

Effect of a polyphenol feed supplement used as Antioxidant replacement of vitamin E in broiler diets

Conclusion

The polyphenolic supplement Cabanin™ CSD can replace vitamin E as antioxidant by improving broilers FCR and, based on TBARS measurement, were dispersed, retained, and remained functional in blood plasma and in refrigerated meat.

Introduction

Polyphenols are secondary metabolites of plants and comprise flavonoids, tannins, pro-anthocyanidins. A basic feature of phenolics is their significant antioxidant activity. This study determined the effect of a polyphenol supplement (PS) and vitamin (vit) E (*all-rac- α -tocopheryl acetate*) in different dosage on weight gain (BWG), Feed conversion ratio (FCR) and the antioxidant status in blood and meat samples of broilers. PS (Cabanin™ CSD from R2 Agro) contains parts from citrus, grape, blackcurrant and tannic acid.

Materials & Methods

- In total 525 (Cobb 500) male birds. Starter diet (day 1-14) and grower diet (day 14-35)
- 5 treatment groups with different dosage of Vit E and the polyphenolic supplement
- Diets: Basal Starter feed (day 1-14) and Grower feed (day 14-35) with the following specifications:

Starter/Grower diet	Treatment groups				
	T1 Low Vit. E = NRC norm	T2 High Vit. E	T3 Cabanin™ CSD 50 % replacer	T4 Cabanin™ CSD 100 % replacer	T5 High Vit E & High Cabanin™
Vitamin E, ppm	15/15	105/65	60/40	15/15	105/65
PS/ Cabanin™ CSD, ppm	0	0	90/50	180/100	1000/1000

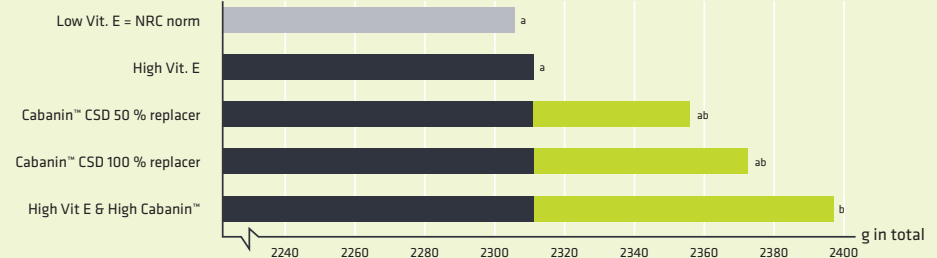
- 7 replicates with 15 birds per pen, 35-day trial
- From day 21 to 35, room temperature was kept at 28°C (82°F) to induce mild heat stress



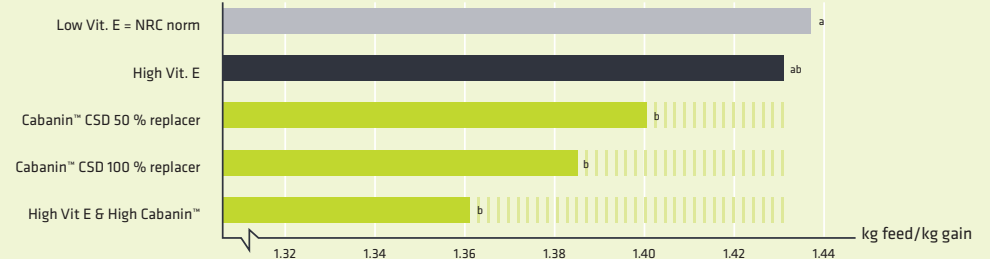
Results

Effect on overall broiler performance

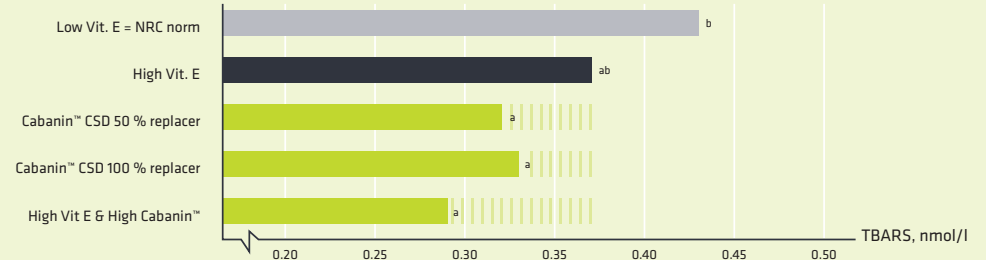
Overall Body Weight Gain (gr in total)



Overall Feed Conversion Ratio (kg feed/kg gain)



Oxidation degree in breast meat (TBARS). In refrigerated meat at day 7



Different superscripts are significant (a/b; p < 0.05)

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