

SCORING TOOLS TO QUANTITATIVELY ASSESS BIOSECURITY COMPLIANCE IN COMMERCIAL ENCLOSED AND FREE-RANGE POULTRY



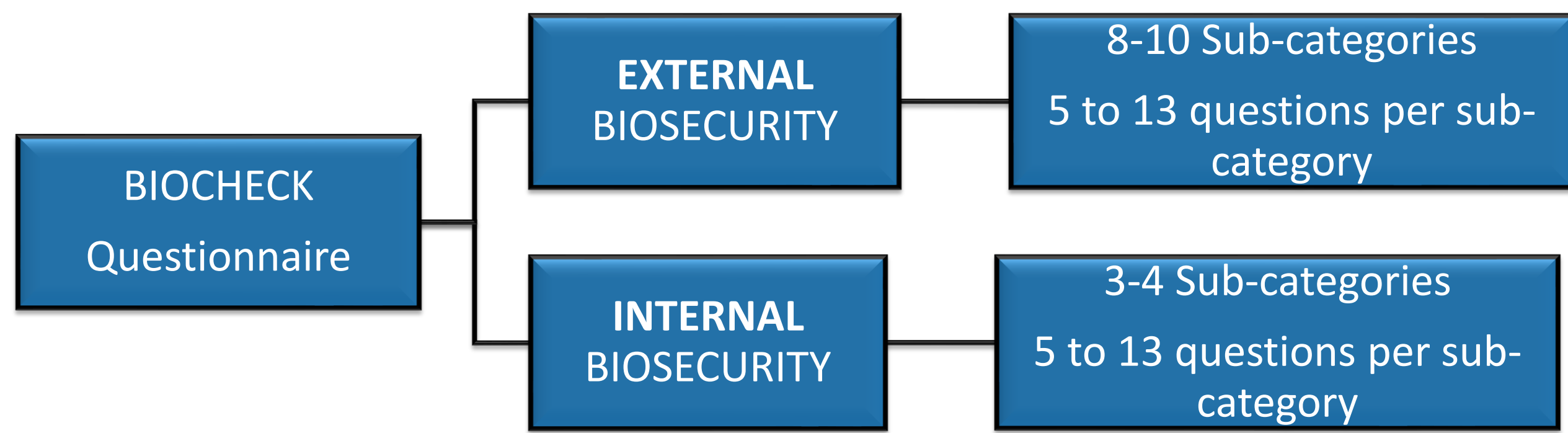
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OBJECTIVES

- To objectively compare the biosecurity level between poultry farms or within a farm over time.
- To develop tools that quantify biosecurity levels in conventional indoor and free-range poultry systems



WHAT IS BIOCHECK.UGENT ?



- Risk-based scoring tool to assess on-farm (external and internal) biosecurity
- Answers converted to scores : 0 (bad) to 100 (best)
- Finds poor compliance areas
- Finds low risk group to high risk group farms
- Lower impact of disease outbreak if biosecurity compliance checked and corrected
- **Worldwide coverage:** Languages - English, Dutch, Finnish, French, German, Italian, Spanish, Chinese, Russian, Albanian, Vietnamese, ...
- **Country average score for comparison :** If survey filled > 40 times in a country

