

Experience of the first Italian public veterinary institute accredited as provider of food microbiological proficiency testing in conformity to ISO/IEC 17043

Paola Carnieletto, Maria Grimaldi, Marzia Mancin, Romina Trevisan, Fabio Loriggiola, Marica Toson, Stefano Marangon

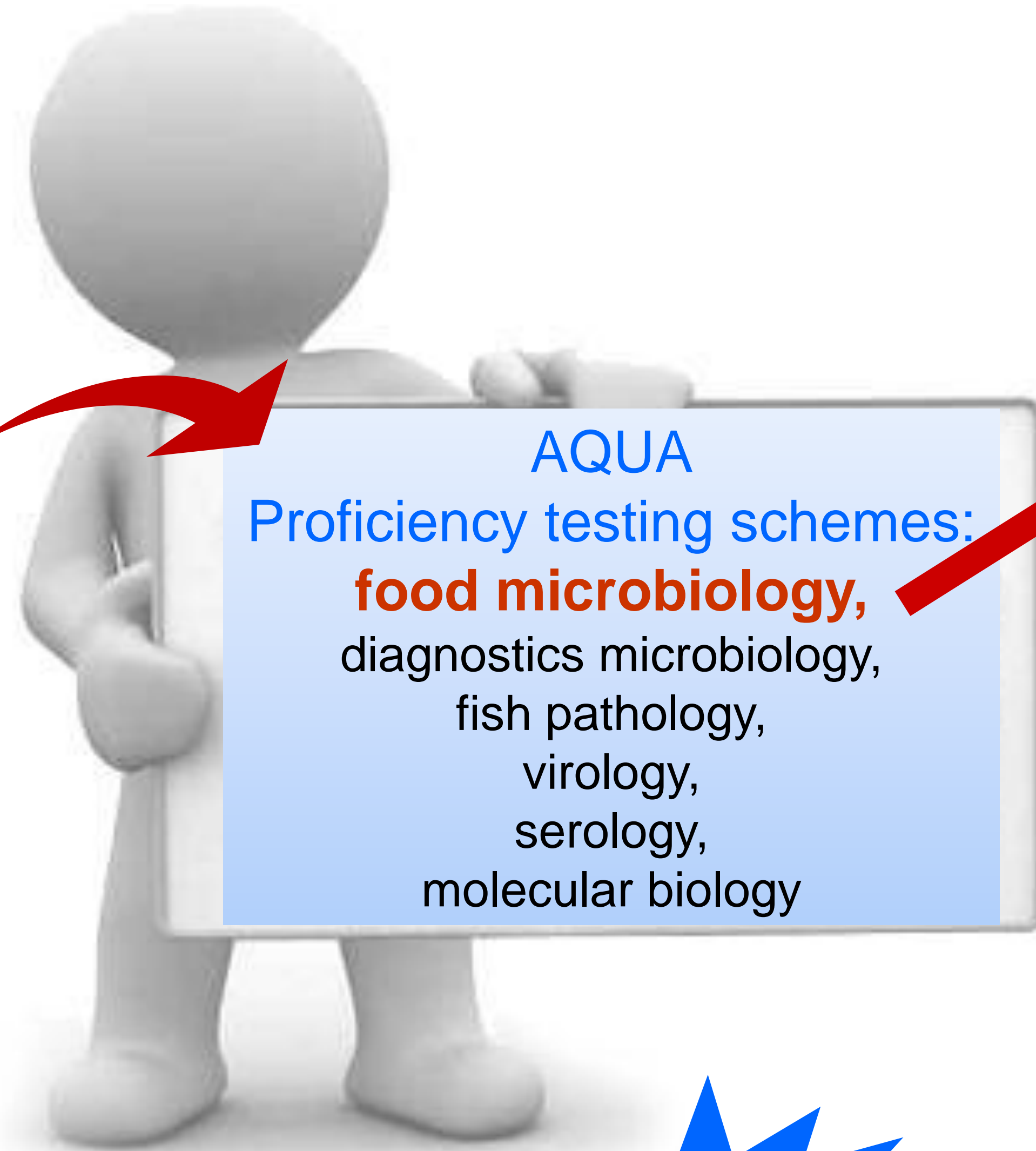
Istituto Zooprofilattico Sperimentale delle Venezie, Viale dell'Università 10, 35020, Legnaro (PD), Italy



