



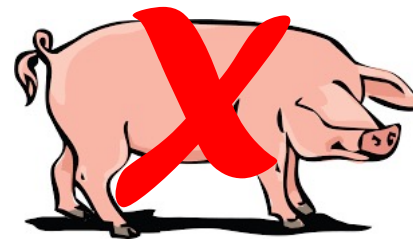
WG1 Future roles of vets in food production: From pathology-> microbiology-> epidemiology

- Food safety is a shared responsibility among multiple stakeholders (WHO 2022) and is aimed at assuring that food will not cause adverse health effects to the consumer when it is prepared and/or eaten according to its intended use.

General principles of food hygiene. CXC 1-1969. Rome: Food and Agriculture Organization of the United Nations (FAO)/ World Health Organization (WHO) Codex Alimentarius; 2011

The public has always been concerned about the cleanliness, safety, and wholesomeness of its food supply. In early agrarian societies, people personally observed food from harvest to consumption.

Since antiquity, people have associated "unclean" meat with disease and have placed religious or government restrictions on slaughter, processing, distribution, and consumption of meat products.

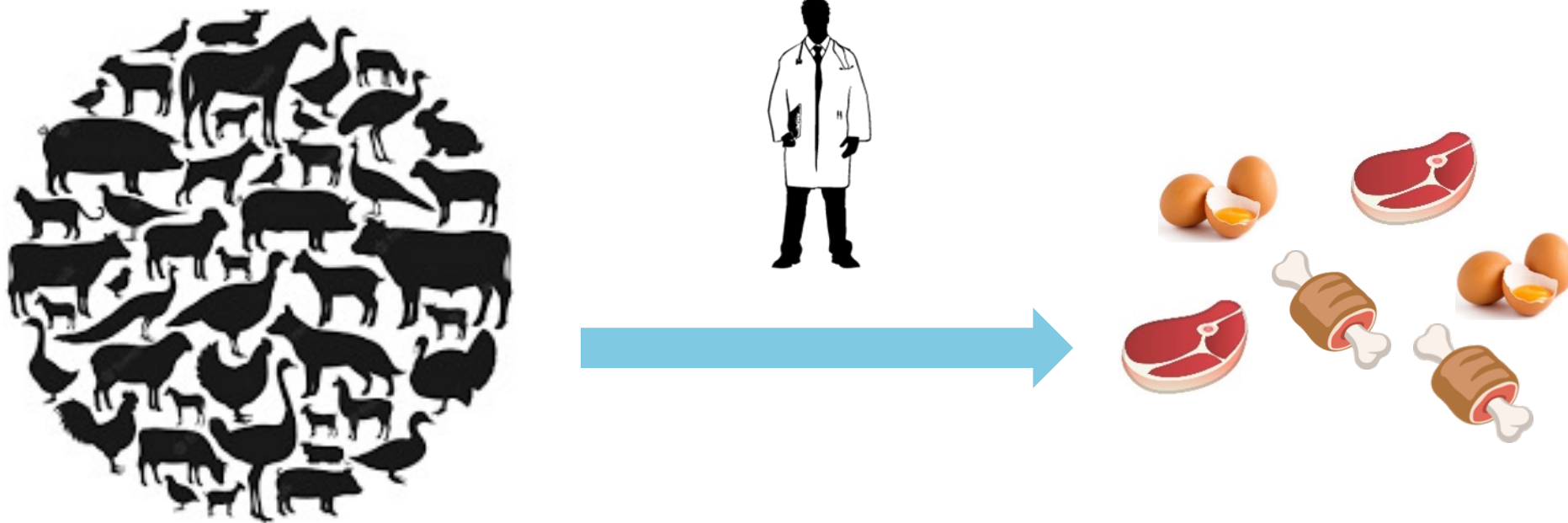


No exposure = no risk

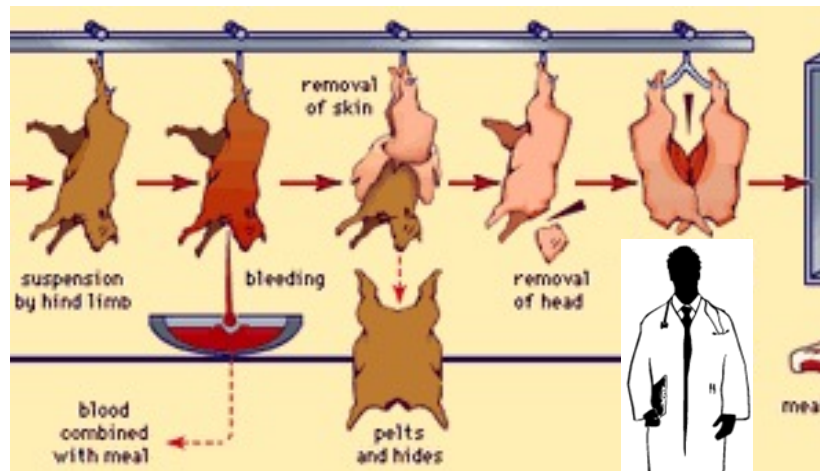
Historically, the **Veterinary Services** were set up to control livestock diseases at the farm level. There was an emphasis on **prevention** and **control** of the major epizootic diseases of livestock and of diseases that could affect man (**zoonotic diseases**).



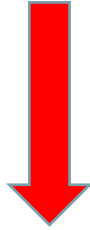
As countries begin to bring the serious diseases under control, the scope of official animal health services normally increases to address production **diseases of livestock**, where control leads to more efficient production and/or better quality animal products.



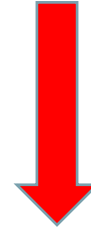
The role of the Veterinary Services has **traditionally extended from the farm to the slaughterhouse**, where veterinarians have a dual responsibility – **epidemiological surveillance of animal diseases and ensuring the safety and suitability of meat**. The education and training of veterinarians, which includes both animal health (including zoonoses) and food hygiene components, makes them **uniquely equipped** to play a central role in ensuring food safety, especially the safety of foods of animal origin.



Veterinarian means a person registered or licensed by the relevant veterinary statutory body to practice veterinary medicine/science in that country.



Competent
authority



Food Business
Operator

'official veterinarian' means a veterinarian appointed by a competent authority, either as staff or otherwise, and appropriately qualified to perform official controls and other official activities in accordance with this Regulation and the relevant rules referred to in Article 1(2); (Reg 2017/625)

