



## **NRL – *Salmonella* ITALY**

**EURL Salmonella workshop 2019**

Veronica Cibir, DVM PhD

NRL Salmonella\_ITALY

vcibir@izsvenezie.it



**The Italian NRL-*Salmonella*** is located at the Risk analysis and public health surveillance Department (**SCS1**) of the Istituto Zooprofilattico Sperimentale delle Venezie (**IZSVe**)

The headquarters of the Istituto Zooprofilattico Sperimentale delle Venezie are located **in Legnaro (Padua)**

**IZSVe is a public veterinary Institute which conducts prevention, control and research activities in three main areas: animal health and welfare, food safety, environmental protection.**

The Institute employs almost 600 people, including veterinarians, biologists, chemists, technicians and administration staff.

It was founded on June, 14, 1929 in Padua and **it is part of a national network that consists of nine other Italian public veterinary institutes (IZSS)**, each of which covers a specific geographical area.



The Istituto Zooprofilattico Sperimentale delle Venezie is currently the **Italian National reference centre** for:

- Avian influenza and Newcastle disease
- Beekeeping
- Diseases at the animal-human interface
- Fish, crustacean and mollusc pathology
- Pet therapy
- Rabies
- Salmonellosis

The IZSve has been appointed as:

- European Union reference laboratory (EURL) for avian influenza and Newcastle disease
- FAO reference centre for animal influenza and Newcastle disease
- FAO reference centre for rabies
- OIE collaborating centre for diseases at the animal/human interface
- OIE collaborating centre for epidemiology, training and control of emerging avian diseases
- OIE reference laboratory for avian influenza and Newcastle disease
- OIE reference laboratory for salmonellosis
- OIE reference laboratory for viral encephalopathy and retinopathy of marine fish

## IZSVe ORGANISATION

Strategic structure

Health structure

Administrative structure

Dr. Antonia Ricci

Risk analysis and public  
health surveillance  
department

Food borne  
pathogens and  
antimicrobial  
resistance

Biofood

Official controls

Microbial Ecology

NRL-Salmonella

The Italian NRL is the reference  
laboratory both for primary production  
and food/feed

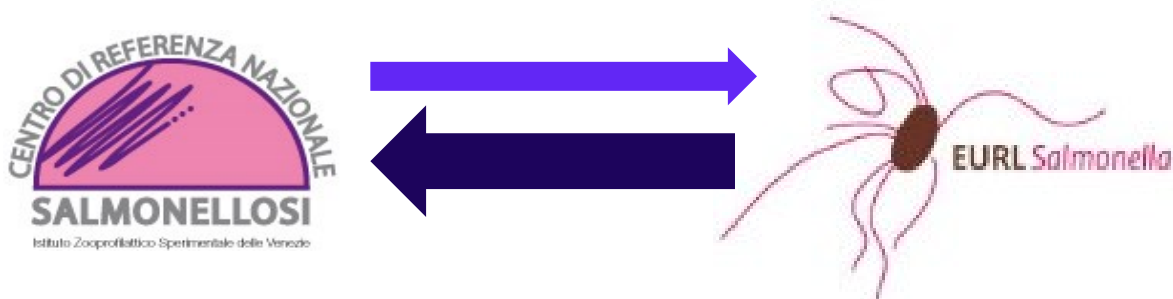




# How the Italian NRL-Salmonella accomplishes tasks and duties of a NRL

Article 101 Regulation EU 625/2017

## Collaboration with the EURL



### Participation in inter-laboratory comparative tests

PT isolation: primary production and food/feed  
PT typing including both serotyping and PFGE  
(PT phage typing)

We would appreciate the organisation of a PT for MLVA and WGS

### Participation in training courses

The last one in 2016 “Training course on PFGE profile analysis” in France (Elena Ramon)

## Coordination of the activities of official laboratories

The official laboratories (OLs) are located at IZSS and analyse official samples collected by the Competent Authority

Each IZS designated one (or two) **local reference laboratory(ies)** that **takes part in the Entervet net** coordinated by the Italian NRL-Salmonella

*Entervet labs are invited to:*

- participate in PTs (isolation and serotyping)
- view the documents/information send by NRL by email and posted in the dedicated moodle platform
- attend the annual meeting (usually organised in the second part of the year)
- send salmonella isolates to NRL (according to national legislation but also strains that OL is not able to type or strains that are considered not frequent for a second opinion)
- contribute in data collection (dedicated web-based DB)
- contribute in foodborne outbreaks investigation

## Organisation of inter-laboratory comparative testing (1)

Dr. Veronica Cibirin  
Responsible for PTs

Dr. Cristina Saccardin responsible for  
the technical aspects

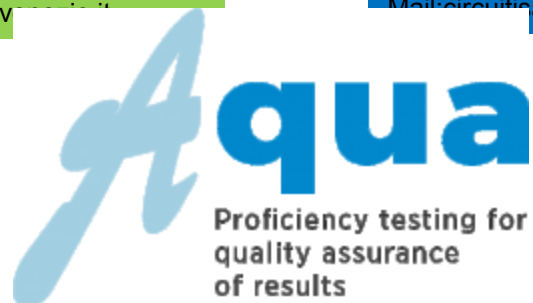
Dr. Paola Pestelli takes care of  
administrative aspects

SA3 and SA4 schemes  
(ISOLATION PP samples )

Mail: [circuitisalmisolamento@izsv.it](mailto:circuitisalmisolamento@izsv.it)

SA1 and SA2 schemes  
(SEROTYPING)

Mail: [circuitisalmisolamento@izsvenezie.it](mailto:circuitisalmisolamento@izsvenezie.it)



The AQUA platform offers **easy data submission, result reporting and reporting performance outcomes** for each participant through the [Aquaweb application](#).

