

IMPACT OF AO-BIOTICS EQE® ON PRODUCTIVE PERFORMANCE AND EGG QUALITY PRODUCED BY HENS FROM 15 TO 43 WEEKS OF AGE

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AO-Biotics EQE had a positive impact on egg production, egg mass, and egg quality in this university research study.

SUMMARY

DOSE USED
50 g/ton

Supplementation of AO-Biotics EQE, a postbiotic derived from *Aspergillus oryzae*, had a positive impact on improved egg quality, reducing the incidence of shell-less eggs and improving eggshell strength. It also showed improved egg production, improved egg mass, and better feed conversion ratio (FCR).

VALUE

AO-Biotics EQE provides value to laying hen operations, which can expect improvements in egg production and quality.

PROTOCOL

Location

- Universidad Politécnica de Madrid, Madrid, Spain.

Duration

- The impact of EQE was evaluated for 28 weeks, from 15 to 43 weeks of age.

Number of Animals/Experimental Units

- 48 Lohman (brown) laying hens (24 hens per treatments).

PROTOCOL (CONTINUED)

Trial Design

- Hens were individually caged, with 24 hens assigned to the control group and 24 assigned to the treatment group.
- Control and treatment hens were fed the same diet, with the exception of EQE.

Treatments

- Control diet with no postbiotic.
- Treatment diet with postbiotic added at a dose of 50 g AO-Biotics EQE per ton of feed.

Data Collection

- Laying hen production traits
 1. Egg rate
 2. Egg weight and egg mass
 3. Feed intake
 4. Feed conversion rate
 5. Body weight
- Egg quality
 1. Egg shell quality traits (weight, strength, and thickness)
 2. Percentage of discarded eggs (shell-less, broken, and dirty eggs)
 3. Total number of eggs produced

RESULTS

AO-Biotics EQE improved hen performance from 15 to 21 weeks of age (Figure 1).

- Improved body weight gain (BWG) by 7%
- Improved egg mass by 10%
- Improved FCR by 11%
- Improved egg production by 8%

RESULTS (CONTINUED)

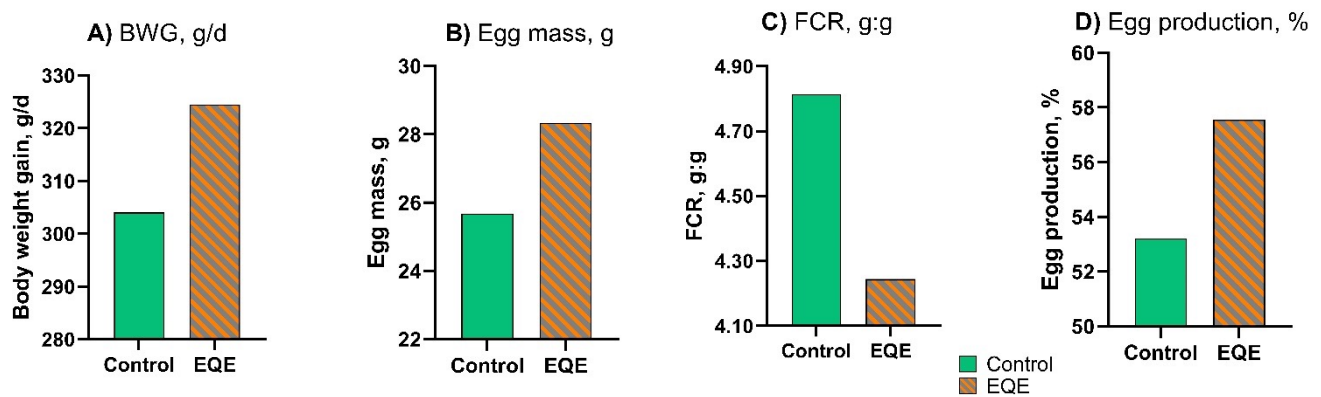


Figure 1. Impact of AO-Biotics EQE on laying hen performance from 15 to 21 weeks of age.

AO-Biotics EQE also improved egg quality metrics.

- Improved egg shell strength by 5% (Figure 2).
- Improved grading of eggs produced from 22 to 43 weeks of age (Figure 3).
- Reduced the incidence of shell-less eggs by 56% (Table 1).

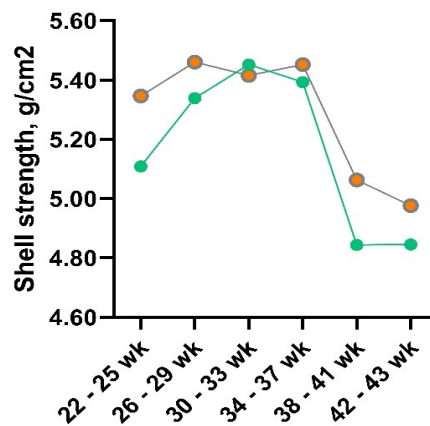


Figure 2. Impact of AO-Biotics EQE on eggshell strength of eggs laid from 22 to 43 weeks.

RESULTS (CONTINUED)

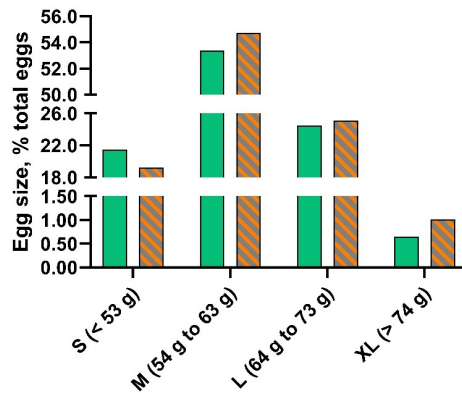


Figure 3. Impact of AO-Biotics EQE on the grading of eggs from 22 to 43 weeks of age.

	Control	Treatment ¹	SEM ²	P-value
Number of animals, n	24	24		
Hen performance				
Egg production, %	81.7	82.6	0.711	0.356
Feed intake, g/d	105	104	1.30	0.662
Egg weight, g	59.1	59.4	0.803	0.746
Egg mass, g/d	48.7	49.3	0.647	0.353
FCR, kg/kg	2.18	2.13	0.030	0.208
BW gain, g	505	527	23.5	0.522
Shell quality				
Dirty eggs, %	2.46	2.45	0.463	0.987
Broken eggs, %	0.43	0.42	0.152	0.965
Shell-less eggs, %	0.89	0.39	0.195	0.074
Egg size, % of total eggs³				
S (< 53 g)	8.14	6.39	2.79	0.659
M (53 g to 63 g)	62.6	63.2	5.10	0.928
L (63 g to 73 g)	28.6	29.3	5.57	0.932
XL (> 73 g)	0.66	1.11	0.527	0.576

¹Control diet supplemented with EQE at 50 g/ton

²Standard error of the mean

³Eggs produced from 22 to 43 weeks of age

Table 1. Impact of AO-Biotics EQE on eggshell strength of eggs laid from 22 to 43 weeks.

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