

The online training program of the EURL for *E. coli* in the years 2020-2021



Image from: <https://accademiadomani.it/pacchetto/>

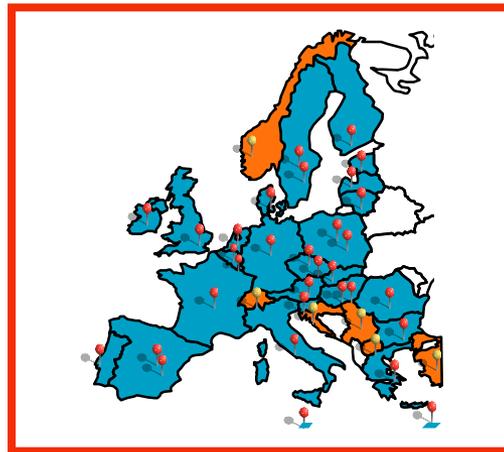


Image from: <https://viaggi.corriere.it/weekend/roma-segrete-gli-itinerari-insoliti-e-i-classici-come-non-li-avete-mai-visti/>

Due to Covid-19 pandemics it was impossible to organize on-site training stages in the years 2020-2021

How to deal with this issue?



Let's do
online
trainings



Starting in 2020 the EURL for *E. coli* training stages have been organized as online events

The training sessions lasted 5 days and consisted in:

Presentations by the EURL for *E. coli* staff

Explanation of practical activities



(with the help of ad hoc recorded videos)



Assignments of hands-on to be carried out by the participants:

Request to the participants of preparing specific materials (e.g. food matrix to be spiked, STEC strain for spiking) was sent in advance, as well as some reagents (primers and probes or test DNAs) to the laboratories requesting them

Thorough discussion on the results or difficulties encountered

First online training session:
Design and preparation of proficiency tests (PTs) on the detection of STEC
in food matrices, 5-9 October 2020

Determination of the uncertainty of measurement associated to the inoculum

Definition of the spiking levels to be used in the
interlaboratory study (salad samples spiked with a STEC strain
present in the *E. coli* reference strains collection of the EURL
for *E. coli*)

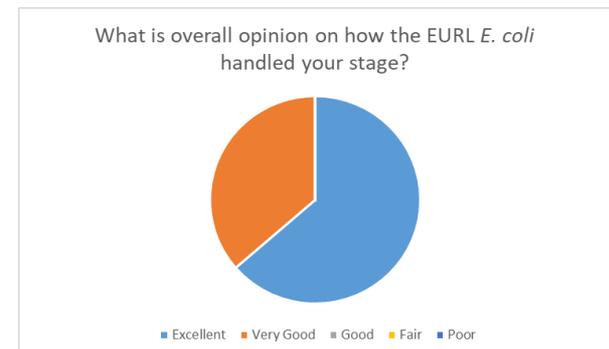
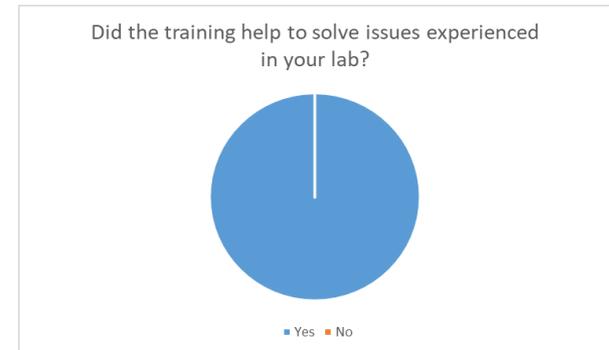
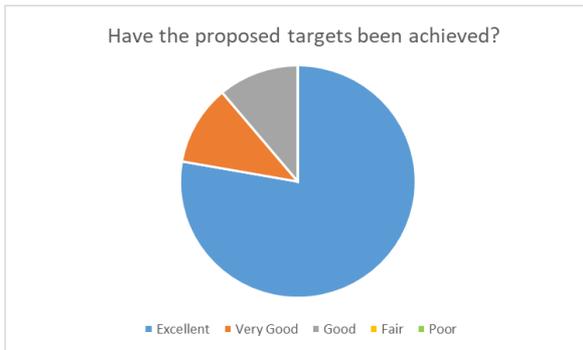


