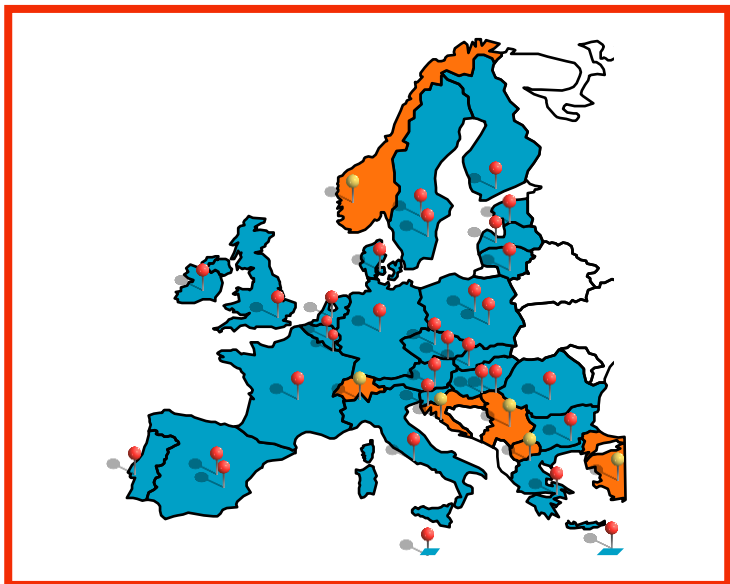


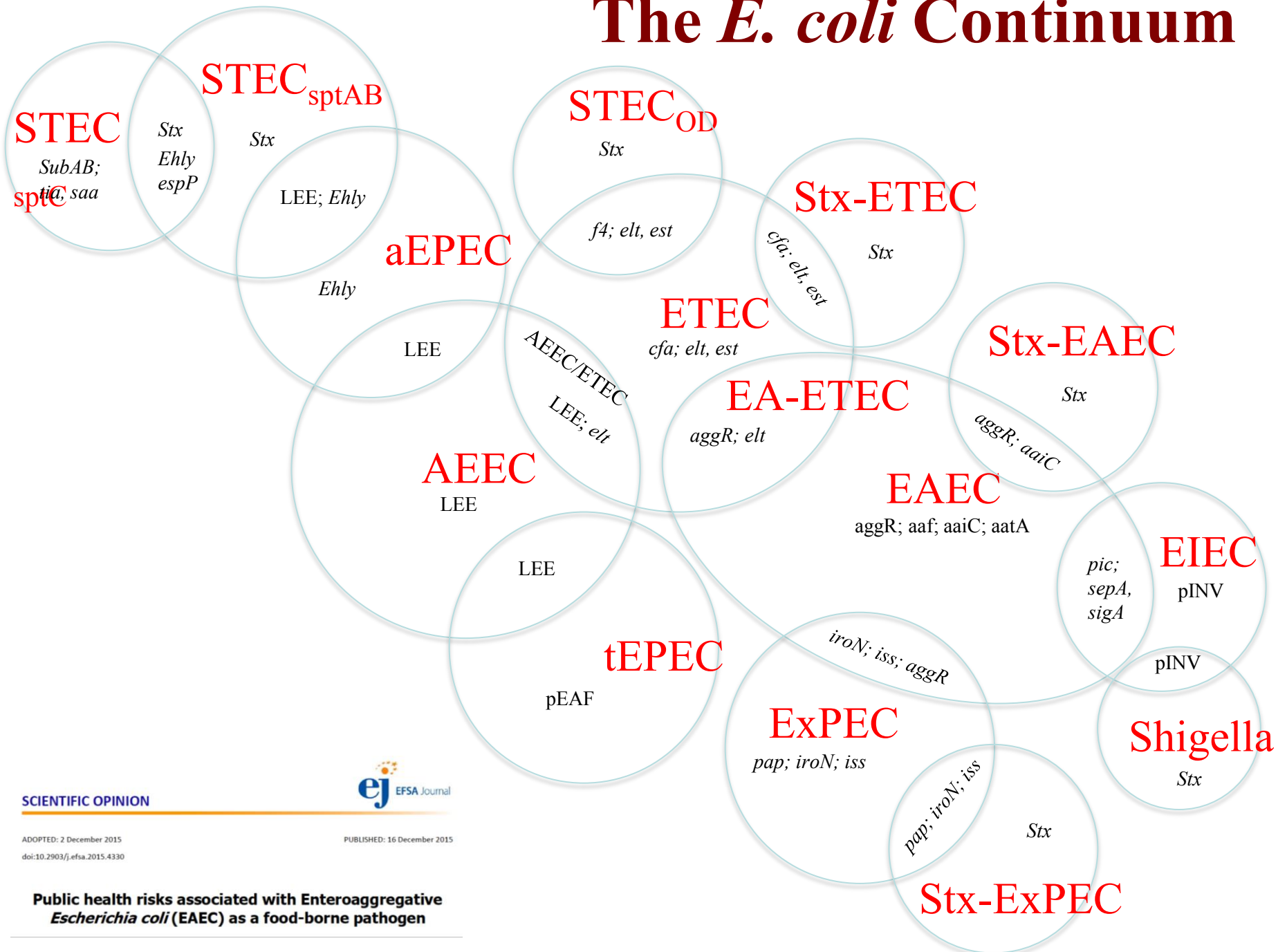
# Summary of the Workshop



# Update on the basic knowledge on *E. coli*

- ✓ **Shigella infections**
  - ✓ Extensive overlapping with EIEC
  - ✓ Proposal to include EIEC in the Shigella standard (ISO 21567)
  - ✓ We have included EIEC in our PT after an outbreak occurred
- ✓ **Metagenomics of STEC infections**
  - ✓ Promising diagnostic tool in the clinical setting
  - ✓ Changes in the intestinal microbiota probably due to disbiosis
  - ✓ Changes in the intestinal microbiota upon STEC infection
- ✓ **Stx2f-producing *E. coli* associated with HUS**
- ✓ **Hybrid clone O80:H2**

