

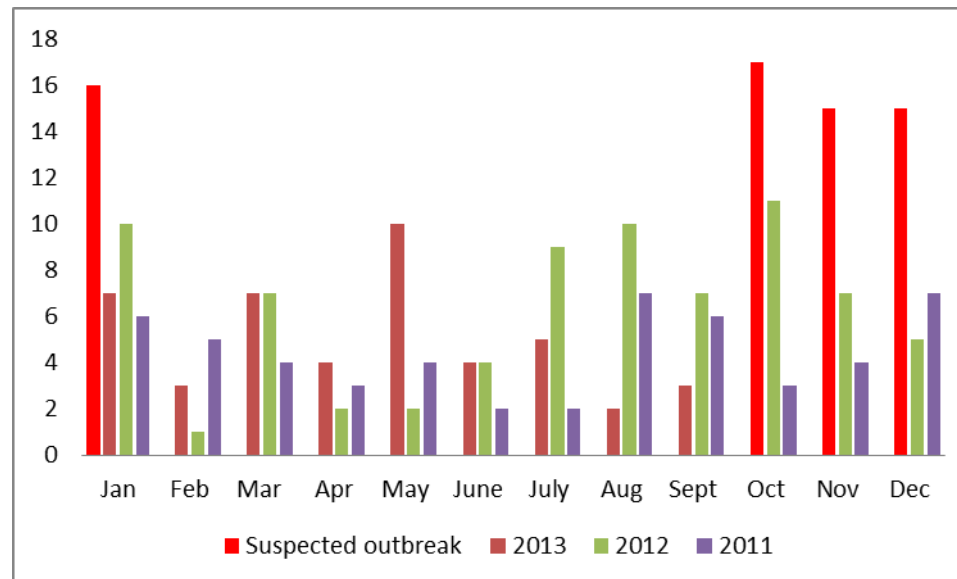
# Nationwide outbreak of listeriosis in Sweden 2013-2014

The Public Health Agency of Sweden

Cecilia Jernberg

# When do you announce "Outbreak!"?

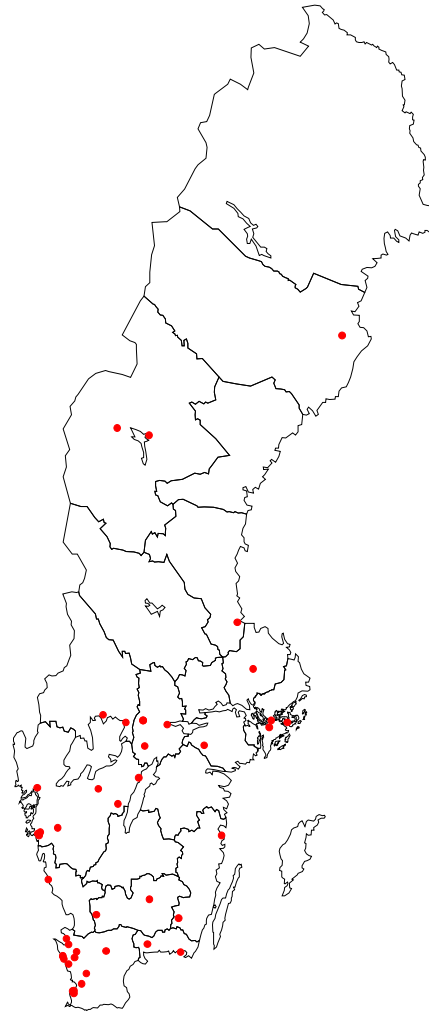
- January 2014 an increase in number of reported cases since October 2013
- Eight cases with the same PFGE profile



# Methods

- All isolates are sent in to the Agency for typing.
- PFGE typing of clinical isolates
- Whole-genome sequencing (WGS)
- Questionnaire, case-control study

# Results



Geographical distribution of cases. Each case is represented by a red dot.

