

SCIENTIFIC EXPERTISE, REFERENCE LABORATORY NETWORKS AND RISK ASSESSMENT CAPACITY

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Head of UHQ PAP research unit

INVESTIGATE, EVALUATE, PROTECT

Food Safety in Anses: key strategic cross-cutting field



Food safety and nutrition



Environmental health



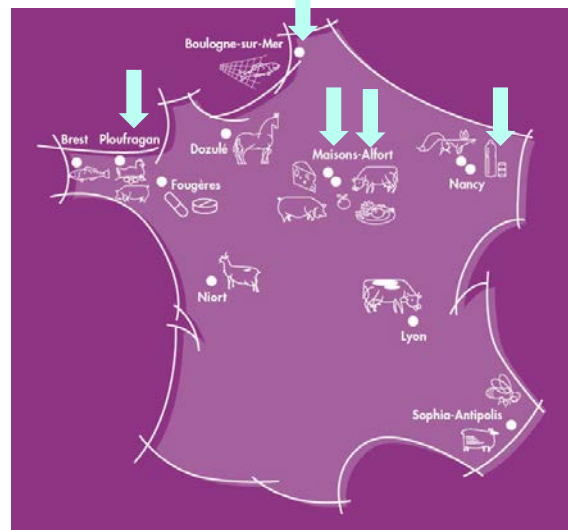
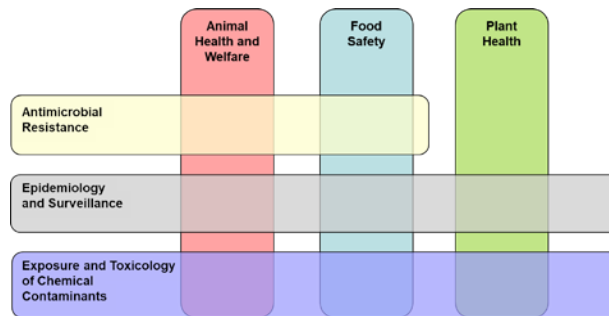
Occupational health



Animal health and welfare and
Veterinary medicine



Plant health and protection



Scientific Director for food safety: coordination between Anses lab units, Risk Assessment units in charge of expertise, regulated products, technical and epidemio-surveillance platforms - Strategic orientation - Laboratories work programme -

Unit Hygiene and Quality of Poultry and Pork Products, Laboratory of Ploufragan



- **Reference activities:**
 - 4 NRLs**
 - Salmonella*
 - Avian salmonellosis
 - Campylobacter*
 - Avian botulism

- **Expertise**



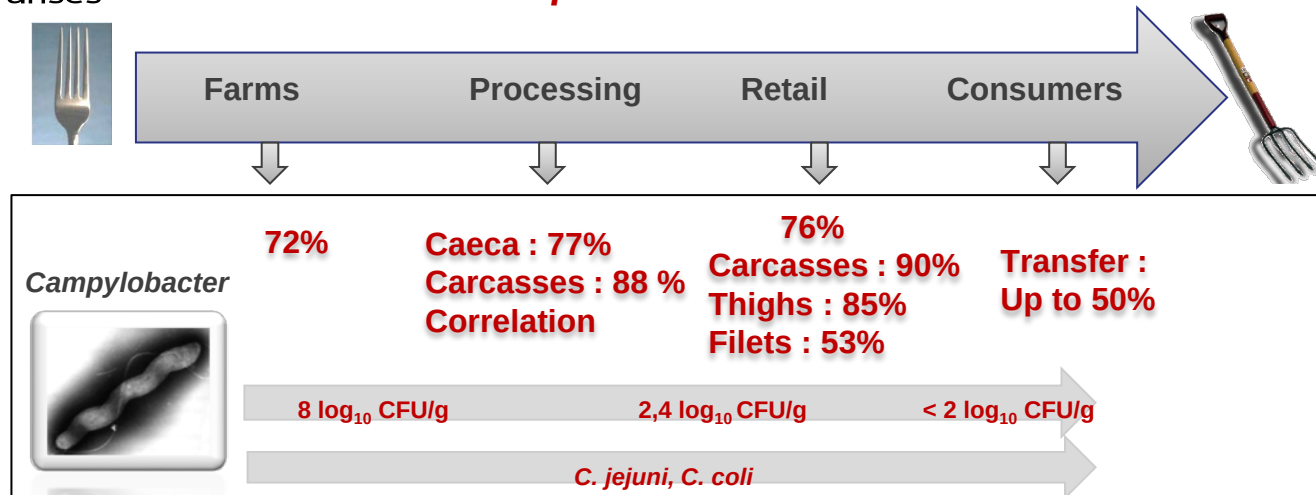
- **Research activities**
 - Control of zoonotic pathogens in poultry and pig productions using a multifactorial approach