FBO-RM activities audited by CA-Vet

Traceability

Sustainability

Allergens

Organic

Authenticity

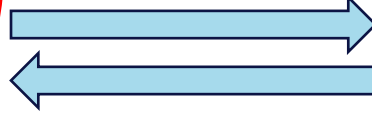


FBO-RM

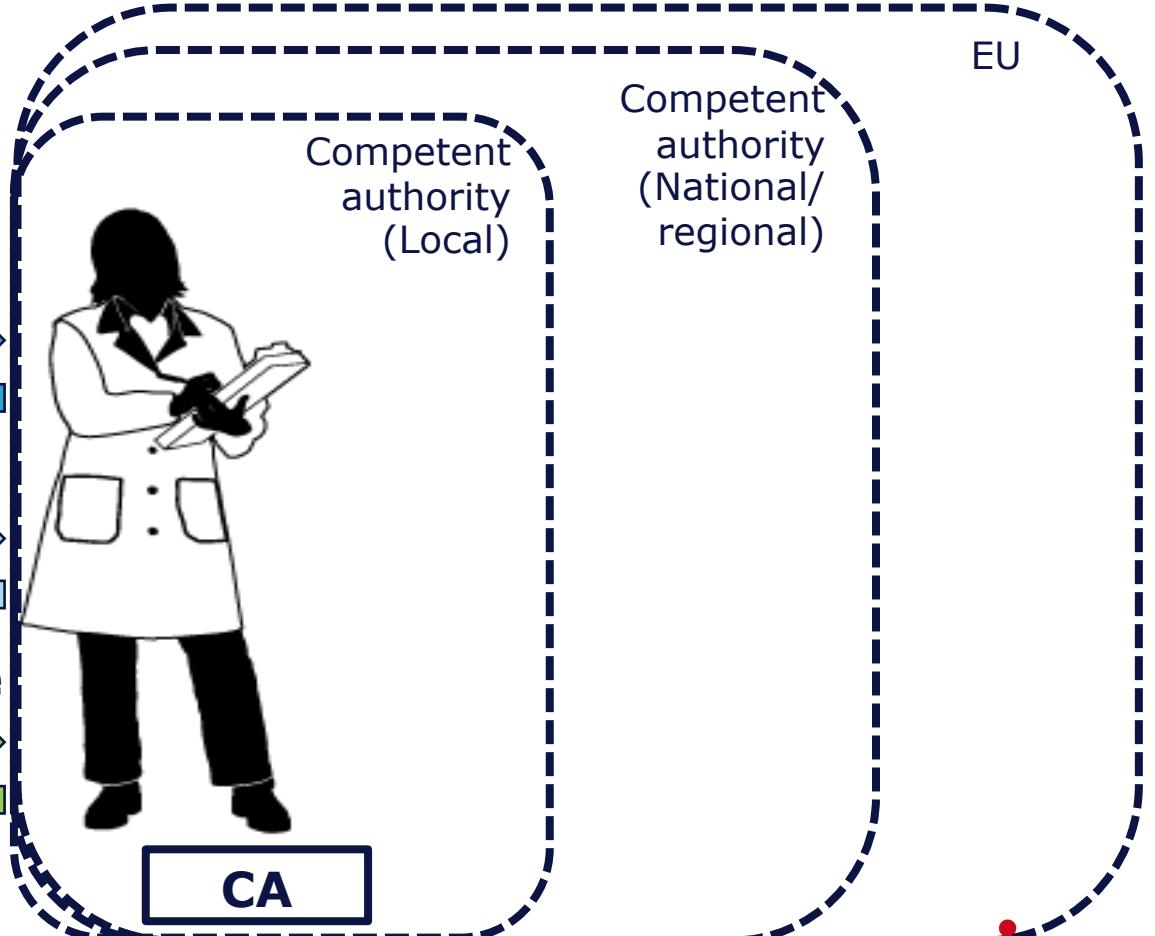
FOOD SAFETY
Risk based



Animal health



Animal welfare



WG1

Vet who?

