D-JRP7-5.2 / 2019 LISTADAPT training sessions

JRP7 - LISTADAPT

V0.1 15/02/2020

Responsible Partner: Anses Maisons-Alfort

GENERAL INFORMATION

European Joint Programme full title	Promoting One Health in Europe through joint actions on foodborne zoonoses, antimicrobial resistance and emerging microbiological hazards
European Joint Programme acronym	One Health EJP
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DOCUMENT MANAGEMENT

JRP Deliverable/Report number	D-JRP7-5.2
Join Integrative/Research Project	JRP7 – LISTADAPT
JRP Leader / Report main redactor	Sophie Roussel (Anses) / Laurent Guillier (Anses)
Other contributors	
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Actual submission month	**M27**
Type *R: Document, report* *DEC: Websites, patent filings, videos, etc.* *OTHER*	R
Dissemination level *PU: Public* *CO: confidential, only for members of the consortium (including the Commission Services)*	Public

SLIDES PRESENTED DURING THE 2019 –TRAINING SESSION

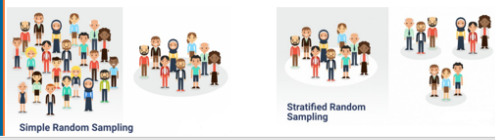
Illustrations of sampling strategies

Case 2: Diversity characterization, source attribution

#1: existing strains collection from **passive surveillance**

#2: existing strains collection from **active surveillance**

#1 or #2: simple random sampling or stratified random sampling



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Illustrations of sampling strategies

Random sampling:

- simple and convenient
- Might be non adapted if strains originated from passive surveillance

Region	Serotype	Systematic random sampling
A	II	x
A	II	
A	II	x
A	II	
A	II	x
A	IV	
B	II	x
C	II	
D	IV	x
D	IV	

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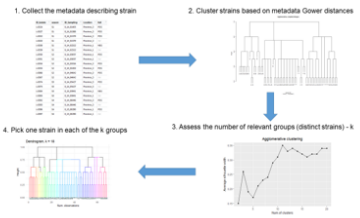
Illustrations of sampling strategies

Random sampling:

- Rather simple and convenient
- Better adapted for selecting strains originated from passive surveillance
- Limitations: number of strata and levels in strata

Region	1. Sampling region	Serotype	2. Random sampling in region strata
A	x	II	x
A		II	
A		II	
A		II	
A		II	
A		IV	
B	x	II	x
C	x	II	x
D	x	IV	x
D		IV	

Method developed in the context of LISTADAPT: Cluster sampling based on metadata



Diapositive 1 de 10 – Français (France)

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Sampling strains based on their metadata

Training EJP LISTADAPT

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Strains to include in a scientific study

Strains selection is not an easy task for scientist

Sampling is crucial for the pertinence/performance of the genomic analysis carried out.

Several strategies of sampling are available and the analysist must adapt to the global objective he has:

- Random sampling
- Stratified random sampling
- Cluster sampling

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Illustrations of sampling strategies

Case 1: exposure assessment

The analysist wants to assess to which strains consumers are exposed to.

Samples are taken proportionally to consumption data (if a food company presents 25% of sales, 25% of samples will be taken

	% market	% samples
A	1	0
B	25	26
C	10	10
D	20	21
...	...	
Z	8	8

Illustrations of sampling strategies

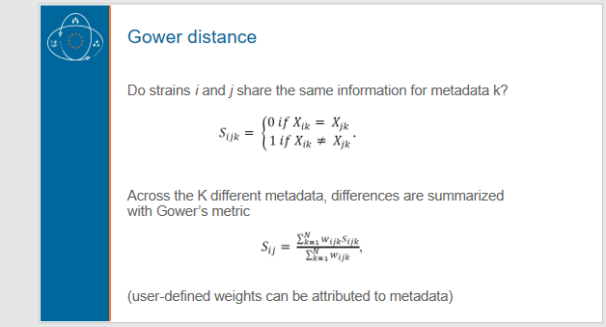
Case 1: exposure assessment

e.g. EFSA Baseline survey : most consumed product are samples

Resulting strain collection is representative of exposure

Use in risk assessment (Fritsch et al. 2019, MRA)

CCs	Number of isolates	Total	Virulence group
CC1	1		
CC2	4		
CC6	10		
CC7	8	37 (12.6%)	Hyper
CC87	6		
CC101	7		
CC451	1		
CC3	9		
CC5	1		
CC8	49		
CC14	5		
CC20	4		
CC21	1	105 (35.7%)	Medium
CC59	6		
CC177	1		
CC155	24		
CC403	4		
new CC	1		
CC9	37		
CC121	93		
CC19	3	152 (51.7%)	Hypo
CC31	5		
CC193	4		
CC204	8		
ST124	2		
Total	294		



2019-Training session Information

Organizers	Date	Domain	Subject	Tools	Support	Maximum number of attendees (LISTADAPT members, NRL Lm, EJP OH member)	Contact persons
ANSES Maisons-Alfort	9th April 2019	Sampling	Sampling strains according to metadata	R	Meeting, script	8	Laurent Guillier, Yann Sevellec, Benjamin Felix