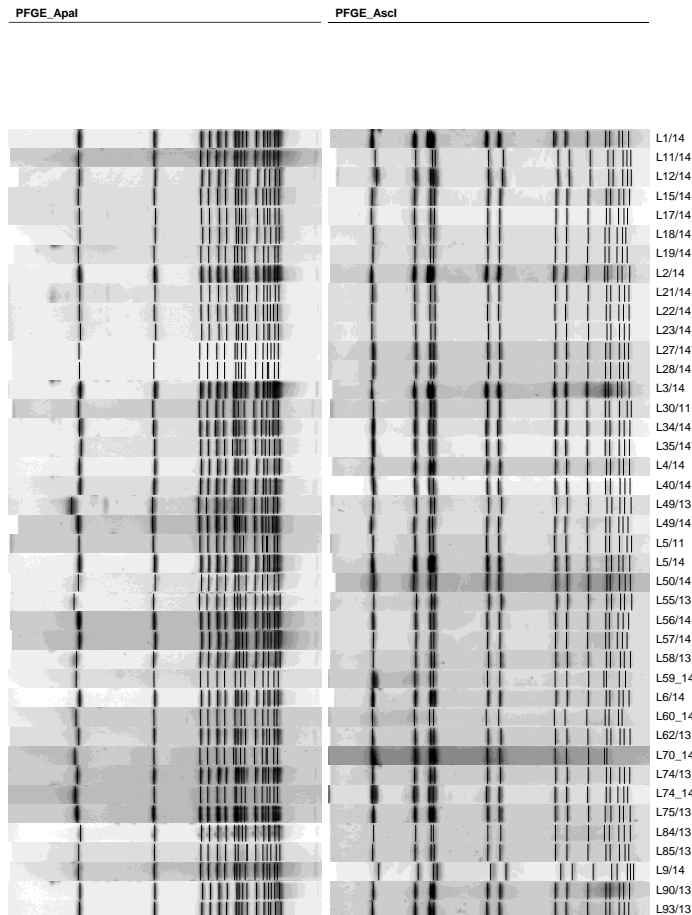
# National Food Agency

Received isolates from companies own control during February and March.

The outbreak PFGE profile found at one company in cold cuts produced on the same production line.



# Outbreak profile.

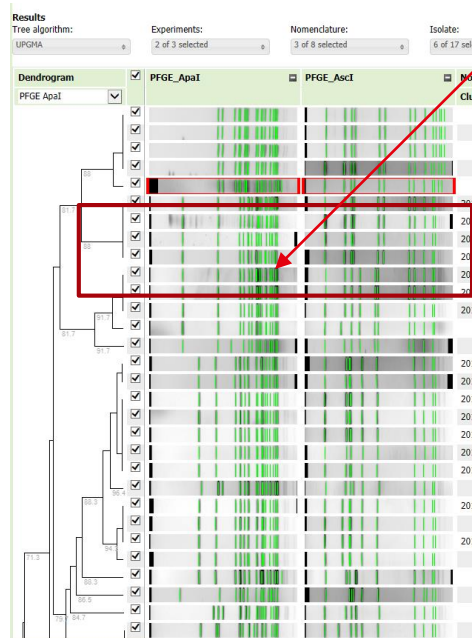


Search in the Agency's  
database:  
The specific profile seen  
sporadically over the  
years