Tools:
Inspection
Audit
Samples



FCI



Public Health burden

- DALY QALY
- Number of cases/deaths
- Cost of illness

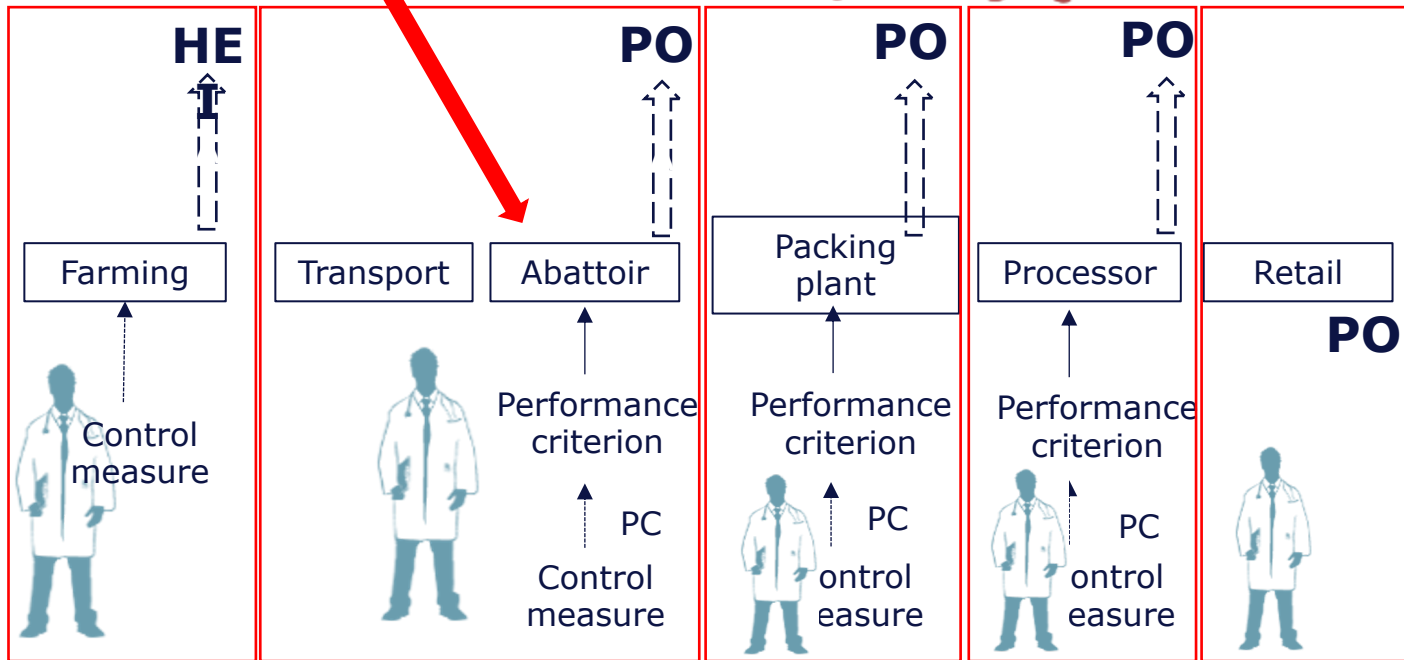
ALOP



Exposure



FSO



Consumption



FCI

		Policy effectiveness	
		Low	High
Compliance	Low	No food safety	Unknown food safety
	High	No food safety	ALOP

Driver of compliance behavior			
		Contribution to industrial performance	Administrative enforcement
		Non compliance	Conditional non compliance
Net economic benefits of compliance/ consequences of non compliance	Low	Performance-driven compliance	Enforcement driven compliance
	High		

OV role



COMPLIANCE?


YES

NO  **Enforce**

Enforcement: the act of compelling observance of or compliance with a law, rule, or obligation.

WG1

The VET how?

	Policy activity	FBO activities	CA control and prevalent tool	Space for private regulation	Legislation	Example
Prescription-based system	Set requirements (=effective control measures)	Apply the requirements	COMPLIANCE - Requirements (checklist)	Low. The addition of requirements to legal mandatory ones risk to cause overregulation	Specified Risk Material (999/2001; 1162/2015; 2018/969) Animal welfare (1099/2009) By-products (1069/2009) Meat inspection (2019/627)	The majority of practicalities to be carried out during meat inspection at slaughterhouse are specified in regulation XX.
Outcome based system	Set Outcome (=criteria to meet FSO)	Define the requirements to achieve outcome	Outcome (lab analysis and FBO analytical results)	Medium. Additional requirements may be useful to achieve outcome	Microbiological criteria (2073/2005)	Salmonella should be absent in several categories of meat products. However, regulation does not specify how this goal is to be achieved as the decision is up to FBO.
Process based system	Set scope (Food safety) 	Define the outcome and the requirements to deliver safe food	PROCESS-whole system, from RA to implementation and verification	High. The freedom in defining the process implies a lower number of legal requirements thus space for additional ones.	HACCP (852/2004)	Shiga toxin-producing Escherichia coli (STEC) contamination is not included in the microbiological criteria laid down by Regulation (CE) No 2073/2005. Nevertheless, FBOs commonly test beef products for STEC.

