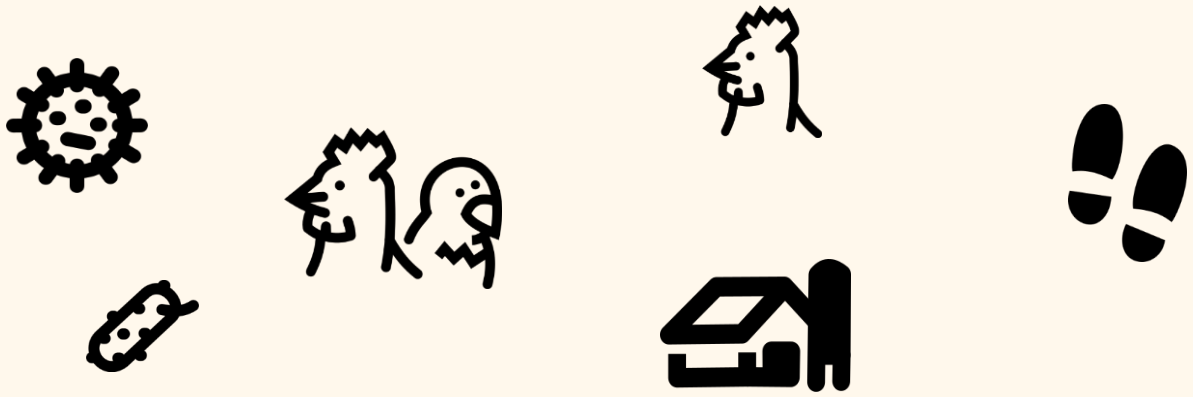
NetPoulSafe

PRACTICAL TOOL TO ASSESS THE EFFECTIVENESS OF FARM SANITARY BARRIER

MAIN KEY POINTS

- **Serological monitoring (ELISA panel) as a useful tool for Advisors for the evaluation of the farm sanitary barrier**
- **Chicken serological response as an indicator of the spreading pathogens on a farm with a negative impact on the production**

A basic indicator of effective biosecurity is the absence of diseases and high production parameters**.** However even in flocks without clinical symptoms, **activation of the immune system consumes not less than 3% of the metabolic energy that could be used to improve production performance***



Serological monitoring with the use of commercial ELISA kits for poultry is a very effective tool for the evaluation of the effectiveness of a farm sanitary barrier before the appearance of health problems.

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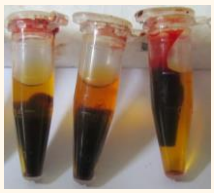
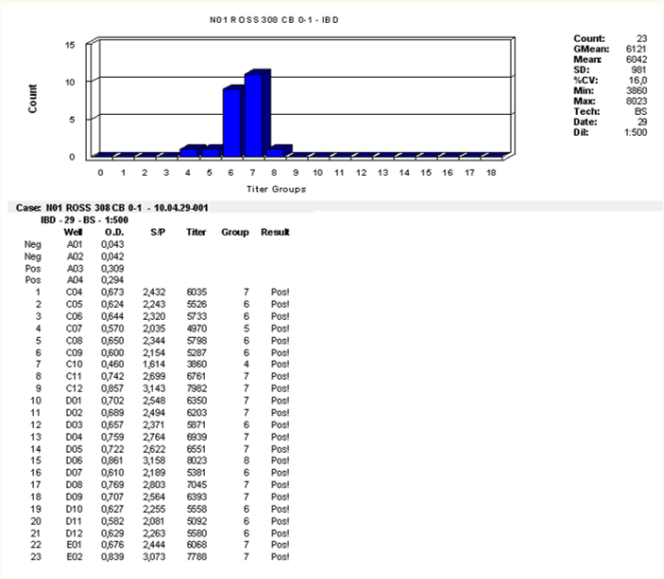
How to use the serological monitoring in practice:

Step 1: field collecting blood samples (optimally 23 samples) from clinically healthy birds at the end of production

Step 2: sending the samples to the dedicated laboratory for tests (ELISA panel)

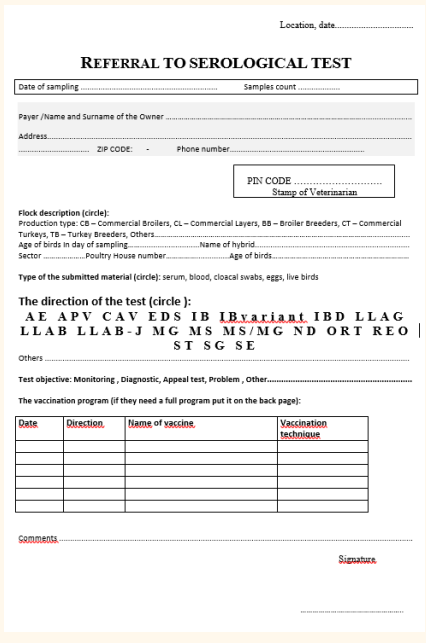
Step 3: analyzing the results and based on the degree of seroprevalence the recommendation of the appropriate biosecurity procedures - e.g. targeted disinfection, improving the vaccination program, etc.