1. Risk Assessment Capacity

Risk Assessment

- Hazard identification, Exposure assessment, Risk characterisation ...
 - Data: what, where, and how reliable and representative are they?
 - Not only use but help to identify which data needed
 - Importance of surveillance: informing risk management
 - Foundation of RA: strengthening laboratory and scientific capacity
 - Reference laboratory: strategic role (ex. *Salmonella* and *Campylobacter*)
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Where? How? Overview of the Situation in France



Prevalence of and risk factors for *Campylobacter* spp. contamination of broiler chicken carcasses at the slaughterhouse

Olivier Hue^a, Sophie Le Bouguin^b, Marie-José Laisney^a, Virginie Allain^b, Françoise Lalande^a, Isabelle Petetin^b, Sandra Rouzet^a, Sébastien Quesnel^a, Pierre-Yves Gloguen^a, Mélanie Pichot^d, Julien Santolini^d, Gilles Salvat^a, Stéphanie Bugeard^a, Marianne Chemaly^{a,*}

Prevalence of Thermophilic *Campylobacter* in Cattle Production at Slaughterhouse Level in France and Link Between *C. jejuni* Bovin Strains and Campylobacteriosis

Alexandra Thiébaud^{a,*}, Tyrhanna Prosserova^a, Sébastien Quesnel^a, Valérie Rose^a, Marianne Chemaly^a and Katell Rivaut^a



Prevalence and characterization of *Campylobacter jejuni* from chicken meat sold in French retail outlets

Muriel Guyard-Nicodème^{a,b,c}, Katell Rivaut^{a,b,c}, Emmanuelle Houard^{a,b}, Valérie Rose^{a,b}, Sébastien Quesnel^{a,b}, Cécile Mouton^{a,b}, Sandra Rouzet^{a,b}, Isabelle Kropf^{a,b}, Laurent Guillet^a, Françoise Guehard^a, Marianne Chemaly^{a,b}



British Poultry Science
Publication details, including instructions for authors and subscription information:
<http://www.tandfonline.com/loi/chps20>

Prevalence of a colonisation in rearing period in Dogs and Cats: Reservoirs for Highly Diverse *Campylobacter jejuni* and a Potential Source of Human Exposure