# National or international outbreak?

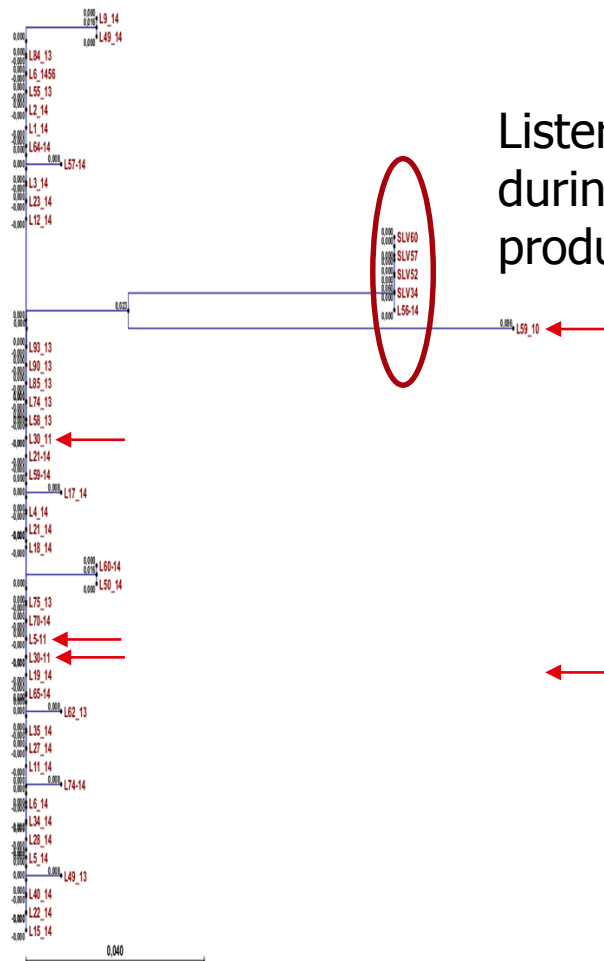
## Search in TESSy MSS

One match – isolate from DK



Uploaded to  
TESSy MSS and  
posted an UI

# WGS case isolates and isolates from Swedish cold cut meats

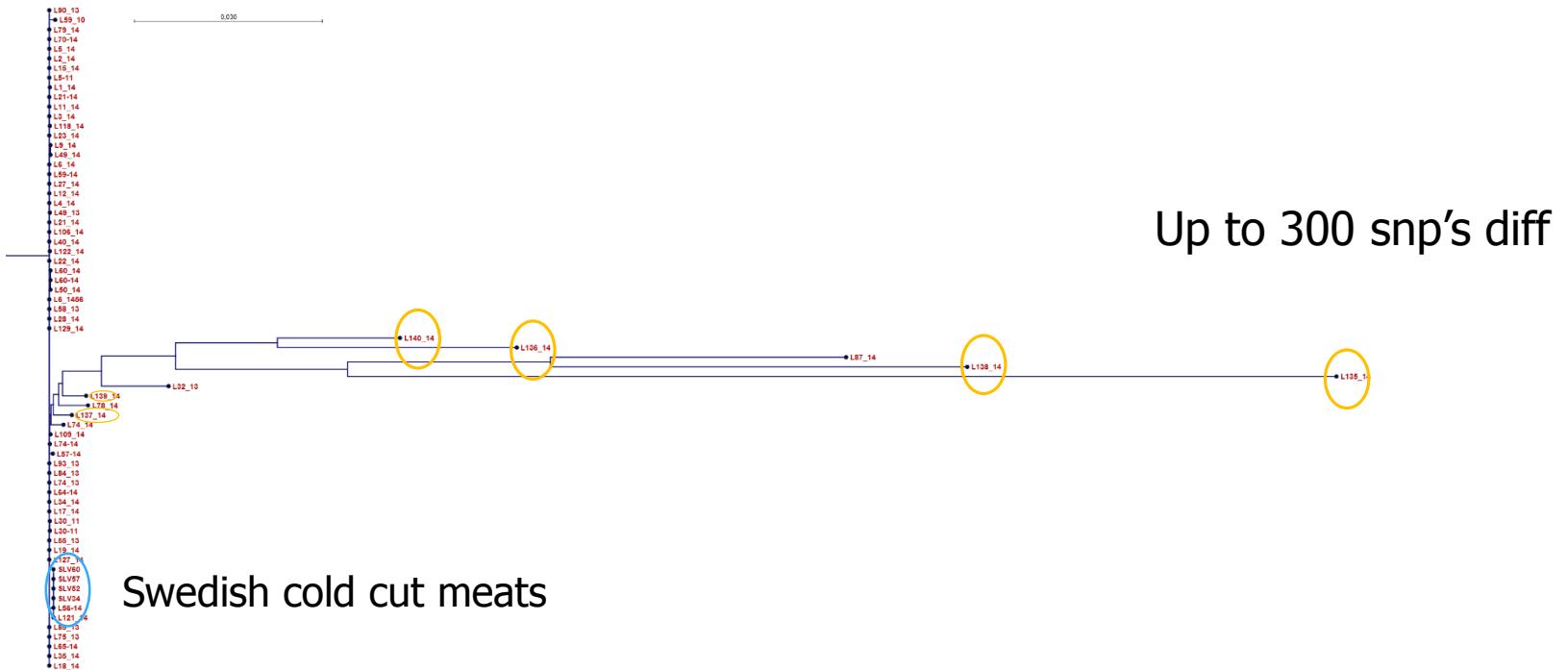