# The *E. coli* Continuum

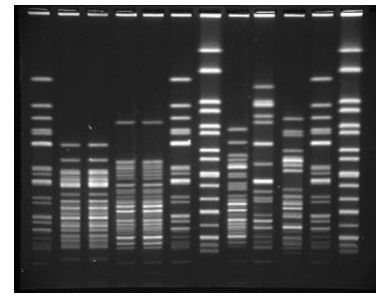


# STEC surveillance/monitoring

## ✓ Evolving epidemiology:

- ✓ *Increasing importance of “unusual VTEC (Stx2f-producing strains, O80:H2)*
- ✓ *Dynamic epidemiology of STEC O26*
- ✓ *New reservoirs / routes of transmission?*

# Molecular typing data bases



- ✓ The joint (ECDC – EFSA) project on a data bases for molecular typing of foodborne pathogens is almost ready to start
- ✓ EFSA is concluding the preparative work for the data collection system
- ✓ Training and EQA provided by the EU-RL to the NRLs represent a robust basis for data collection

# STEC genomics and surveillance/monitoring

## ✓ STEC genomics:

✓ *Many initiatives*

✓ *Public health applications*

✓ *Practical use in typing appears to be on the way .....SSI pipeline, SNP Address (PHE)*

✓ *From PFGE to NGS (no established approaches for STEC yet)*

✓ *It is necessary to understand bioinformatics (no BLACK BOX)*

## **PREPAREDNESS – Detection of VTEC in food**

- ✓ **The standard method ISO/TS 13136:2012 for the detection of VTEC in food was used by 70% of MS providing data on VTEC to EFSA (41% of the reported samples) in 2014**
- ✓ **PT16 and PT17 results indicated that the proposed procedure for the treatment of sprout irrigation water may be suitable for the assessment of the Microcriteria (Reg 209/2013).**
- ✓ **nearly all the European NRLs are now able to apply correctly the ISO/TS 13136:2012 for VTEC**
- ✓ **NRLs should play a leading role in building the OL capacity in their own countries (Training, Ref. Materials, PT organization ...)**

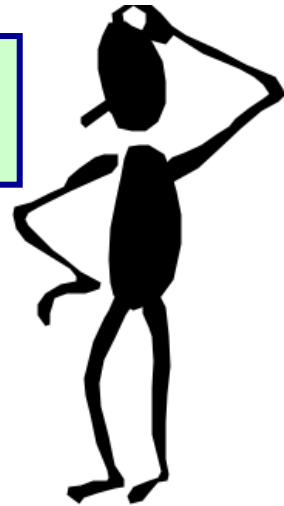
## **PREPAREDNESS – Detection of VTEC in food**

- ✓ **Still proposing PT on contaminated matrices**
- ✓ **Still proposing non-STEC strain identification**
- ✓ **Introduction of WGS (voluntary)?**
- ✓ **More training**
- ✓ **Hands-on training programs on WGS data analysis**



# Detection of VTEC in food

## Revision of the ISO TS 13136



### Full norm

- ✓ Need to improve the enrichment and isolation steps
  - ✓ BPW
  - ✓ Acid treatment
  - ✓ Plating different enrichment broth dilutions
  - ✓ .... On different selective plates

**STEC ARE AN HETEROGENEOUS GROUP OF BACTERIA !**

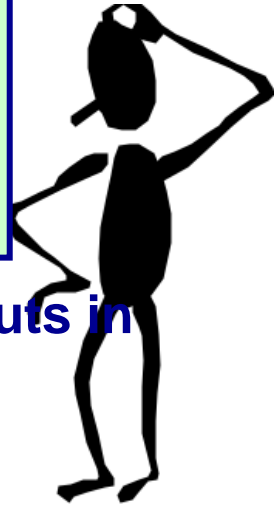
# Revision of ISO/TS 13136:2012

## ✓ Roadmap:

- ✓ Present the outcome of the STEC ad hoc group discussion to CEN and ISO
- ✓ More meetings of STEC ad hoc group
- ✓ Prepare a draft proposal to be subjected to voting on a global scale (ISO)
- ✓ Me retired!

## Outbreak investigation

**Outbreaks have increasing impact  
(severe or multinational)**



- ✓ **Vegetables often involved (Rucola in Finland and UK, sprouts in 2011 outbreak)**
- ✓ **Cheese & dairy important for O26**
- ✓ **Multi aetiology outbreaks**
- ✓ **Collaboration between all the sectors (Agencies, Authorities and ref Labs) is the right way to address them (Coded into a SOP).**
- ✓ **WGS is awesome but sometimes old-fashioned methods may be better!**
- ✓ **Sensitive surveillance systems are effective in identifying the size of the event**

Thank you and .....

... *ARRIVEDERCI*  
to 2017 !!!

maria boronj  
PHOTOGRAPHY