V. Allain^a, M. Chemaly^{a,*}



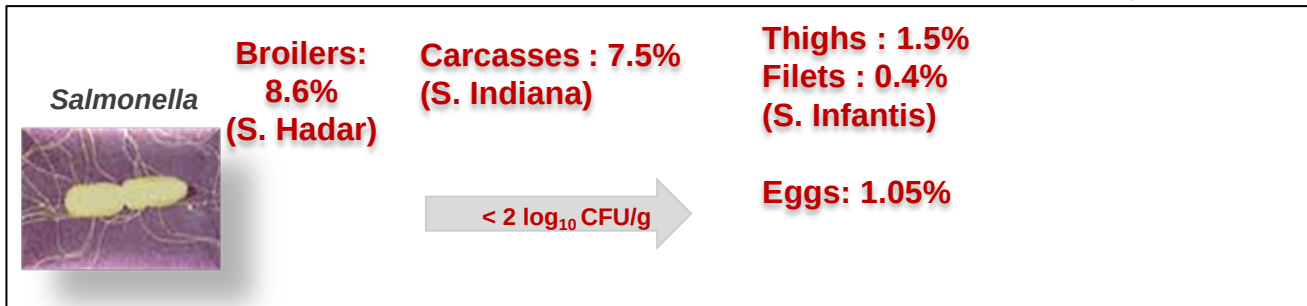
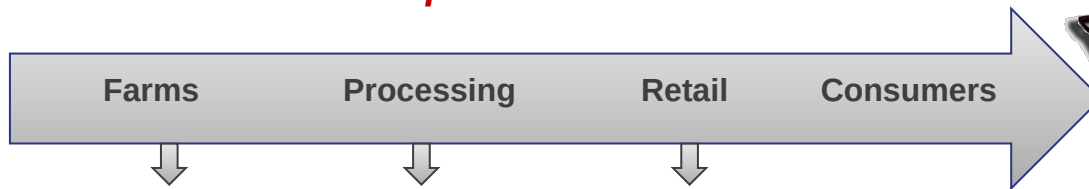
Characterization of *Campylobacter* spp. transferred from naturally contaminated chicken legs to cooked chicken slices via a cutting board

Muriel Guyard-Nicodème^a, Odile Trese^{a,b}, Emmanuelle Houard^a, Florence Jugau^{a,b}, Céline Courtillon^a, Kathleen El Masra^{a,b}, Marie-José Laisney^a, Marianne Chemaly^{a,b}



Where? How?

Overview of the Situation in France



Journal of Food Protection, Vol. 72, No. 10, 2009, Pages 2071–2077
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Isolation of *Salmonella enterica* in Laying-Hen Flocks and Assessment of Eggshell Contamination in France

MARIANNE CHEMALY,^{1,a} ADELIN HUNEAU-SALAÜN,² ANNIE LABBE,³ CATHERINE HOUDAYER,¹ ISABELLE PETETIN,² AND PHILIPPE FRAVALLO³

Preventive Veterinary Medicine 89 (2009) 51–58



Risk factors for *Salmonella enterica* subsp. *enterica* contamination in 519 French laying hen flocks at the end of the laying period

Huneau-Salaün Adeline^a, Chemaly Marianne, Le Bouquin Sophie, Lalande Françoise, Petetin Isabelle, Rouxel Sandra, Michel Virginie, Fravallo Philippe, Rose Nicolas

AFSSA-Piedpoudre, Laboratoire d'Études et de Recherches Avicoles, Porcins et Pédiciles, BP 511 F-20480 Piedpoudre, France



Prevalence of *Salmonella* spp. on broiler chicken carcasses and risk factors at the slaughterhouse in France in 2008

Olivier Hue^a, Sophie Le Bouquin^b, Françoise Lalande^a, Virginie Allain^b, Sandra Rouxel^a, Isabelle Petetin^b, Sébastien Quesne^a, Marie-Josée Laisney^a, Pierre-Yves Gloaguen^a, Mélanie Picherot^a, Gilles Salvar^a, Stéphanie Bougeard^a, Marianne Chemaly^{a,*}

Preventive Veterinary Medicine 97 (2010) 240–251



Prevalence and risk factors for *Salmonella* spp. contamination in French broiler-chicken flocks at the end of the rearing period

S. Le Bouquin^{a,*}, V. Allain^a, S. Rouxel^b, I. Petetin^a, M. Picherot^a, V. Michel^a, M. Chemaly^b

Why: Super bugs across the centuries...

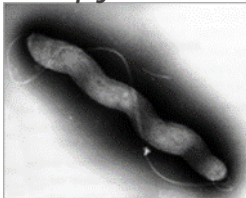
Salmonella



"draft Paratyphi C genome (Ragna) recovered from the 800-year-old skeleton (SK152) of a young woman in Trondheim, Norway. Paratyphi C sequences were recovered from her teeth and bones, suggesting that she died of enteric fever and demonstrating that these bacteria have long caused invasive salmonellosis in Europeans".

