



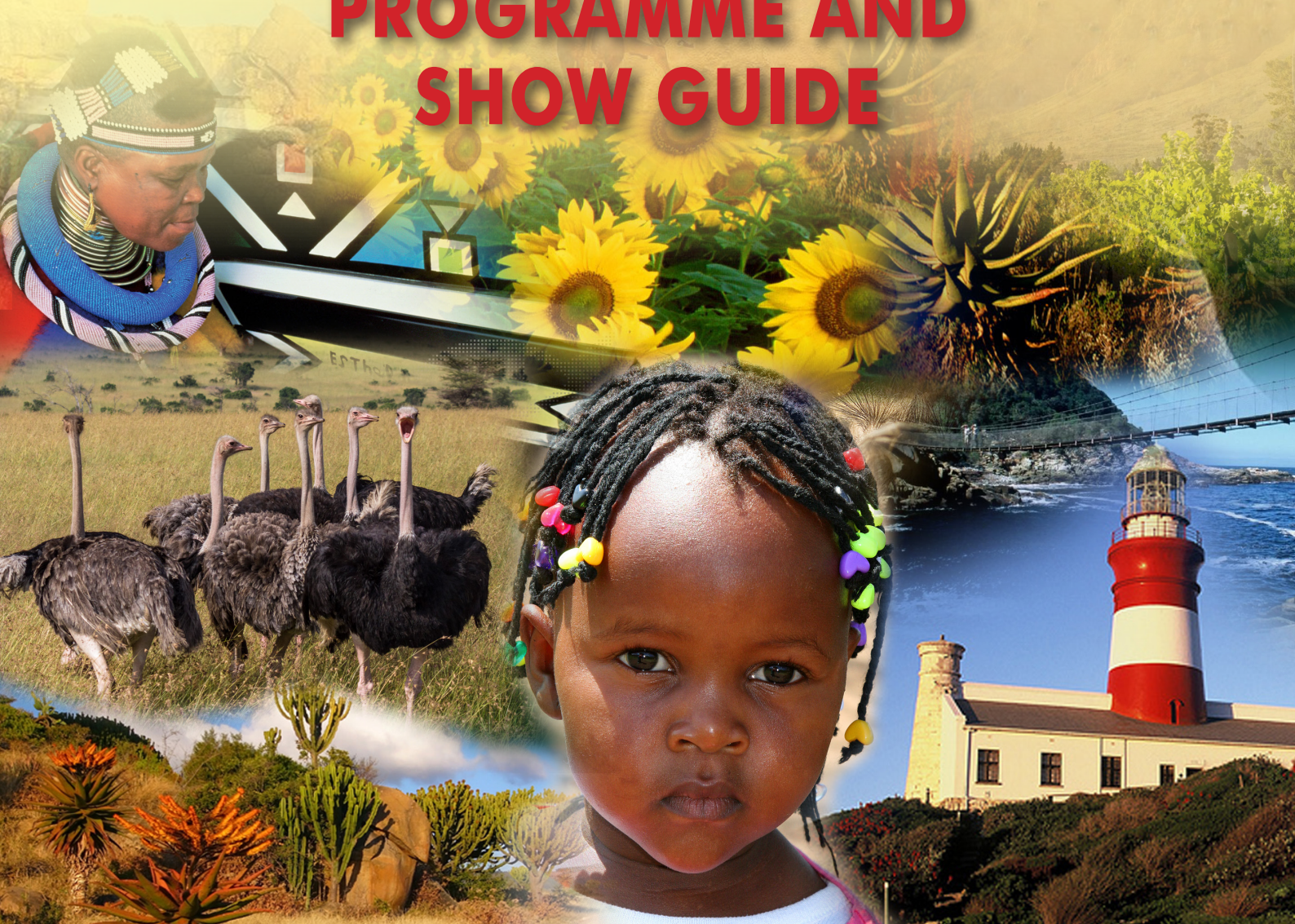
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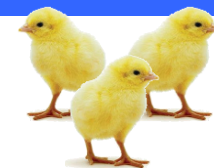
19th World Veterinary Poultry Association Congress

ABSTRACTS, PROGRAMME AND SHOW GUIDE



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Effect of feeding two different combinations of essential oils on *Campylobacter* colonization in broilers



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01 OBJECTIVE

To evaluate the effect of a blend of essential oils and benzoic acid (Product A) and a blend of herbal substances and essential oils (Product B) added to the feed on cecal *Campylobacter jejuni* counts in broilers.