Stability and Homogeneity Tests

Determination of the LOD of the method

Nine scientists participated in the training One EU NRL and two non-EU NRLs

Satisfaction survey (Microsoft Forms)



Second online training session:
identification and characterization of the different groups of pathogenic *E. coli* by Real Time PCR amplification of their virulence genes, 30 November-4 December 2020

38 participants!
 3 EU NRLs
 8 non-EU NRLs
 5 Italian Official Laboratories

Identification of *E. coli* belonging to different pathogroups

Stx-coding genes subtyping



video Training Session - Day 2.mp4

Worksheet of Real Time PCR used by EURL-VTEC lab: Reagents and thermal profile

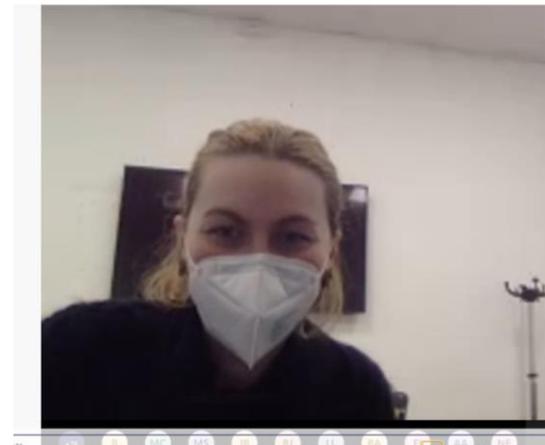
Number: 793 Date: 13/09/2019
 Operator: SILVIA / ARIANNA
 Apparatus: BIOTECHNE
 EvaGreen/SybrGreen TaqMan Probes

Primers and Probes:	Stx ₂ Box	Thermal Profile:
Stx ₂ For/Rev	IAC Hex	95°C 30MIN
IAC For/Rev	For: SC0PE/A	85°C 15 SECONNI
		60°C 60 SECONNI

Test of food matrices by Real Time PCR:

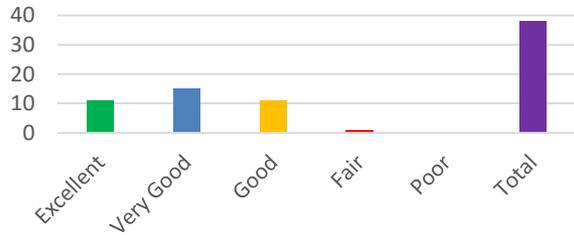
1. It is recommended to use the Internal Amplification Control (IAC)
2. It is recommended to set 40 amplification cycles

video Training Session - Day 2.mp4

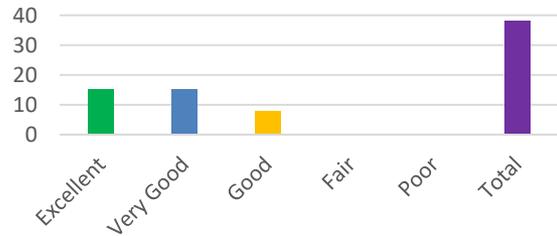


Satisfaction survey

Q1. Have the proposed targets been achieved? Please rate



Q2. What is your opinion of our staff expertise?

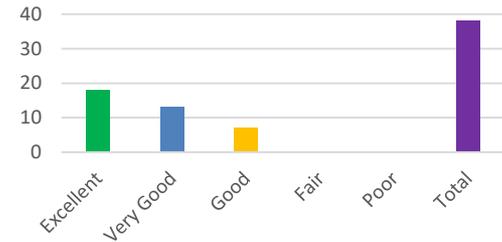


Q3. Did the training help to solve issues experienced in your lab?

