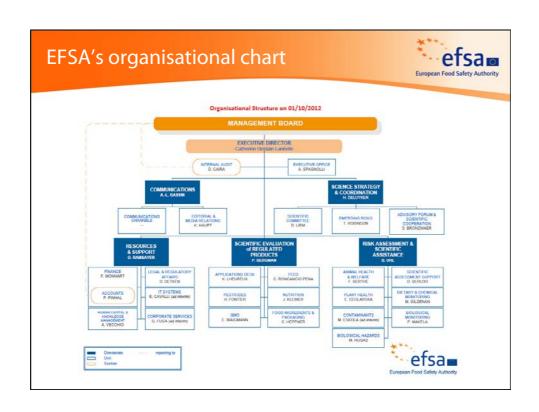


- EFSA and EFSA's BIOMO unit
- Background for meat inspection mandate
- Progress in the development of Scientific Opinions
  - swine
  - (poultry,other species)
- Progress in the development of Technical Assistance (epidemiological indicators)



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# Activities currently focused on three areas: Annual data collection and reporting on zoonoses, AMR and food-borne outbreaks in EU Survey design and analyses of EU-wide baseline surveys on zoonotic agents in animals and food Meat inspection mandate – define epidemiological criteria for adaptations of current meat inspection methodology



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## **Background to Mandate**



- In Nov 2008 CVO's agreed on conclusions on modernisation of sanitary inspection in slaughterhouses based on the recommendations issued during a seminar organised by the French Presidency.
- Council Conclusions on the Commission report (Nov 2009) invite the Commission to prepare concrete proposals allowing the effective implementation of modernised sanitary inspection in slaughterhouses while making full use of the principle: 'riskbased approach'.
- In accordance with Article 20 of Regulation (EC) No 854/2004, the Commission shall consult EFSA on certain matters falling within the scope of the Regulation whenever necessary.

# Background



#### May 2010 EFSA received:

- 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 are to be delivered in a staggered manner from September 2011 to June 2013

# Meat Inspection mandate



#### • Annex 1:

- Addressing biological and chemical hazards, as well as the potential impact on animal health and welfare of any proposed changes to meat inspection
- EFSA asked the BIOHAZ, CONTAM and AHAW Panels to deliver these Scientific Opinions
- Each Panels have set up ad hoc working groups to assist developing the draft Opinions

#### Annex 2:

 EFSA asked the Biological Monitoring Unit to deliver the Technical Reports defining harmonised epidemiological criteria



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#### Terms of reference

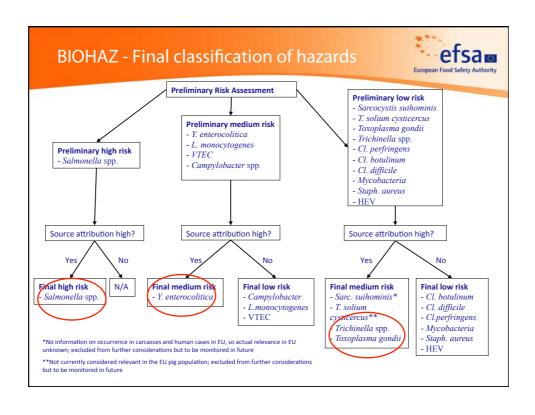


- <u>Identify and rank the main risks for public health (PH)</u> that should be addressed by meat inspection at EU level.
- Assess the strengths and weaknesses of the current meat inspection methodology and <u>recommend possible alternative methods</u>, taking into account implications for animal health and welfare.
- <u>Recommend additional inspection methods</u> in case other <u>previously not</u> <u>considered hazards</u> have been identified above (e.g. salmonellosis, campylobacteriosis).
- Recommend possible <u>alternative methods and adaptations of inspection</u>
   <u>methods</u> and/or frequencies of inspections that <u>provide an equivalent level of</u>
   <u>protection</u> 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.

# Approach taken by BIOHAZ Panel



- 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 meat inspection, alternatives/improvements were recommended
  - Including how to address hazards not covered by current methods



# **Conclusions - Biological hazards**



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

#### Ante-mortem inspection enables:

Strengths

Using food chain information (FCI)

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.