02 MATERIALS AND METHODS

Experimental animals: A total of 126 one-day-old Ross 308 broilers (50% males and 50% females) from 1 to 42 days of age.

Experimental desing: Completely randomised with three treatments applied from 1 to 42 days of age via feed, T1: Controls (*Campylobacter*, no additives), T2; Product A and T3: Product B. The birds were kept in 12 cages per treatment in groups of three.



Treatment	Product	Composition	Dose
T1 Control	--	--	--
T2	Product A	Essential oil components including thymol, eugenol, piperine + benzoic acid	0.030% (wt/wt)
T3	Product B	Herbal substances and essential oils mixture	0.075% (wt/wt)

Broilers inoculation: At 14 days of age, all broilers were orally gavaged with 100 µl of a solution containing 1×10^5 cfu/ml of ST-45 *C. jejuni* strain.

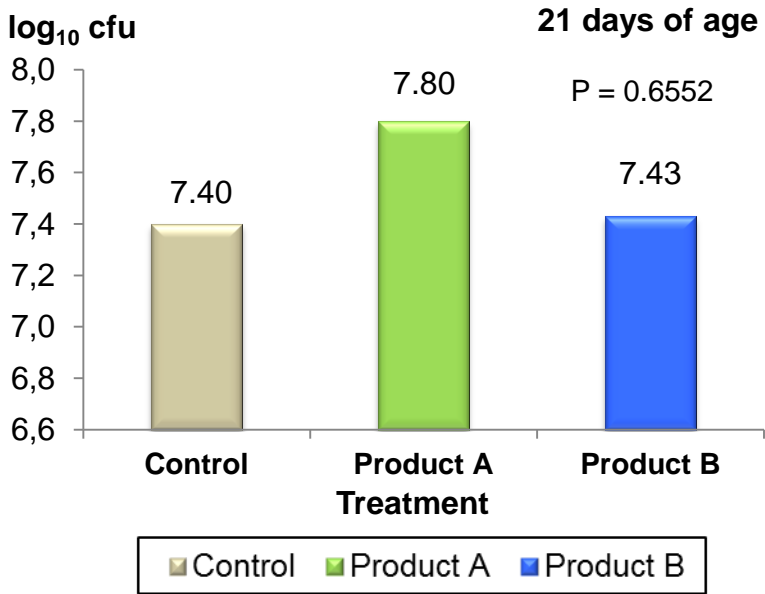


Sampling, testing and observations: On days 21, 35 and 42, ceca from 12 broilers per treatment were collected and *Campylobacter jejuni* counts determined. Analyses were carried out according to the ISO 10272 standard.

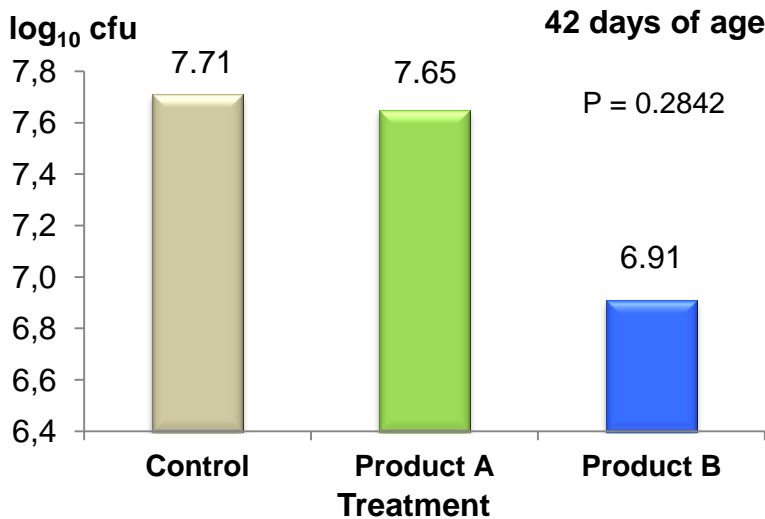
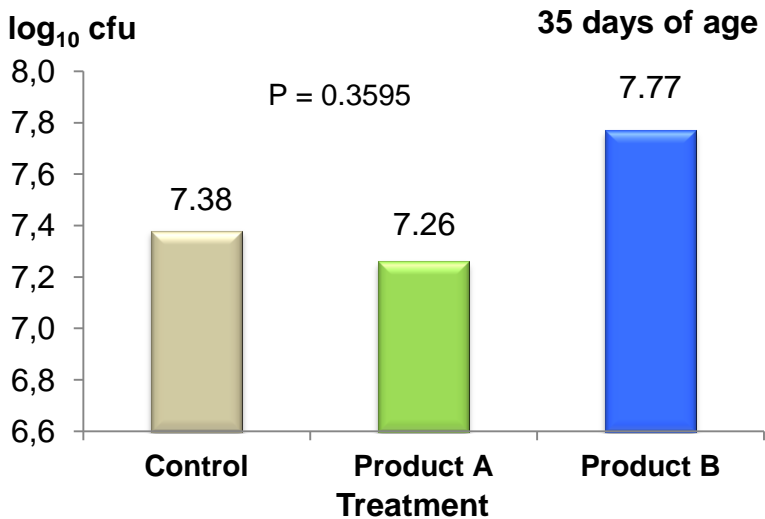
Statistical analysis: Data expressed as log₁₀ cfu/g ceca were first tested for normality and then analysed by GLM procedure of SPSS (v. 19.0). Statistical significance is declared at $P \leq 0.05$.