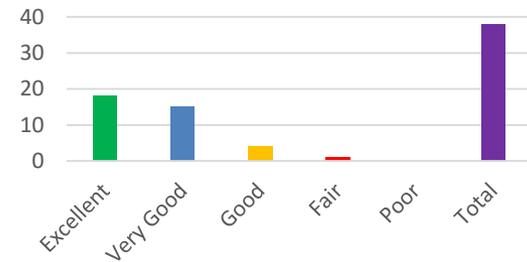


■ No ■ Not Applicable ■ Yes

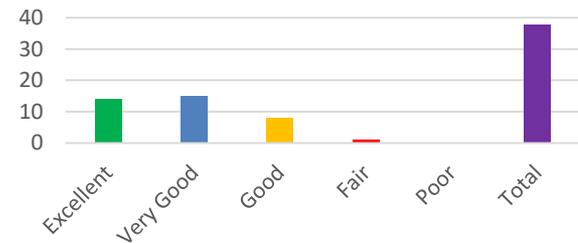
Q4. What is your opinion of our staff commitment with your questions/wishes?



Q5. What is your opinion of our staff communication?



Q6. What is overall opinion on how the EURL E. coli handled your stage?



Training sessions in 2021:

Design and preparation of proficiency tests (PTs) on the detection of STEC in food matrices, 21-25 June 2021 (two participants from 1 NRL)

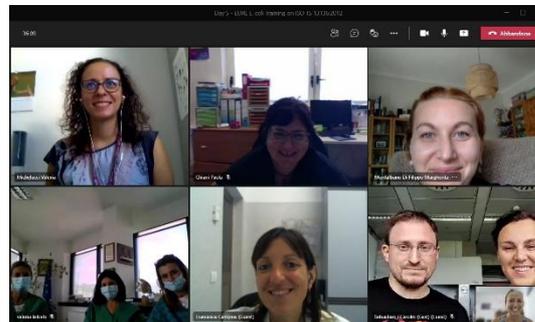
Detection of STEC in food matrices according to the ISO TS 13136:2012 and characterization of the STEC isolated strains

-Contaminated samples shipped to the participating laboratories (6 scientists participating - 1 NRL and 1 Italian OL)

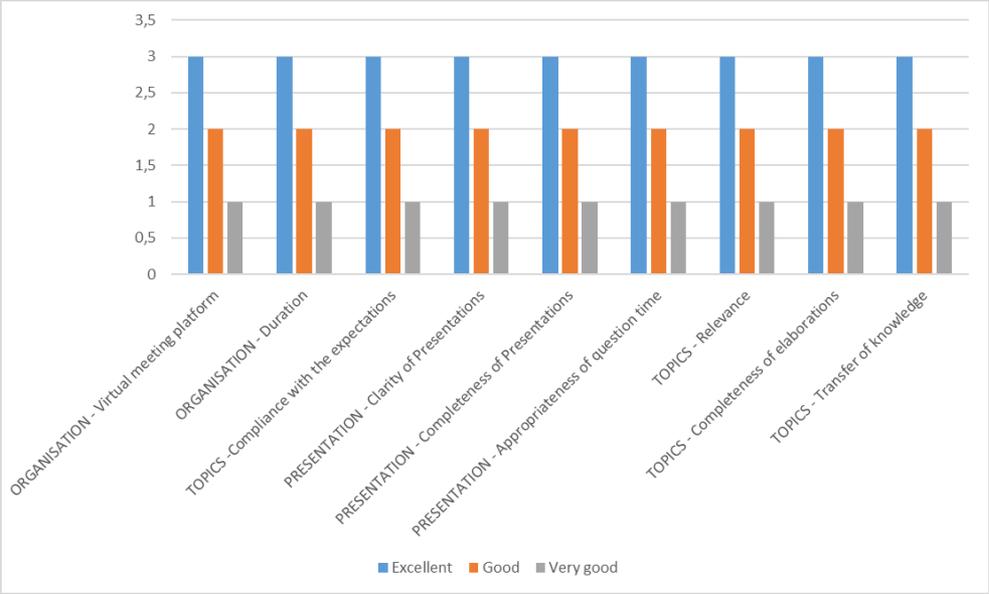
-Application of ISO TS 13136

-Determination of the serogroup of STEC isolated strain

-Determination of *stx*-genes subtypes



Satisfaction
Survey
Training
ISO TS 13136



Starting from this year we have set up a process to verify the effectiveness of the training programs of the EURL for E. coli.

