EC-Questionnaire "WGS methods for foodborne pathogens from food, feed, animal, environment" - Outcomes

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13th Annual Workshop of the National Reference Laboratories for *E. c*oli in the EU, Rome, 18-19 October 2018





EC MANDATE DATA COLLECTION ... TOR 1

EC QUESTIONNAIRE on the availability of Whole Genome Sequencing (WGS) methods for food- and waterborne pathogens isolated from animals, food, feed and animal/ food/ feed environmental samples

SCOPE: to collect information from the MSs and other European countries in order to **make an inventory on the WGS capacity regarding these bacteria.**

Sent to EURL/NRL/OLs (closed December 2016)





ONLINE 🗡 EUSurvey



Some labs have provided a single answer for all NRL networks they represent



QUESTIONNAIRE SECTIONS

- General questions on use of WGS in the lab
- WGS projects on microorganisms
- WGS capacity (in-house, outsourcing)
 - General questions on objectives, strains and running in parallel with other methods
 - Laboratory methods
 - Bioinformatics analysis
- Collaboration and support by EURLs



EC SURVEY: WGS FOR FOOD/WATERBORNE PATHOGENS

Q1. DO YOU CARRY OUT WGS ACTIVITIES? 28% YES (N=154







GENERAL QUESTIONS SECTION:

Q1...DO YOU CARRY OUT WGS... BY RESPONDENT (N=71 respondents)*

Respondent NRLs 18 53% 53% 62% 16 47% 52% 47% 48% 58% 61% 14 67% 12 38% 42% 10 Performing WGS 39% Not performing WGS 8 33% 6 4 2 Λ N:71 Respondents E. coli including Salmonella L. monocytogens Campylobacter Staphylococcus Live bivalbe Antimicrobial VTEC molluscs resistance

*71 respondents corresponding to a total of 182 replies from pathogen specific laboratories acting as NRLs. Analyses of data by "respondents" or by "Network laboratories" provided a similar picture for the whole questionnaire.



GENERAL QUESTIONS SECTION: E. COLI LABS

Q2. WGS, PROJECTS OR ROUTINE ACTIVITIES?



EURL E. coli (VTEC)



Q4. WHAT IS THE OBJECTIVE OF THE WGS ANALYSIS...



BY PATHOGEN SPECIFIC NRLs (N=78 replies)*

*78 replies from pathogen specific laboratories acting as NRLs that perform WGS (information extracted from the 31 NRL respondent).

Other: research, epidemiological markers, etc.



Q4. WHAT IS THE OBJECTIVE OF THE WGS ANALYSIS? E. COLI LABS



Other: research, epidemiological markers (i.e. virulence, resistance, etc).

EURL E. coli (VTEC): outbreak investigation



WGS CAPACITY SECTION: BIONFORMATICS ANALYSIS, E. COLI

Q12. WHICH ANALYSIS (N=14 NRLs)

A wide range of Commercial programs (Bionumerics, CLC-Bio, SeqSphere, etc), open source platforms (Galaxy, Enterobase, BIGSdb, etc), in house pipelines tools (CGE, PHE, ReMatCh, etc)

Q13. WHERE? 11/14 NRLs and 3/4 OLs "In house"

Q13. IF "IN HOUSE...", WHO?





SECTION ON COLLABORATION AND SUPPORT BY EURLS



63)

89%

(45)

59%

Q.14 INTEREST COLLABORATION WITH EURLS? (N=154 respondents)



Needs:

Technical support, protocols, training, workshops, PTs



Thanks for your attention!

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