<https://www.izsvenezie.com/activities-services/interlaboratory-proficiency-testing/>



## Organisation of inter-laboratory comparative testing (2)

### SA4 scheme (1)

#### General organisation

Evaluation of the ability of **official laboratories** to isolate *Salmonella* in samples of the **primary production** (no fee)

**All laboratories** that analyse samples collected by CA in the framework of the National Salmonella Control programme should attend

NRL organises **one edition per year** (a limitation to 30 participants per edition is set)

**Results** are considered to be **valid for three years** (until the 31st December of the third year i.e. until 31/12/2021 for the 2018 edition)\*

\*Decided and approved by the National Accreditation Body and the Ministry of Health

In a case of unsatisfactory results ( $\geq 2$  errors) a follow-up is organised (evaluation with NRL of critical aspects, resolution of problems and test repetition)

## Organisation of inter-laboratory comparative testing (3)

SA4 scheme (2)

### Materials.....

Poultry faeces negative for *Salmonella*

Certified Reference Material: Vitroids discs containing 15-80 cfu *Salmonella*

Typhimurium and blank discs (<https://www.sigmaaldrich.com/analytical-chromatography/microbiology/microbiology-products.html?TablePage=108303480>)

Each lab analyses 9 samples (disc+faecal material) and three controls (disc+BPW; faecal material+BPW; BPW)

### .....and methods

ISO 6579-1:2017

Other methods may also be used

## Organisation of inter-laboratory comparative testing (4)

### SA3 scheme (1)

#### General organisation

Evaluation of the ability of **private** laboratories to isolate *Salmonella* in samples of the primary production (for a fee)

**All laboratories that analyse samples collected by FBO in the framework of the National Salmonella Control programme must attend**

NRL organises **two** editions per year (a limitation to 30 participants per edition is set)

Results are considered to be valid for about three years (until the 31st December of the third year i.e. until 31/12/2021 for the 2018 edition)\*

\*Decided and approved by the National Accreditation Body and the Ministry of Health)

In a case of unsatisfactory results ( $\geq 2$  errors) a follow-up is organised (**training at NRL** and evaluation with NRL of critical aspects, resolution of problems and test repetition)

## Organisation of inter-laboratory comparative testing (5)

SA3 scheme (2)

### Materials and methods

All methods used by the lab to analyse samples in the framework of the National Salmonella Control programme must be tested and submitted to evaluation, including alternative methods validated in accordance to EN/ISO 16140.

## Organisation of inter-laboratory comparative testing (6)

### SA1 and SA2 schemes

Evaluation of the ability of **official and private laboratories** to serotype *Salmonella* strains. SA1 participants have to provide a complete antigenic formula (20 strains\*) while SA2 participants have to identify or exclude SE/ST/STMV (10 strains\*)

\*usually the strains from EURL PT are used

NRL organises one edition per year

All laboratories performing serotyping attend (10 OLs and 3 private labs)

Criteria for performance evaluation are those applied by EURL

In a case of unsatisfactory results a follow-up is organised (evaluation with NRL of critical aspects, resolution of problems and test repetition)

## Organisation of inter-laboratory comparative testing (7)

In all cases a **first report is released** few days after the results are submitted just reporting the expected results

A final report with the final judgment of the performance is released as soon as possible (after the follow-up is concluded)

The final report is **send to the participating laboratories for consultation** (*mistakes or misunderstanding may be possible*)

The definitive final report **is published in the AQUA platform** first and after few days **in the public** website (it is also send be email to the Ministry of Health, The National Accreditation Body and the National Reference Centre for Epidemiology\*)

*\*the list of private laboratories authorized to analyse samples in the framework of the national Salmonella Control Programme is updated*

## Provide assistance to the national competent authority

- Support in drafting national monitoring and control plans
- Cooperate with CA in the recognition of private laboratories
- Perform analysis within the National Salmonella Control programme in case of confirmatory sampling
- Participate in national working groups
- Support in evaluation and reporting the national epidemiological situation
- Assist in case of outbreaks



## Supplement of substances and reagents

The NRL has a wide collection of strains that may be distributed upon request

From a technical point of view no problem but.....

.....administrative aspects may be sometime complex....particularly in case of requests form private laboratories.



## As reference laboratory for OIE

Carry out and/or coordinate scientific and technical activities

Provide scientific and technical training for staff

Place expert consultants at the disposal of the OIE





# Thank you for your attention

Dr. Veronica Cibin  
NRL-Salmonella  
IZS delle Venezie, Legnaro (PD)  
+30 049 8084283  
vcibin@izsvenezie.it