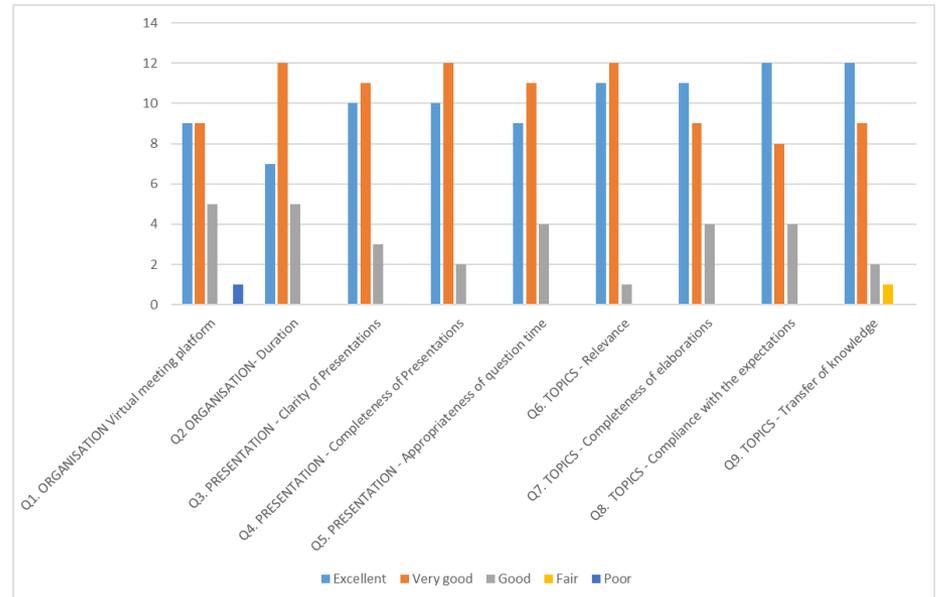
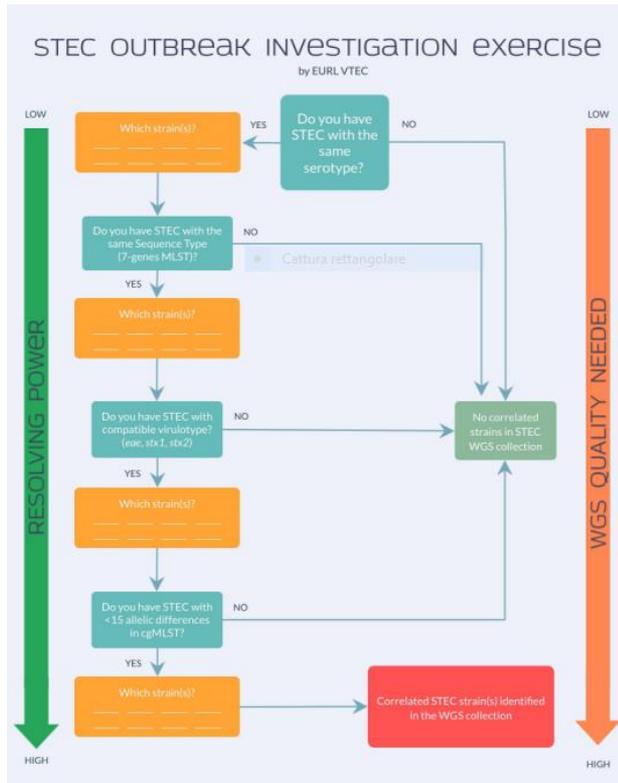
At the end of the training (stage or course) a link to an online form will be sent to the trainees and a week will be granted for completing the exercise
80% of compliance: a certificate of achievement of the training objectives
Less than 80%: certificate of attendance (and possible follow-up)