03 RESULTS (1/2)

Cecal colonization of *Campylobacter jejuni* in broilers

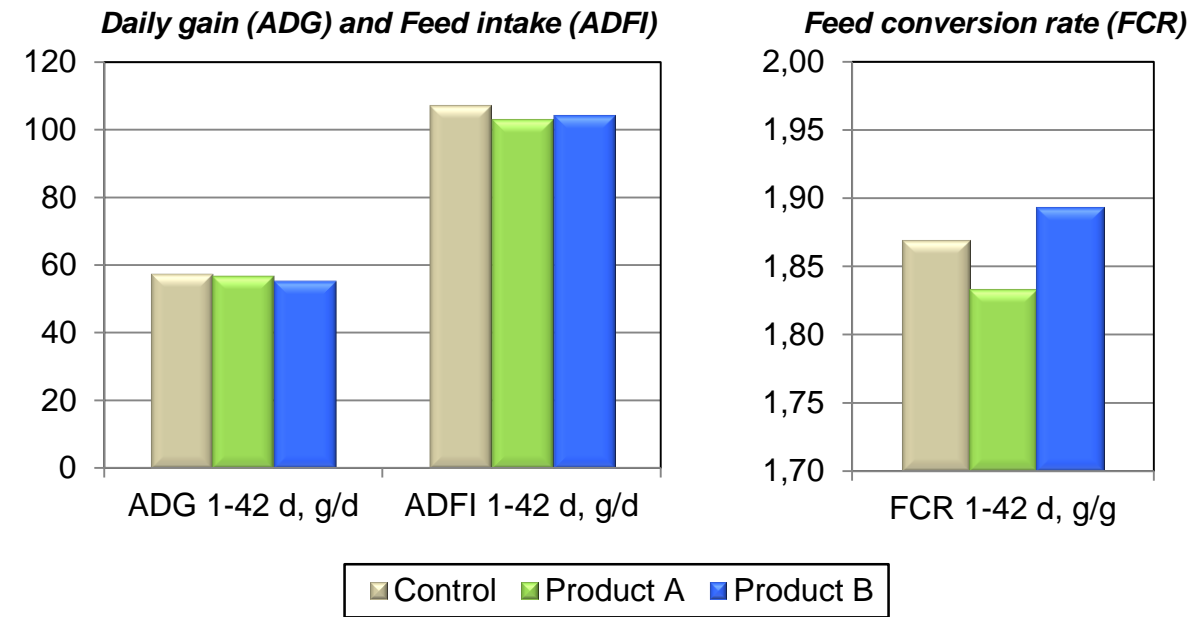


No significant differences in the cecal *Campylobacter jejuni* counts were observed between the two products tested and the control treatment at any of the times evaluated (21, 35 and 42 days of age).



03 RESULTS (2/2)

Performance for the whole trial



Broilers on the three treatments performed similarly. **No significant** differences in performance were observed.

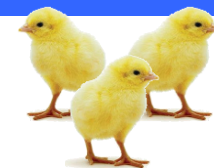
04 CONCLUSIONS

- It is concluded that the two essential oil combinations tested did not affect *Campylobacter jejuni* colonization under the experimental model assayed.

ACKNOWLEDGEMENT

This work has been done within the project CAMPYBRO, which has received funding from the European Union’s Seventh Framework Programme for research, technological development and demonstration under grant agreement no 605835.