Listeria of the outbreak PFGE profile found during producers own control in cold cuts produced on the same production line.

← = historical isolates with the same PFGE profile



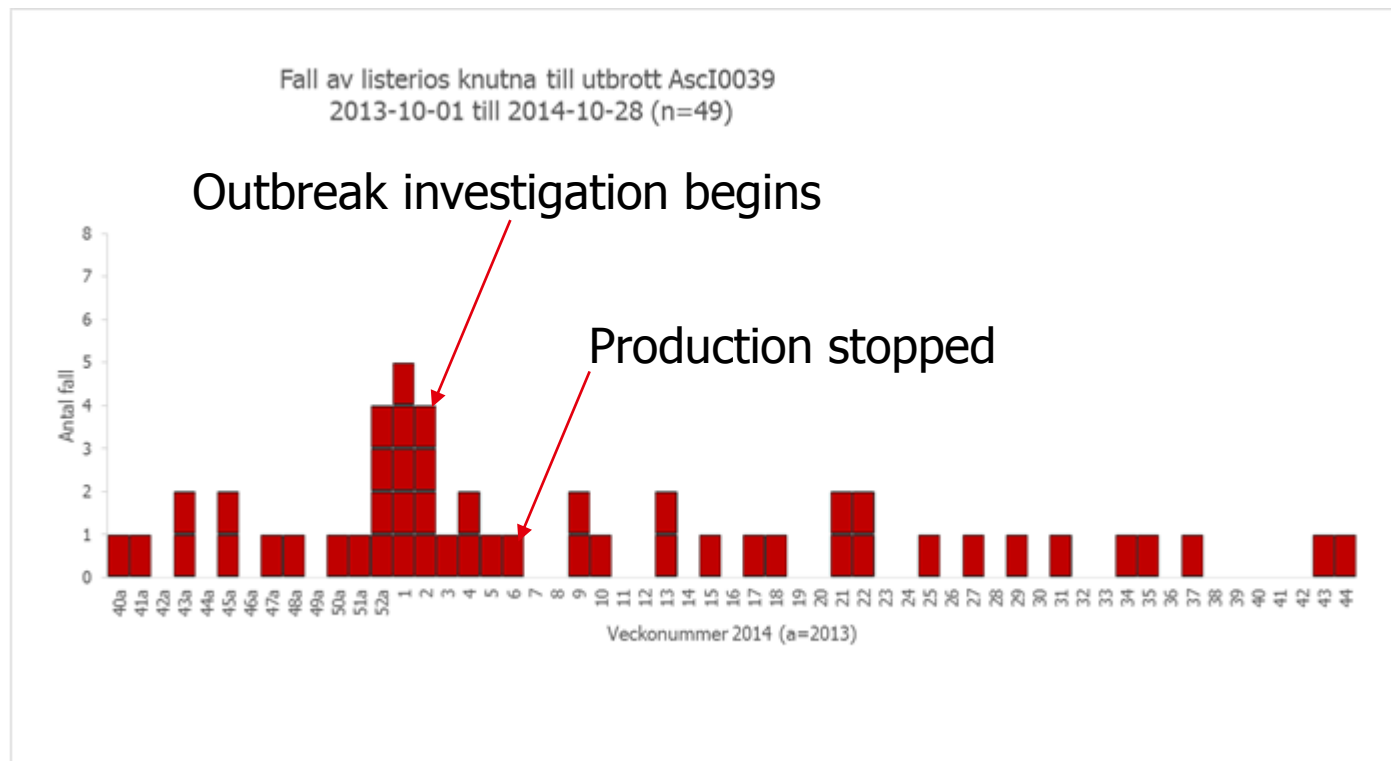
**WGS** patient isolates and isolates from foreign food items.