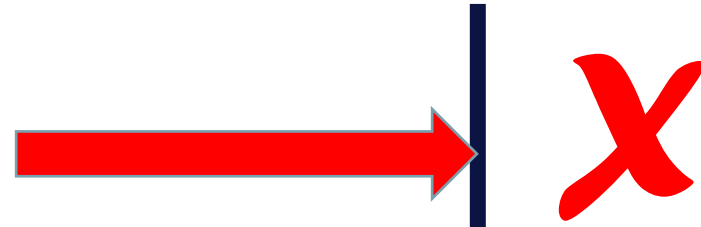
WG1

The VET (OV) what?



FARM	Clinician	Epidemiologist
ABATTOIR	Clinician Anatomo-pathologist	Microbiologist
PROCESSING	Hygienist	Microbiologist

Zoonotic risks causing gross lesions



Risk arising from slaughterhouse



Non visible zoonotic risks



Zoonotic risks causing gross lesions



Traditional task of OV.

Visual inspection with mandatory or non mandatory additional procedure (cut and palpation) where defined by legislation OR following a risk based approach (FCI)

Risk arising from slaughterhouse

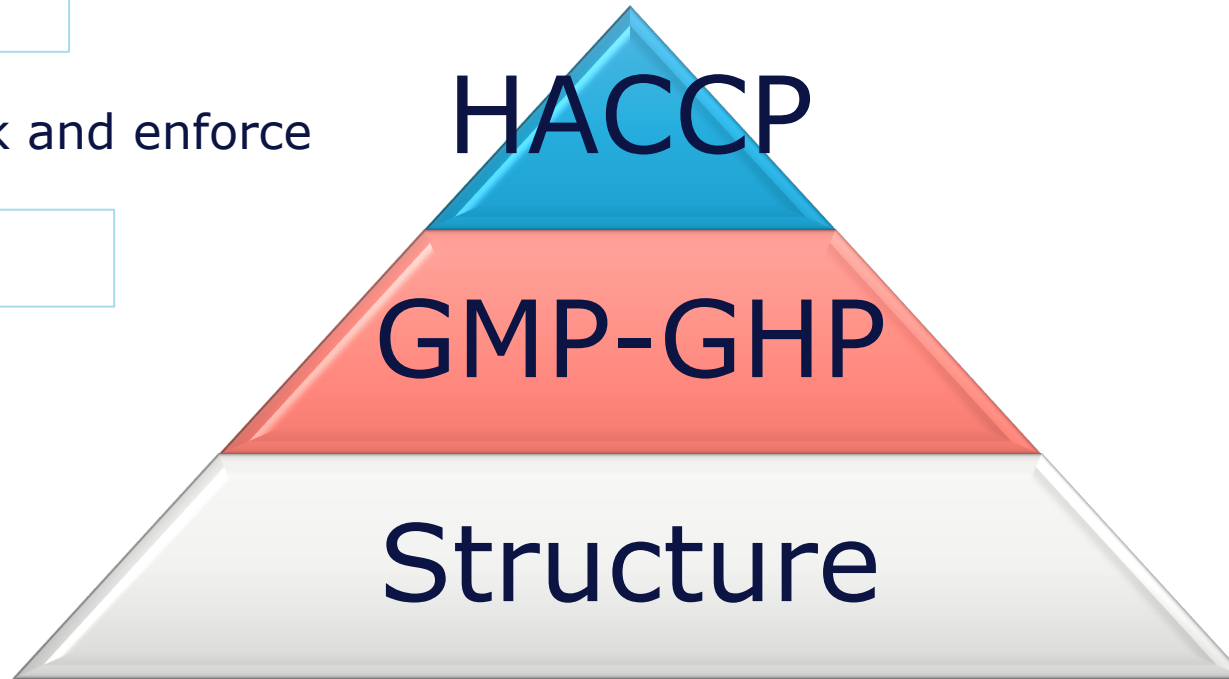


OV



Check and enforce

FBO-MSAS



Non visible zoonotic risks

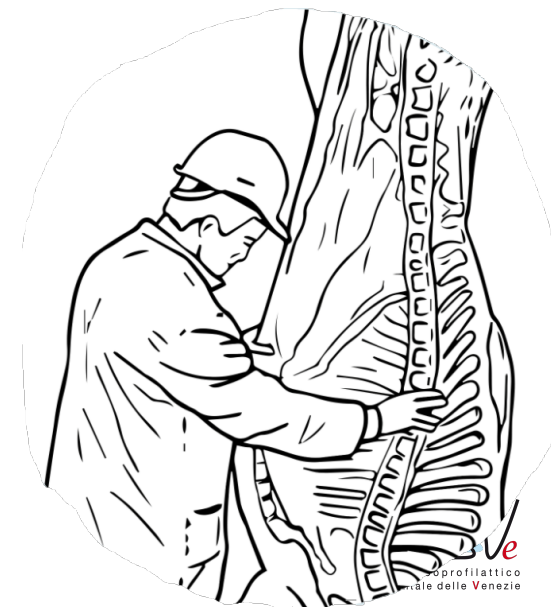


Possibility 1:

-New technologies allow OV to detect them in real time during inspection (AM or PM)

Possibility 2:

-The risk is reduced at farm level (HEIs)
-At abattoir it is managed within FBO MSAS



WOAH

Slaughterhouse **inspection** of live animals (ante-mortem) and the carcass (post-mortem) plays a key role in both the surveillance network for animal diseases and zoonoses and ensuring the safety and suitability of meat and by-products for their intended uses.

Control and/or reduction of biological hazards of animal and public health importance by ante- and post-mortem meat inspection is a core responsibility of the Veterinary Services and they should have primary responsibility for the development of relevant inspection programmes. Wherever practicable, inspection procedures should be risk-based.