Effect of feeding two different combinations of flavouring compounds on *Campylobacter* colonization in broilers



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01 OBJECTIVE

To evaluate the effect of a blend of flavouring compounds (Product A) and a mixture of flavouring compounds with calcium propionate and sorbic acid (Product B) added to the feed on cecal *C. jejuni* counts in broilers.

02 MATERIALS AND METHODS

Experimental animals: A total of 126 one-day-old Ross 308 broilers (50% males and 50% females) from 1 to 42 days of age.

Experimental design: Completely randomised with three treatments applied from 1 to 42 days of age via feed, T1: Controls (*Campylobacter*, no additives), T2; Product A and T3: Product B. The birds were kept in 12 cages per treatment in groups of three.



Treatment	Product	Composition	Dose
T1 Control	--	--	--
T2	Product A	Coated source of formic acid and citric acid and encapsulated blend of essential oils including thyme, oregano, capsicum and citrus extract	0.500% (wt/wt)
T3	Product B	Calcium propionate, sorbic acid and flavouring compounds	0.300% (wt/wt)

Broilers inoculation: At 14 days of age, all broilers were orally gavaged with 100 µl of a solution containing 1×10^5 cfu/ml of ST-45 *C. jejuni* strain.

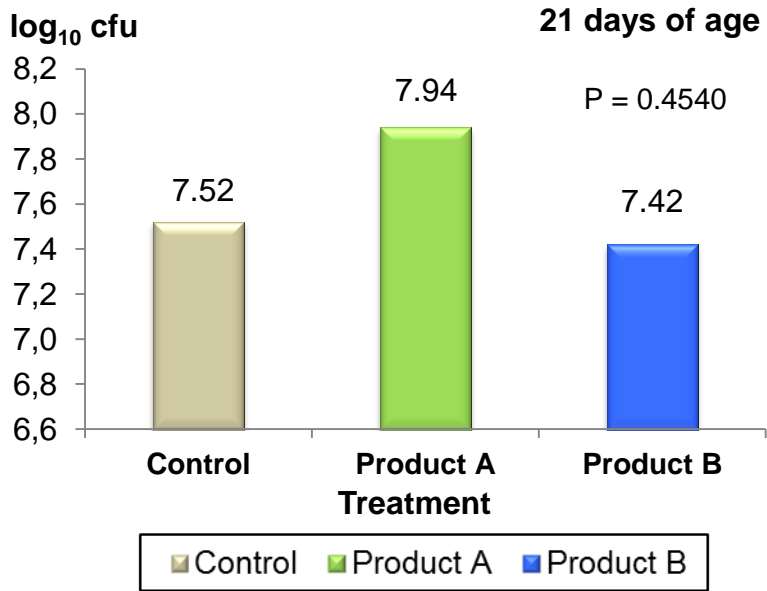


Sampling, testing and observations: On days 21, 35 and 42, ceca from 12 broilers per treatment were collected and *Campylobacter jejuni* counts determined. Analyses were carried out according to the ISO 10272 standard.