Case: N01 ROSS 308 CB 0-1 - 10.04.29-001
IBD - 29 - BS - 1:500

	Well	O.D.	S/P	Titer	Group	Result
Neg	A01	0,043				
Neg	A02	0,042				
Pos	A03	0,309				
Pos	A04	0,294				
1	C04	0,673	2,432	6035	7	Pos!
2	C05	0,624	2,243	5526	6	Pos!
3	C06	0,644	2,320	5733	6	Pos!
4	C07	0,570	2,035	4970	5	Pos!
5	C08	0,650	2,344	5798	6	Pos!
6	C09	0,600	2,154	5287	6	Pos!
7	C10	0,460	1,614	3860	4	Pos!
8	C11	0,742	2,699	6761	7	Pos!
9	C12	0,857	3,143	7982	7	Pos!
10	D01	0,702	2,548	6350	7	Pos!
11	D02	0,689	2,494	6203	7	Pos!
12	D03	0,657	2,371	5871	6	Pos!
13	D04	0,759	2,764	6939	7	Pos!
14	D05	0,722	2,622	6551	7	Pos!
15	D06	0,861	3,158	8023	8	Pos!
16	D07	0,610	2,189	5381	6	Pos!
17	D08	0,769	2,803	7045	7	Pos!
18	D09	0,707	2,564	6393	7	Pos!
19	D10	0,627	2,255	5558	6	Pos!
20	D11	0,582	2,081	5092	6	Pos!
21	D12	0,629	2,263	5580	6	Pos!
22	E01	0,676	2,444	6068	7	Pos!
23	E02	0,839	3,073	7788	7	Pos!



Location, date.....

REFERRAL TO SEROLOGICAL TEST

Date of sampling..... Samples count .....

Payer /Name and Surname of the Owner .....

Address.....

..... ZIP CODE: - Phone number.....

PIN CODE .....
Stamp of Veterinarian

Flock description (circle):
Production type: CB – Commercial Broilers, CL – Commercial Layers, BB – Broiler Breeders, CT – Commercial Turkeys, TB – Turkey Breeders, Others.....
Age of birds in day of sampling.....Name of hybrid.....
Sector .....Poultry House number.....Age of birds.....

Type of the submitted material (circle): serum, blood, cloacal swabs, eggs, live birds

The direction of the test (circle):
AE APV CAV EDS IB IBvariant IBD LLAG LLAB LLAB-J MG MS MS/MG ND ORT REO ST SG SE

Others .....

Test objective: Monitoring , Diagnostic, Appeal test, Problem , Other.....

The vaccination program (if they need a full program put it on the back page):

Date	Direction	Name of vaccine	Vaccination technique

Comments .....

Signature

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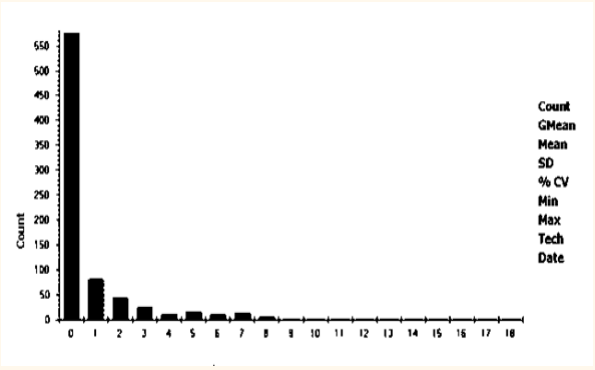
Panel of serological tests (ELISA)
ARV *(Avian Reovirus)*
CIAV (*Chicken Infectious Anemia Virus)*
REV *(Reticuloendotheliosis Virus)*
ORT (*Ornithobacterium rhinotracheale)*



The lower the percentage of positive samples and the lower the serological response confirm lesser spread of a given pathogen, which has a lower impact on the production results.

Comparison of EPEF for positive and negative flocks in the different pathogens

PATHOGEN	% POS FLOCKS	AVERAGE EPEF	% OF NEG FLOCKS	AVERAGE EPEF
ARV	100	328,28	0	-
ORT	55,56	321,72	44,44	336,24
CAV	30,56	318,57	69,44	331,65
REV	16,67	297,2	83,33	334,25

Serological monitoring can be a useful indicator of the effectiveness of biosecurity programs in chicken flocks.

For more information:
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*De Herdt P., Broeckx M., Van Driessche F., Vermeiren B., Van Den Abeele G., Van Gorp S.: Improved Performance of Broilers and Broiler Breeders Associated with an Amended Vaccination Program Against Reovirosis. Avian Diseases 2016, 60 (4), 841-845.
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*Szeleszczuk P., Kruszyński T., Nerc J., Dolka B.:
Monitoring serologiczny stad brojlerów kurzych, jako potencjalny wskaźnik efektywności programów bioasekuracji.
I Międzynarodowa Konferencja Techniczna PROHEALTH: Bioasekuracja
w zrównoważonej produkcji intensywnej trzody chlewnej i drobiu inwestycja o najwyższej stopie zwrotu! Warszawa 04.09.2015., 68

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