OIE - THE ROLE OF THE VETERINARY SERVICES IN FOOD SAFETY

EU

Ante-mortem and post-mortem inspections are essential to verify **compliance with requirements** on human and animal health and animal welfare. In order to ensure at least the same level of human and animal health and animal welfare protection as provided by Regulation (EC) No 854/2004 and fair trade in an open market ... (Considerandum 15 Reg 2019/627)

'health mark' means a mark applied after the official controls referred to in points (a) and (c) of Article 18(2) have been performed and which attests that the meat is **fit for human consumption** (Art 3 Reg. 2017/625).

Risk to be covered by meat inspection

Salmonella	H	Poultry
	H	Pork
	H	Bovine
<i>Campylobacter</i>	H	Poultry
<i>E. coli</i> VTEC	H	Bovine
<i>Yersinia enterocolitica</i>	M	Swine
<i>Toxoplasma</i>	M	Swine
<i>Trichinella</i>	M	Swine
ESBL resistant <i>E.coli</i>	M-H	Poultry

- The OV has a very important role in MSAS as he/she is **uniquely equipped** to play a central role in ensuring food safety.
- The safety of delivered food is a primary responsibility of FBO
- OV primary role is to check and enforce compliance, thus its tasks change with the regulatory approach.
- Risk management is up to professionals with a **DIRECT RESPONSIBILITY**