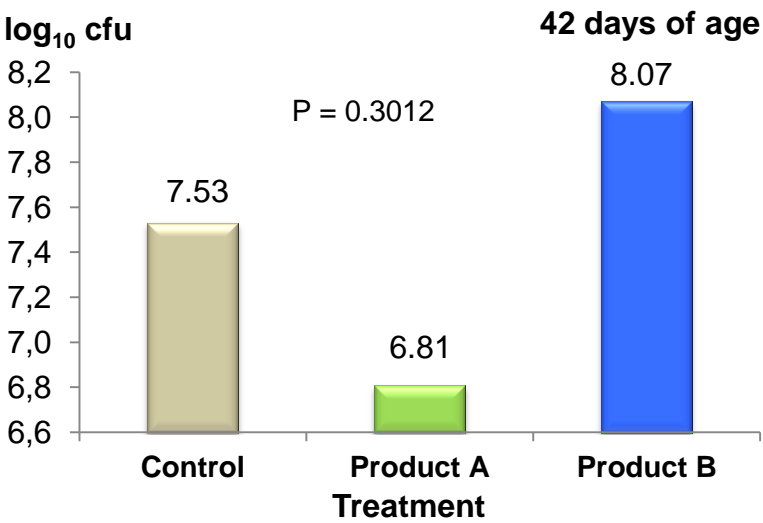
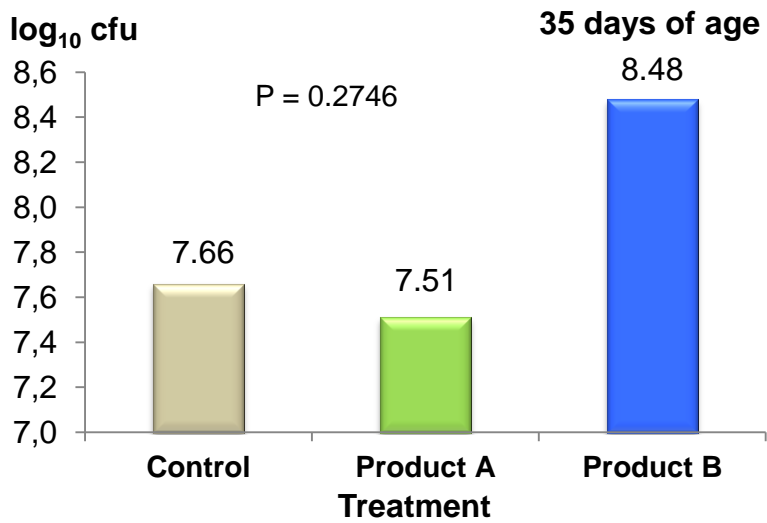
Statistical analysis: Data expressed as log₁₀ cfu/g ceca were first tested for normality and then analysed by GLM procedure of SPSS (v. 19.0). Statistical significance is declared at $P \leq 0.05$.

03 RESULTS (1/2)

Cecal colonization of *Campylobacter jejuni* in broilers

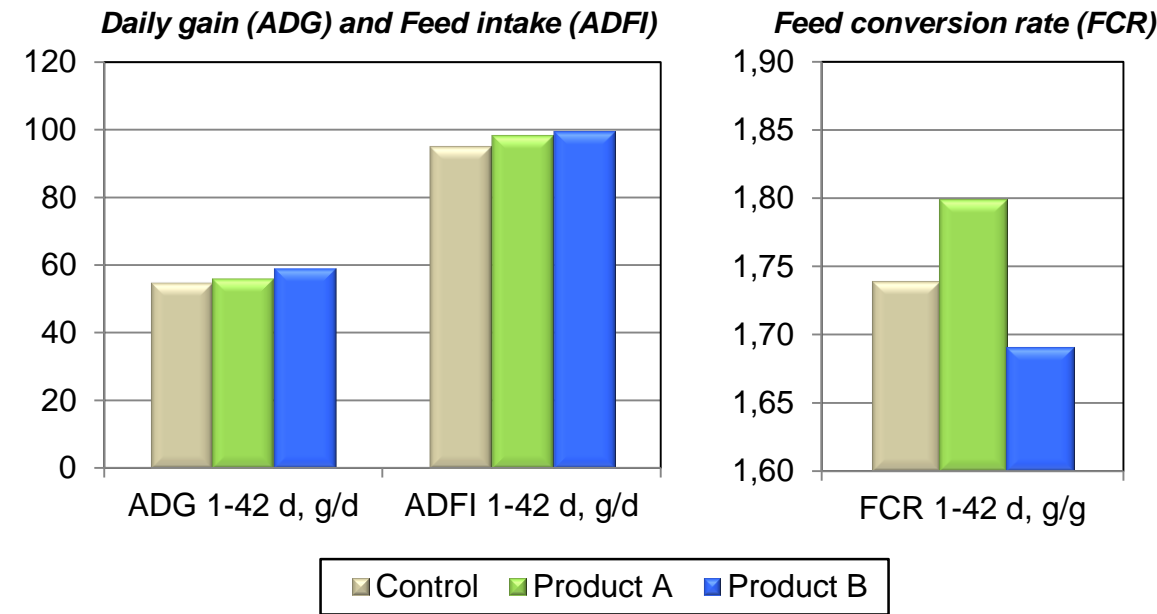


No significant differences in the cecal *Campylobacter jejuni* counts were observed between the two products tested and the control treatment at any of the times evaluated (21, 35 and 42 days of age).



03 RESULTS (2/2)

Performance for the whole trial



Broilers on the three treatments performed similarly. **No significant** differences in performance were observed.

04 CONCLUSIONS

- It is concluded that the two flavouring compounds combinations tested did not affect *Campylobacter jejuni* colonization under the experimental model assayed.

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