75% of the trainees this year met the training objectives

Training Course on WGS data use: bioinformatics tools for aiding STEC outbreak investigation

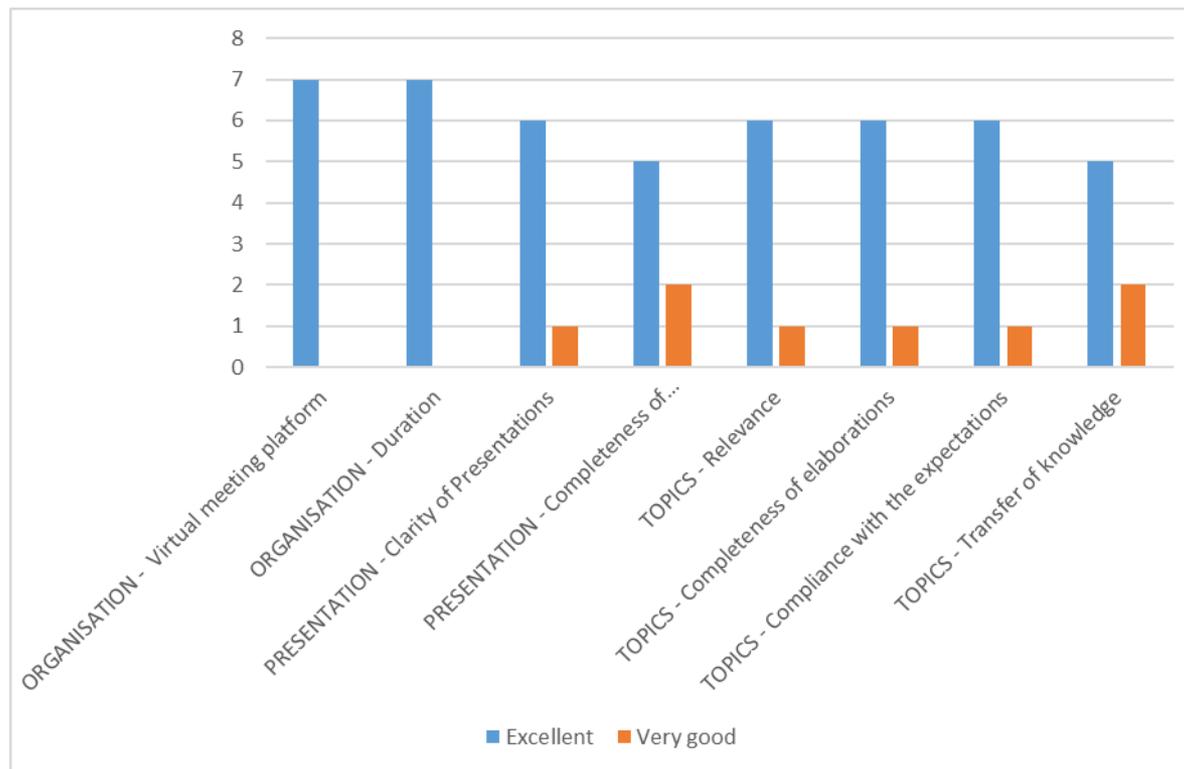
19-20 October, 2020

24 participants



Training Course on WGS data use:
bioinformatics for NGS data mining for typing pathogenic *E. coli*
July 14th-16th, 2021

7 participants



In Summary in 2020 and 2021...

- Online training stages administered to 55 scientists
- Online courses saw the participation of 31 scientists

We're happy of having achieved this goal, nonetheless...

We are really looking forward to hosting trainees at ISS in the next year!!!!