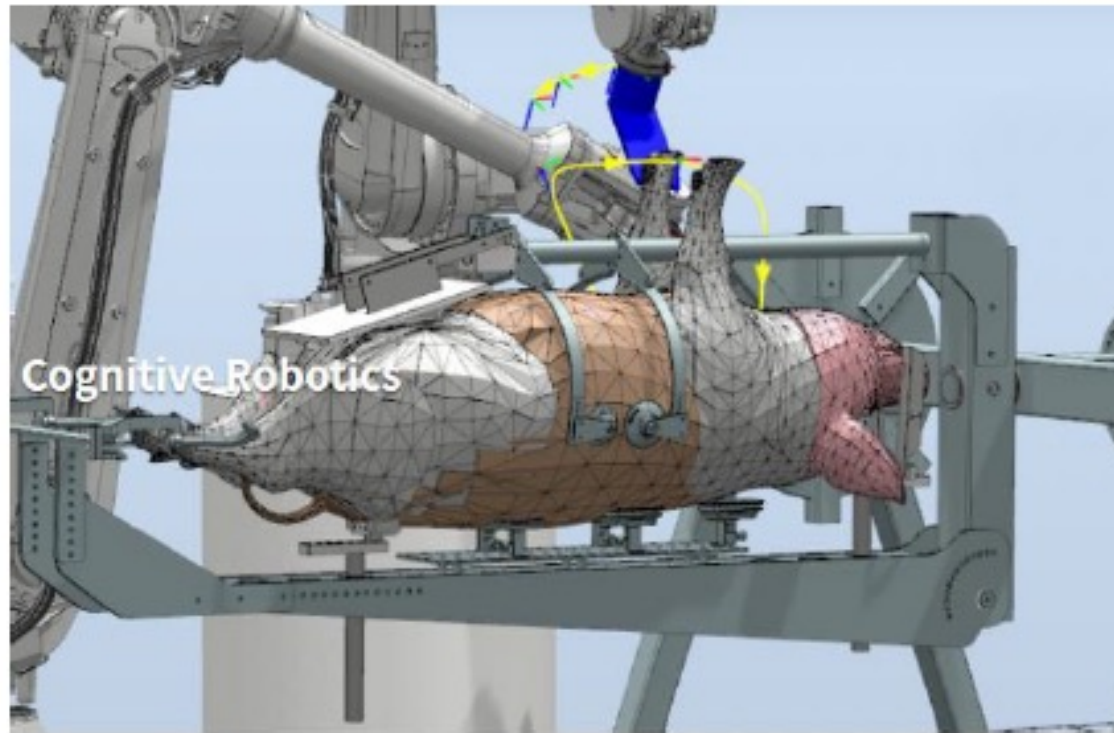
WG1

And in the future?

Farms could change...



- Slaughter mechanization could reduce the risk of cross contamination during carcass processing

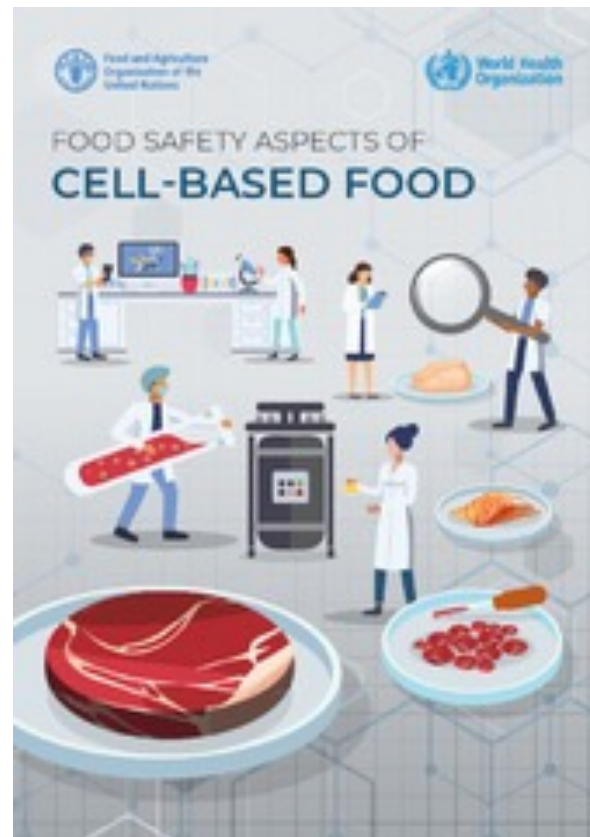


- Visual inspection system could assist OV in AM and PM Inspection tasks (possibly done by machine)



Broiler chickens inspected by Marel Poultry's Iris visual grading system © Marel Poultry B.V.

- Cell based «meat» could replace meat from animals



- Target of meat inspection has changed over time but should be clarified. Meat inspection need to be be risk based.
- Hazard should be primarily addressed where the impact of control measure is higher.
- Priority hazards as identified by EFSA should be covered along MSAS. Farm is the right place to start (HEIs).

Thank you for the attention.
Please join us at



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