#### **Current** ante- or post-mortem inspection

Weaknesses

Cannot macroscopically detect the food-borne hazards of most relevance The use of palpation/incision techniques during post-mortem inspection mediates cross-contamination

# **Conclusions - Biological hazards**

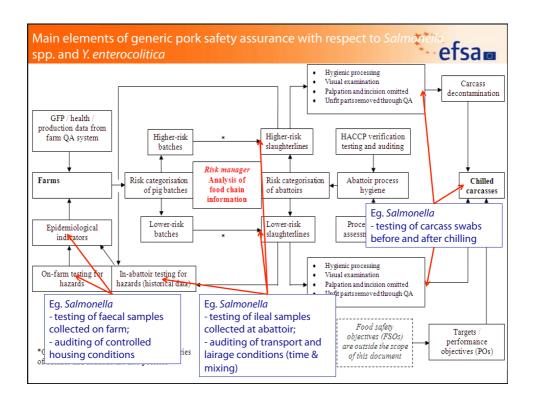


# Recommend inspection methods fit for new hazards currently not covered by the meat inspection system

• 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 <u>setting targets</u> for these hazards to be achieved on carcasses.
  - provide a measurable and transparent focus for their meat safety assurance system
- These targets would also inform what has to be achieved earlier in the food
  - E.g. as a basis for "backward"- generating of appropriate targets for supplier pig farms and/or indicators for risk categorisation of incoming pigs



# **Conclusions - Biological hazards**



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

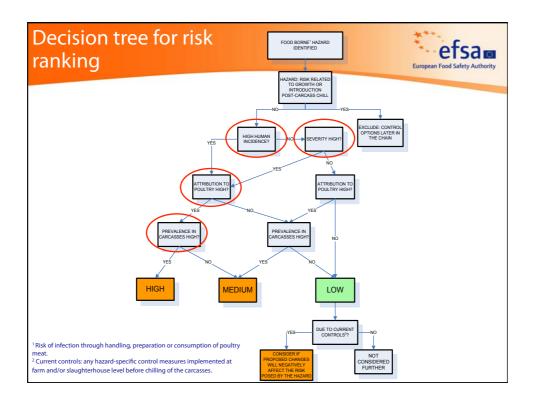
- measures aimed at avoiding cross-contamination; with additional interventions such as surface decontamination of carcasses if necessary;
- heat- or freezing-based treatments of meat to inactivate parasites if necessary and as alternative to laboratory testing of carcasses;
- FCI should be used to differentiate 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



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## Conclusions biological hazards – Poultry



## To identify and rank the main risks for public health

• Results of the qualitative risk assessment:

Salmonella spp. HIGH relevance

Campylobacter spp. HIGH relevance

ESBL/AmpC¹ (E. coli) MEDIUM to HIGH relevance

ESBL/AmpC¹ (Salmonella) LOW to MEDIUM relevance



 $^{1}$  Bacteria carrying Extended spectrum  $\beta$ -lactamase /AmpC genes



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# Terms of reference for technical assistance efsa

- Define <a href="https://example.com/harmonised epidemiological criteria">harmonised epidemiological criteria</a> (e.g. prevalence, status of infection, production systems) for specific hazards already covered by current meat inspection (trichinellosis, tuberculosis, cysticercosis, ...) and for possible additional hazards identified in a scientific opinion on the hazards to be covered by inspection of meat (see Annex 1), which can be used <a href="to-consider adaptations">to-consider adaptations</a> of meat inspection methodology.
- Provide <u>a summary of comparable data</u> from Member States based on the above defined harmonised epidemiological criteria, if existing, e.g. from ongoing monitoring in humans, food or animals.
- Recommend <u>methodologies and minimum monitoring/inspection</u> <u>requirements</u> to provide comparable data on such harmonised epidemiological indicators, in particular if comparable data are missing.