Zhou et al. Millennia of Genomic Stability within the Invasive Paratyphi C Lineage of *Salmonella enterica*. Curr Biol, 2018 (doi: 10.1016/j.cub.2018.05.058)

Campylobacter



"Dr. Hall believes a diagnosis of GBS, contracted from a *Campylobacter pylori* infection (common at the time and a frequent cause for GBS), stands the test of scholarly rigour, from both Classical and medical perspectives. She believes he contracted an acute motor axonal neuropathy variant of GBS which produced paralysis".

Katherine Hall. Did Alexander the Great Die from Guillain-Barré Syndrome? *The Ancient History Bulletin*, 2018; Vol. 32: pp. 106-128

Threat to live with?

Improve knowledge for a better management

2. Sustainable Capacity Building



Capacity Building

- Difference between transferring knowledge and building capacity
- Capacity building more sustainable when doing things together
- Experience: much more than a technical report
- Common language between laboratories, epidemiologists, risk assessors and risk managers.
- Mentoring and communities of practice can be particularly useful
- Importance for risk assessment: expertise develops through practice
- Joint projects, mentoring and communities of practice at least at the same level as formal training.



Current twinning project : Côte d'Ivoire and France (Spain and Austria)
"Support for strengthening the food safety system in Côte d'Ivoire"

T2. Organisation of the Competent Services and Internal Functioning of the Veterinary Services

3. International networks



International sustainable connections

- Capacity building should be a two-way process
- Connected systems, institutions with complementary expertise
- AFRAF as a connector within this ecosystem
- Move from isolated capacity-building activities towards a more sustainable system
- Two different experiences as international expert networks



- Request from the Codex Committee on Food Hygiene (52nd Session)
- Management measures worldwide

International sustainable connections

Intensive working time



International networking



Friendly environment



Productive scientific work



The new WHO Alliance for Food Safety.
Enhancing laboratory surveillance and laboratory capacity for safe food worldwide.

What is the WHO Alliance for Food Safety?
Launched in 2024, the WHO Alliance for Food Safety is a network of WHO Collaborating Centres (WHO-CCL) and other partners. Together, they work to share knowledge and coordinate efforts in the implementation of the WHO Global Strategy for Food Safety 2022-2030, with a focus on foodborne disease (FDC) surveillance and food contamination monitoring.

What are the main objectives of the WHO Alliance for Food Safety?

1. Creating an enabling environment for multilateral coordination in food safety surveillance and monitoring.
2. Advancing the existing legal frameworks supporting surveillance and monitoring efforts.
3. Building capacity in public health, animal health, and food safety information.
4. Generating and sharing high-quality data and information.
5. Fostering an exchange of best practices and lessons learned among Alliance members.

How can you engage with the WHO Alliance for Food Safety?
The Alliance also acts as a central place in enhancing laboratory monitoring. It offers laboratory support, laboratory capacity building, and laboratory accreditation. It also provides technical assistance and training to laboratory staff. It also provides technical assistance and training to laboratory staff.

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5 reasons to join the Alliance

1. Enhancing laboratory surveillance and monitoring.
2. Advancing the existing legal frameworks supporting surveillance and monitoring efforts.
3. Building capacity in public health, animal health, and food safety information.
4. Generating and sharing high-quality data and information.
5. Fostering an exchange of best practices and lessons learned among Alliance members.

<https://www.who.int/teams/food-safety-and-food-systems/food-safety/who-alliance-for-food-safety>

Take home messages

- Sustainable risk assessment requires strong scientific and laboratory infrastructures and reliable data.
 - Capacity is best built through joint work, mentoring and communities of practice, rather than through training alone.
 - International cooperation should be based on connected, two-way networks that bring together African and international expertise.
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Thank you!

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