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NetPoulSafe

OPTIMISING BIOSECURITY IN POULTRY PRODUCTION:
development of quantification tools "Biocheck.UGent scoring system", farmer profiling with regard to biosecurity and evaluation of on-farm coaching

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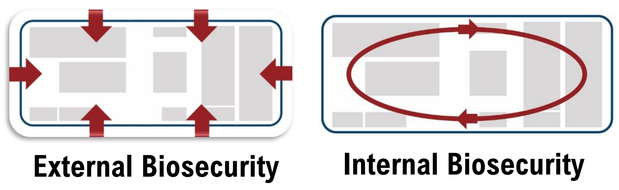
Objective 1. Design and development of a risk-based weighted scoring system to measure farm biosecurity level.

Biosecurity - preventing disease spread and safeguarding sustainable poultry production.



FREE

biocheck .ugent

Farm inspection + Filling questionnaire = 30-60 minutes
Data entry into website = 15 minutes
Report generated < 1 minute

Question	Weight of the question	Best answer	Best score	Intermediate answer	Intermediate score	Worst answer	Worst score
Does the farm follow a written biosecurity plan?	15	yes	1	/	/	no	0
Weighted score		15		/		0	

Table 1. Risk-based weighted scoring system
Weighted score = Score per question **X** weight of question

	Subcategory	Farm score	World Average
	External biosecurity		
A.	Infrastructure, location and housing	57 %	57 %
B.	Organization of the farm and supply of materials	47 %	68 %
C.	Visitors and personnel (drivers / farmworkers / catching crew/ veterinarian)	75 %	67 %
D.	Purchase of one-day-old chicks/ turkey poults/ducklings	NA	NA
E.	Purchase of adult	100 %	92 %
F.	Depopulation and transport of poultry (depopulation: slaughterhouse, traders, individuals)	100 %	81 %
G.	Transport of eggs	20 %	42 %
H.	Feed and water supply	91 %	90 %
I	Manure and carcass removal	54 %	68 %
	Subtotal External biosecurity	67 %	70 %
	Internal Biosecurity		
J.	Disease management	84 %	75 %
K.	Measures between compartments	NA %	56 %
L.	Cleaning and disinfection	76 %	77 %
M.	Egg management.	65 %	86 %
	Subtotal Internal biosecurity	76 %	76 %
	Total farm score	70 %	72 %

Table 2. Biocheck report presenting scores
Range of subcategory scores : '0' (NO biosecurity) to '100' (Full biosecurity)
Total farm score = Mean of the external and internal biosecurity score

Objective 2. To explore farmers' attitudes towards recommended biosecurity practices.

Study design

Participating countries

Poultry farms (n=155)
Belgium (n=18)
The Netherlands (n=16)
France (n=21)
Spain (n=23)
Italy (n=26)
Hungary (n=30)
Poland (n=21)

Production type

Enclosed broiler (n=35)
Enclosed layer (n=22)
Free-range layer (n=11)
Free-range broiler (n=11)
Turkey (n=19)
Breeder (n=24)
Ducks (n=23)
Hatcheries (n=10)

Methodology

ADKAR profiling technique

The attitude towards biosecurity was scored and each element received a score between 1 and 5.

A D K A R

score of 3 or less will affect acceptance to any change.

ADKAR® is an acronym for Awareness, Desire, Knowledge, Ability, and Reinforcement and was adapted from change management model by Hiatt, 2006

Results

10% of producers lacked awareness
Knowledge was limiting barrier for 20% farmers
No desire to change in 15% farmers
Inability to change in 20% farmers

Objective 3. Coaching Belgian poultry farmers (n=15) towards better biosecurity compliance.

- Coaching is a non-directive questioning and interaction method for a sustained behavioral change.

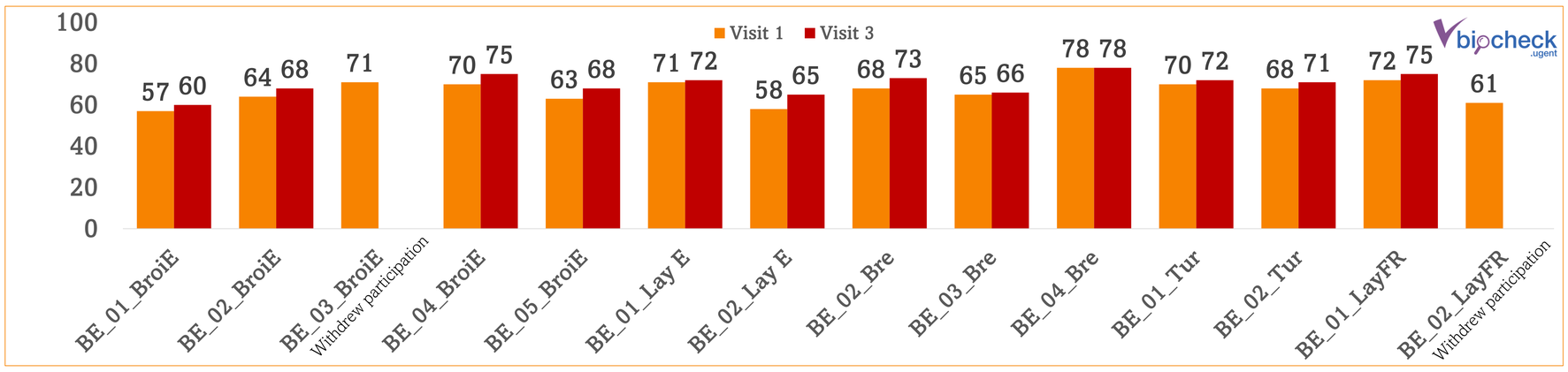


Figure 1. Total biosecurity score (%) of poultry farms before and after (6 months of) coaching

Take home message: The poultry farming community has a diverse approach toward biosecurity. The driving forces behind these elements should be investigated deeper in order to implement biosecurity measures more regularly for disease prevention.

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