



Supplementary Data

Positive assessment of an autogenous vaccine against pathogenic *Escherichia coli* in broiler breeders and their progeny in Morocco**Lhoussaine Oubouyahia^{1,2} , Amal Essalah-Bennani³ , Ouafaa F. Fihri² , Eric Badin³ ,
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Table S1: Colibacillosis-focused lesion scoring system used by all veterinarians performing necropsies on breeding and broiler farms during the trial.

Organ	Score	Lesions
Ovarian cluster	0	No visible lesion
	1	Small quantity of fibrin on the organ surface
	2	Clearly visible fibrin on the organ surface
	3	Expansive fibrin deposits, salpingitis
Lungs	0	No visible lesion
	1	Small quantity of fibrin on the organ surface
	2	Clearly visible fibrin on the organ surface
	3	Expansive fibrin deposits, cooked appearance of lungs, and/or pulmonary haemorrhage
Air sac	0	No visible lesion
	1	Thoracic and/or abdominal air sacs slightly covered with fibrin
	2	Thoracic and/or abdominal air sacs completely covered with fibrin, with slight exudation
	3	Air sacs completely covered with fibrin, with strong exudation
Heart	0	No visible lesion
	1	Large quantity of hyaline liquid in the pericardial cavity
	2	Turbid liquid in the pericardial cavity and/or opaque pericardial membrane
	3	Large quantity of fibrin in the pericardial cavity
Liver	0	No visible lesion
	1	Small quantity of fibrin on the organ surface
	2	Clearly visible fibrin on the organ surface
	3	Expansive fibrin deposits, hypertrophied liver, and/or necrotic foci on the liver

Table S2: Detailed average lesion scores from breeders, as noted over necropsy sessions (10 dead poultry per session).

Groups		Ovarian cluster		Lungs		Air sacs		Heart		Liver		Global average	
		Site 1	Site 2	Site 1	Site 2	Site 1	Site 2	Site 1	Site 2	Site 1	Site 2	Site 1	Site 2
Vaccinated	1	0.87	0.96	1.43	1.36	1.30	0.75	1.67	1.50	1.12	1.07	1.28	1.13
	2	1.20	1.55	1.24	1.56	0.55	1.77	0.80	0.95	0.80	1.20	0.92	1.41
	3	0.98	1.21	0.76	1.24	1.23	1.91	0.92	1.03	1.05	0.93	0.99	1.26
Control	1	1.28	1.39	0.85	1.58	1.78	1.83	0.98	2.78	2.33	1.50	1.44	1.82
	2	2.10	2.35	1.67	2.10	2.20	2.25	2.13	2.41	2.28	2.32	2.08	2.29
	3	2.57	2.40	2.44	2.58	2.15	2.79	2.50	2.14	2.76	1.97	2.48	2.38

Table S3: Detailed average lesion scores from broilers hatched to vaccinated or control laying hens, as noted over necropsy sessions (10 dead poultry per session).

V: Vaccinated; C: Control

Organ	Lungs		Air sacs		Heart		Liver		Global average	
Site	V	C	V	C	V	C	V	C	V	C
1	0.43	0.38	0.78	0.8	0.51	0.77	0.82	1.05	0.64	0.75
2	1.46	1.66	1.53	2.47	0.95	1.15	1.74	2.58	1.42	1.97
3	1.93	2.01	1.7	2.08	1.33	1.81	2.12	2.09	1.77	2
4	0.93	1.17	0.29	0.56	0.91	1.34	0.76	0.85	0.72	0.98
5	0.65	0.59	0.28	0.76	0.72	1.03	0.9	1.21	0.64	0.9
6	1.13	1.30	0.51	0.48	1.02	1.87	1.4	2.05	1.02	1.43
7	0.67	1.44	1.33	1.12	0.99	1.8	1.69	2.42	1.17	1.7
8	0.79	0.87	0.3	0.35	0.66	0.97	1.04	1.32	0.7	0.88
9	1.80	2.65	1.77	2.46	1.84	1.79	1.63	2.27	1.76	2.29
10	0.97	0.89	0.75	1.1	0.84	1.9	1.31	2.19	0.97	1.52
11	0.73	1.04	0.93	1.33	1.08	2.15	1.07	1.79	0.95	1.58
12	0.72	0.69	0.43	0.81	0.91	1.71	1.06	2.21	0.78	1.36

Table S4: Average zootechnical performance and mortality rate of the broilers hatched in the vaccinated and non-vaccinated flocks involved in the trial.

	Control groups	Vaccinated groups	Difference (%)	p-value
Mortality (%)	3.07%	2.55%	20.39%	0.001
Body weight at slaughter (g)	1.797	1.832	1.95%	0.0001
Feed Conversion Ratio (FCR)	1.71	1.68	-1.79%	0.02



Breeder farm



Necropsy sessions



Organ simpling



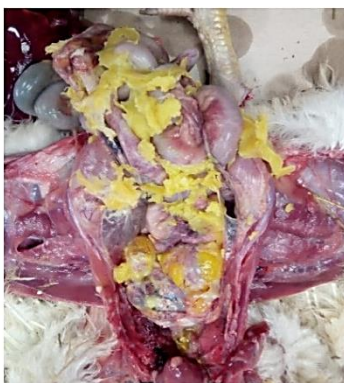
Lesion scores sessions (liver
score 3)



Score 2 (oavium cluster)



Air sacs (score 2)



Score 3 (all organs)



Score 3 (ovarium cluster)



Score 2 (liver)

Figure S1: Lesion scores from Breeders (examples).



Broiler farm



Score 2 (liver)



Score 3 (heart)



Score 3 (air sacs & lungs)



Score 3 (all organs)



Lesion score 3 (liver, heart, air sacs & lungs)



Score 2 (liver, heart, air sacs & lungs)



Score 3 (lungs)



Score 3 (all organs)

Figure S2: Lesion scores from Broilers (examples).