# Sequence comparison DK isolate



# when is the outbreak over?...



# Exchanging data with Sweden

Their isolate in our pipeline

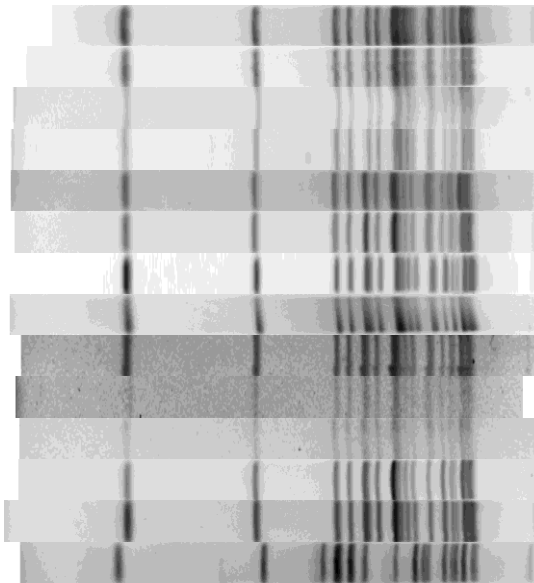
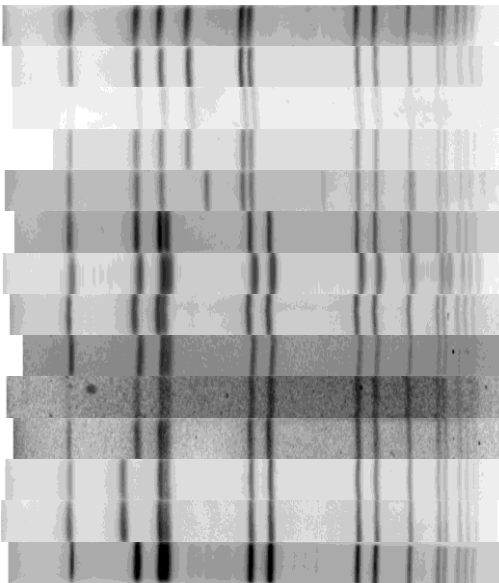
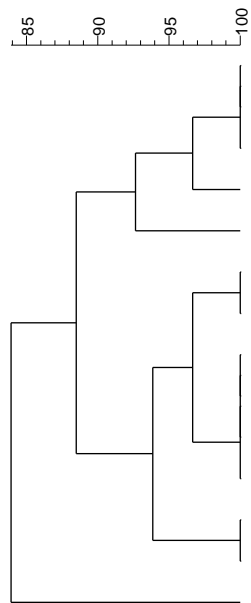
# PFGE