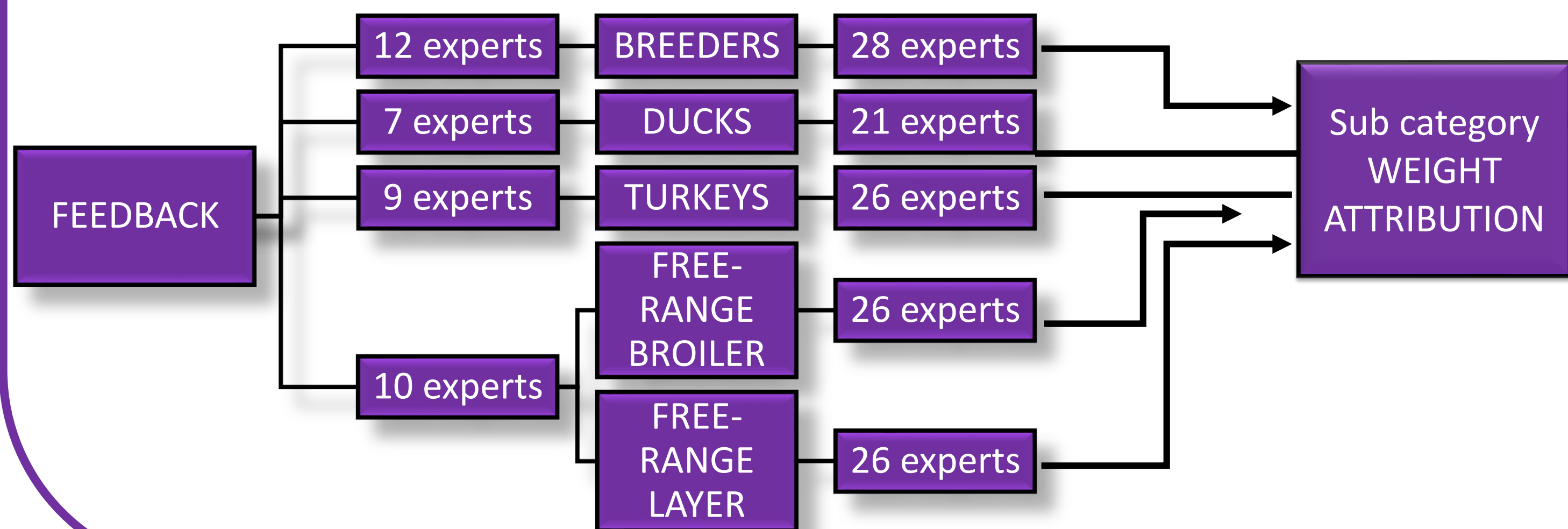
METHODOLOGY

Part 1 - Existing Biocheck.Ugent Broiler and Layer adapted to ducks, turkey, breeders and free-range poultry

Part 2 - Panel of EU poultry experts recruited for:

- Feedback on questionnaire
- Weight assignment to subcategories (method of Gore, 1987)
- Weight assignment to questions (method of Gore, 1987)