ISO 17025
accredited

IZSve promote

- veterinary public health
- animal welfare
- food safety



AQUA
Proficiency testing schemes:
food microbiology,
diagnostics microbiology,
fish pathology,
virology,
serology,
molecular biology

Freeze-dried food
matrices contaminated
with American Type
Culture Collection
bacterial strains



Homogeneity and stability
are verified prior to
distribution to participants
(IUPAC technical report
(2006)) and throughout the
PT (ISO 13528:2005)

Round	Food microbiology Tests
MA1	Enumeration of mesophilic microorganisms Enumeration of coagulase-positive Staphylococci Detection of staphylococcal enterotoxins
MA2	Enumeration of <i>Bacillus cereus</i> Enumeration of <i>Escherichia coli</i> (MPN) Detection of <i>Salmonella</i> spp.
MA3	Enumeration of <i>Campylobacter</i> spp. Detection of <i>Campylobacter</i> spp. Detection of <i>Escherichia coli</i> O157
MA4	Enumeration of <i>Escherichia coli</i> Enumeration of Coliforms Enumeration of Enterobacteriaceae
MA5	Enumeration of <i>Listeria monocytogenes</i> (CFU) Enumeration of <i>Listeria monocytogenes</i> (MPN) Detection of <i>Cronobacter sakazakii</i>
MA6	Detection of <i>Listeria monocytogenes</i> Detection of <i>Yersinia enterocolitica</i>
MA7	Enumeration of sulphite-reducing bacteria Enumeration of <i>Clostridium perfringens</i> Detection of <i>Salmonella</i> spp.

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Performance evaluation:
- **CFU** quantitative method:
z-score obtained using the
assigned value as a
consensus value from
participants and the
standard deviation for
proficiency assessment
equal to $0.25 \log_{10}$
- **MPN** quantitative methods:
range of acceptability
according to the ISO/TS
22117:2010



Accreditation experience

Following the accreditation experience, measures were taken to improve and optimize some managerial aspects. The activities included:

- formalization of a **group of technical experts**, encompassing key figures inside the PT provider itself;
- editing and formalization of the **terms of sale**;
- development of a **web site** for the submission of results from each participant; publication of documents and reports;
- a **customer satisfaction survey**, resulting in 47% feedback, which also provided several valuable suggestions which were used to improve the quality system;
- organization of **two conferences** on ISO/IEC 17043 and PT provider management.

Other activities implemented to enhance the PT program included:

- periodical **re-training** of key personnel for all PT processes, to demonstrate improvements in competences and skills;
- drafting out **annual trend performance reports**, to yearly evaluate the conformity of the PT and to outline any difference between the expected values and the assigned values;
- production of **annual reports** to be submitted to each **participant**, to verify its annual performances.

Bibliography

1) ISO/IEC 17025:2005 – General requirements for the competence of testing and calibration laboratories
2) ISO/IEC 17043:2010 – Conformity assessment – General requirements for proficiency testing;
3) Thompson M., Ellison S.L.R., Wood R., "The International Harmonised Protocol for the Proficiency Testing of Analytical Chemistry Laboratories (IUPAC Technical report)". Pure and Applied Chemistry 78 (1), 145 - 196 (2006 IUPAC);

4) ISO 13528:2005 - Statistical methods for used in proficiency testing by interlaboratory comparisons;
5) ISO/TS 22117:2010 – Microbiology of food and animal feeding stuffs – specific requirements and guidance for proficiency testing by interlaboratory comparison