## Sverige udbrudsklon (17 entries)

PFGE-combined

PFGE-Ascl

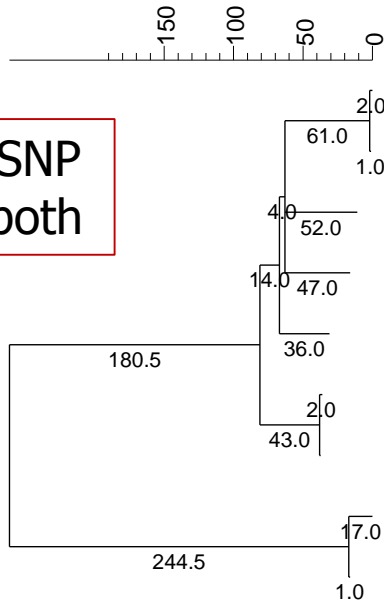
PFGE-Apal



Key

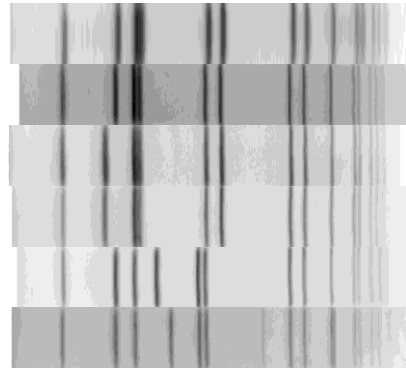


tree from DirtySNP

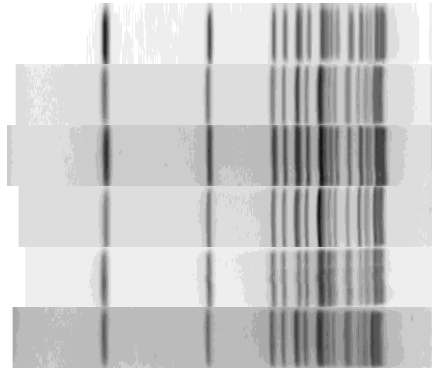


87 SNP  
In both

PFGE-Ascl



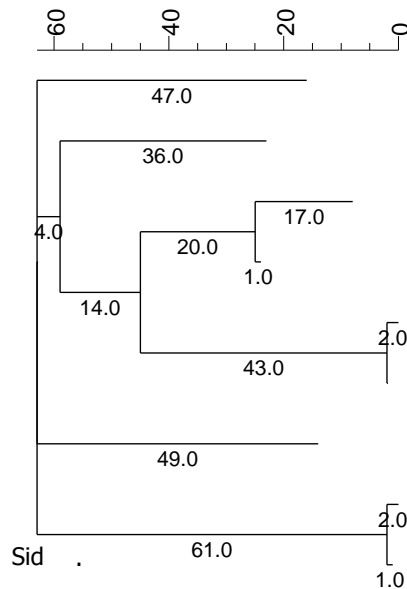
PFGE-Apal



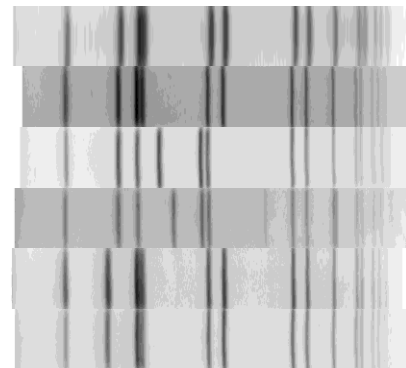
Key

- 0413
- 0413
- 1402
- Sverige FHI 2013-14 klon
- 2014
- 2013
- 2013
- 2005
- 2002

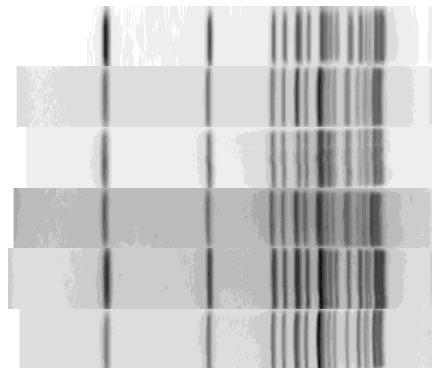
tree from CleanSNP



PFGE-Ascl



PFGE-Apal



Key

- Sverige FHI 2013-14 klon
- 2014
- 2005
- 2002
- 2013
- 2013
- 1402
- 0413
- 0413



# Discarded SNPs

Discaraded SNP