Part 3 - New versions pre-tested by "NETPOULSAFE" partners



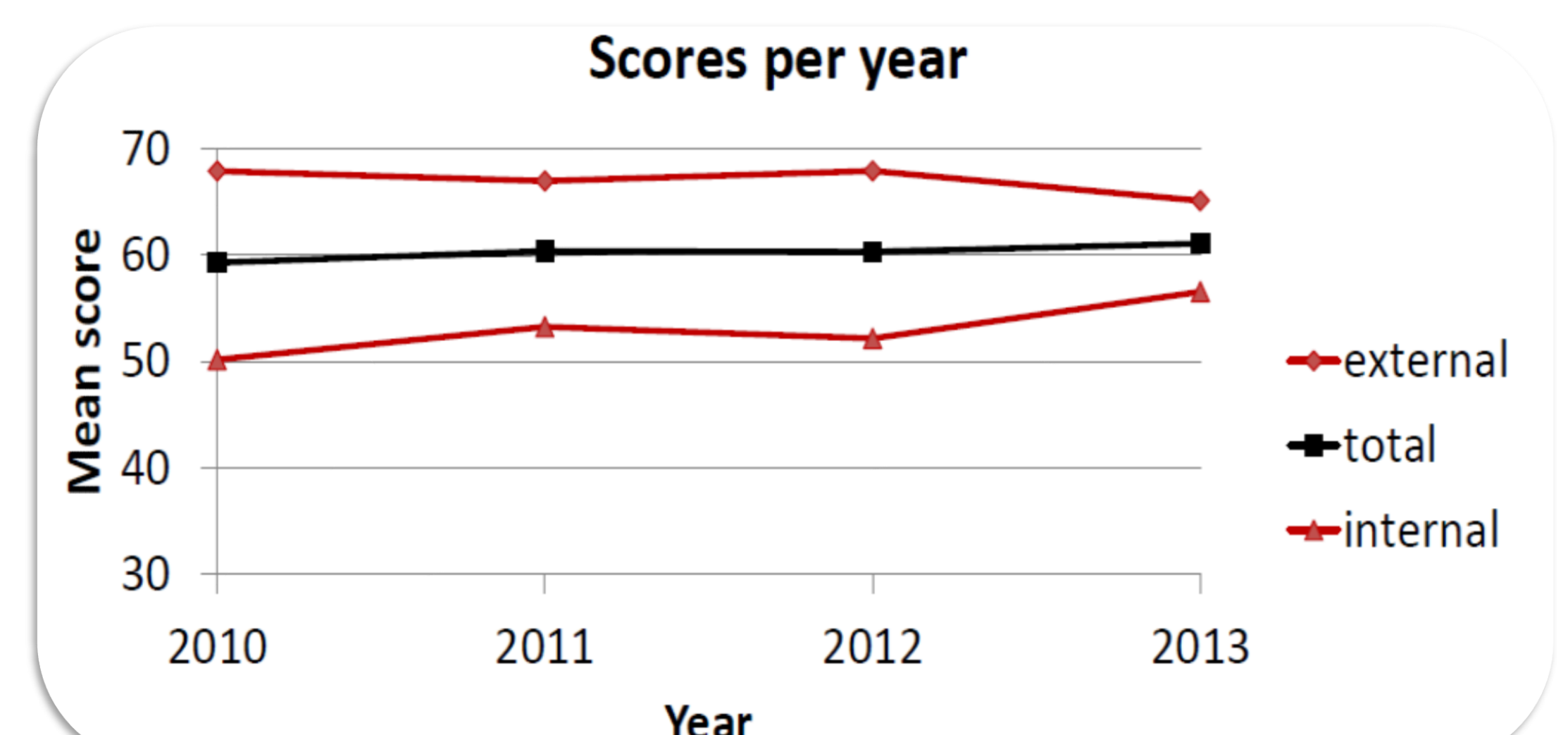
BIOCHECK SCORING SYSTEM

- Full points if biosecurity measure done
- Half points for partially doing it right
- Points for not performing a certain action (e.g. No equipment sharing between farms).
- Score per question **X** weight of question
- Sum of Subcategory scores = '0' (**NO** biosecurity) to '100' (perfect biosecurity)
- Overall farm score = Mean of the external and internal biosecurity score
- Provides world average to compare with

BASIC REPORT of Biocheck.Ugent Laying Hens

Subcategory	Your score	World average
External biosecurity		
A. Purchase of one-day-old chicks	N/A	67 %
B. Purchase of laying hens	0 %	75 %
C. Depopulation and transport of hens	0 %	49 %
D. Transport of eggs	8 %	48 %
E. Feed and water	46 %	53 %
F. Removal of manure and carcasses	100 %	50 %
G. Visitors and farmworkers	100 %	69 %
H. Material supply	100 %	61 %
I. Infrastructure and biological vectors	100 %	63 %
J. Location of the farm	100 %	63 %
Subtotal External biosecurity	60 %	59 %
Internal biosecurity		
K. Disease management	17 %	78 %
L. Cleaning and disinfection	0 %	71 %
M. Materials and measures between compartments	40 %	58 %
N. Egg management	32 %	65 %
Subtotal Internal biosecurity	20 %	71 %
Total	40 %	65 %

Evolution of scores indicates level of biosecurity compliance



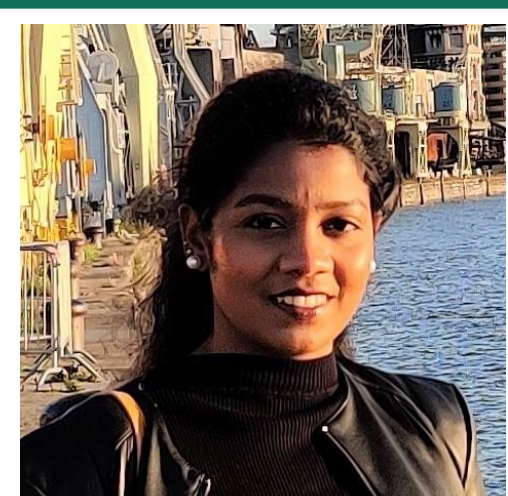
RESULTS * : MEAN BIOSECURITY SCORES OF FEW COUNTRIES WITHIN THE EU

- Good EXTERNAL biosecurity in participating broiler farms of BE and NL
- Good INTERNAL biosecurity in participating layer farms of Finland and Ireland

Country	Broiler National Average		Country	Layers National Average	
	Subtotal External biosecurity (%)	Subtotal Internal biosecurity (%)		Subtotal External biosecurity (%)	Subtotal Internal biosecurity (%)
Belgium (BE) (n=200)	65	62	Finland (n=49)	53	66
The Netherlands (NL) (n=48)	70	65	Ireland (n=110)	68	86
Ireland (n=386)	65	75			

*Pre-existing Data and not from the current study.

ACKNOWLEDGEMENT : Research funded by the H2020, under the Grant Agreement number: 101000728 (NetPoulSafe project)



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