# Key definitions and decisions made within the mandate



- To use term "indicators" instead of "criteria" and to cover only biological hazards
- Harmonised epidemiological indicator (HEI) = prevalence or incidence of the (biological) hazard at a certain stage of food chain or an indirect measure of the hazards (such as audits of farms) that correlates to a human health risk caused by the hazard
- HEIs to be compatible with the new meat inspection methods proposed by the EFSA opinion
- HEIs were prepared by EFSA's Expert Working Group in close collaboration with Biological Hazard panel and its Working Group

# Technical assistance to Commission on epidemiological indicators (criteria)



- HEIs proposed include
  - Prevalence of the hazard in animal populations or on carcasses
  - Auditing of farms (controlled housing conditions) or animal transfer or slaughterhouse conditions
- <u>A set</u> of HEI suggested for each hazard, which can be used by risk managers <u>for different purposes</u>, alone or in combinations, at national, regional or at herd/ farm level
- HEI selected through harmonised approach, including:
  - Listing the <u>most important risk factors</u> related to the hazard throughthe entire meat chain (farm to fork)
  - Identifying the <u>possible indicators</u> for public health and changes in meat inspection
  - Evaluating the possible HEI based on their <u>quality</u>, <u>appropriateness</u>, <u>data availability</u> and <u>feasibility</u>, using a scoring system

# The foreseen use of epidemiological indicators (HEIs)



- The information from the epidemiological indicators (HEIs) may be used by the Commission and Member States to
  - consider if <u>adaptations in current meat inspection</u> methods may be applied (e.g. use in risk analyses);
  - help to <u>categorise farms/ slaughter batches/ slaughterhouses</u>
     according to risk related to a particular hazard in the proposed new pork safety assurance framework; and
  - set targets for final chilled carcasses as foreseen in the proposed new pork safety assurance framework.
- By <u>combining information from different HEIs</u> the influence of transport/lairage or slaughter process on the hazard carriage / carcase contamination may be assessed

# Suggested indicators for *Salmonella* – an example for pigs



Table 14: Proposed harmonised enidemiological indicators for nig

Food chain stage	Analytical /diagnostic method	Specimen
Farm	Microbiology (detection and serotyping)	Pooled faeces sample
Farm	Microbiology (detection and serotyping)	Pooled faeces sample
Farm	Auditing	Not applicable
Transport and slaughterhouse	Auditing	Not applicable
Slaughterhouse	Microbiology (detection and serotyping)	Ileal contents
Slaughterhouse	Microbiology (detection and serotyping)	Carcase swabs
Slaughterhouse	Microbiology (detection and serotyping)	Carcase swabs
	Farm Farm Transport and slaughterhouse Slaughterhouse	Farm Microbiology (detection and serotyping)  Farm Microbiology (detection and serotyping)  Farm Microbiology (detection and serotyping)  Farm Auditing  Transport and slaughterhouse Microbiology (detection and serotyping)  Slaughterhouse Microbiology (detection and serotyping)  Slaughterhouse Microbiology (detection and serotyping)



# Suggested indicators for *Yersinia* – an example for pigs



Indicators (animal/ food category/other)	Food chain stage	Analytical /diagnostic method	Specimen
Yersinia enterocolitica			
HEI 1 Yersinia enterocolitica in fattening pigs - in-coming to slaughter process (evisceration stage)	Slaughterhouse	Microbiology (detection and biotyping)	Tonsils or rectal content
HEI 2 Slaughter method: separation of head	Slaughterhouse	Auditing	Not applicable
HEI 3 Yersinia enterocolitica in fattening pigs – carcases after slaughter process before chilling	Slaughterhouse	Microbiology (detection and biotyping)	Carcase swabs
HEI 4 Yersinia enterocolitica in fattening pigs – carcases after slaughter process and after chilling	Slaughterhouse	Microbiology (detection and biotyping)	Carcase swabs



Species	Adoption
Swine	September 2011
Poultry	June 2012
Bovine/ Small Ruminants	June 2013
Domestic solipeds and farmed-game	June 2013

### Thank you for your attention



- Ackowledgements
  - the BIOHAZ, CONTAM and AHAW Panels
  - their working groups on meat inspection
  - the BIOMO working groups on meat inspection

for the effort put into developing these Opinions and Technical Reports



# • Contacts in EFSA

- zoonoses@efsa.europa.eu
- <a href="http://www.efsa.europa.eu/en/topics/topic/meatinspection.htm">http://www.efsa.europa.eu/en/topics/topic/meatinspection.htm</a>
- http://www.efsa.europa.eu/en/contact/askefsa.htm

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