THE EFFECT OF AKOMED R® AND LIPASE ON THE PERFORMANCE AND CARCASS CHARACTERISTICS IN EARLY WEANED RABBITS

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INTRODUCTION

In the rabbit meat production as well as in other animal species, antibiotics have been used for therapy, disease prevention, and production enhancement. Approvals for their routine application are therefore disappearing worldwide and from January 2006 onward, antibiotics for use as growth promoters are forbidden in EC. Among the candidate replacements for antibiotics are organic acids. Triacylglycerols of caprylic and capric acid (medium-chain fatty acids) represent a similar feed additive with antimicrobial activity (Skřivanová and Marounek, 2006). Caprylic acid at 5 g/kg feed had no effect on the rate of growth, but decresased mortality in the post-weaning period (Skřivanová and Marounek, 2002). Insignificantly higher daily weight gain were in rabbits with supplement of Akomed R® and lipase (Tůmová *et al.,* 2006). On the contrary, non significantly higher daily weight gain in rabbits without Akomed R® and lipase observed Zita *et al.* (2006). On the other hand Zita *et al.* (2006) showed that insignificantly lower feed conversion was observed in rabbit with supplement of Akomed R® and lipase. Carcass characteristics were not influenced by weaning age (Zita *et al.*, 2007).

THE AIM OF THE STUDY

The objective of the present work was to investigate the effect of commercially available oil Akomed R®containing caprylic, capric and lauric acid, lipase addition and weaning age on growth, feed consumption and carcass value in broiler rabbits.

RESULTS

Figure 1: Growth of rabbits (g)

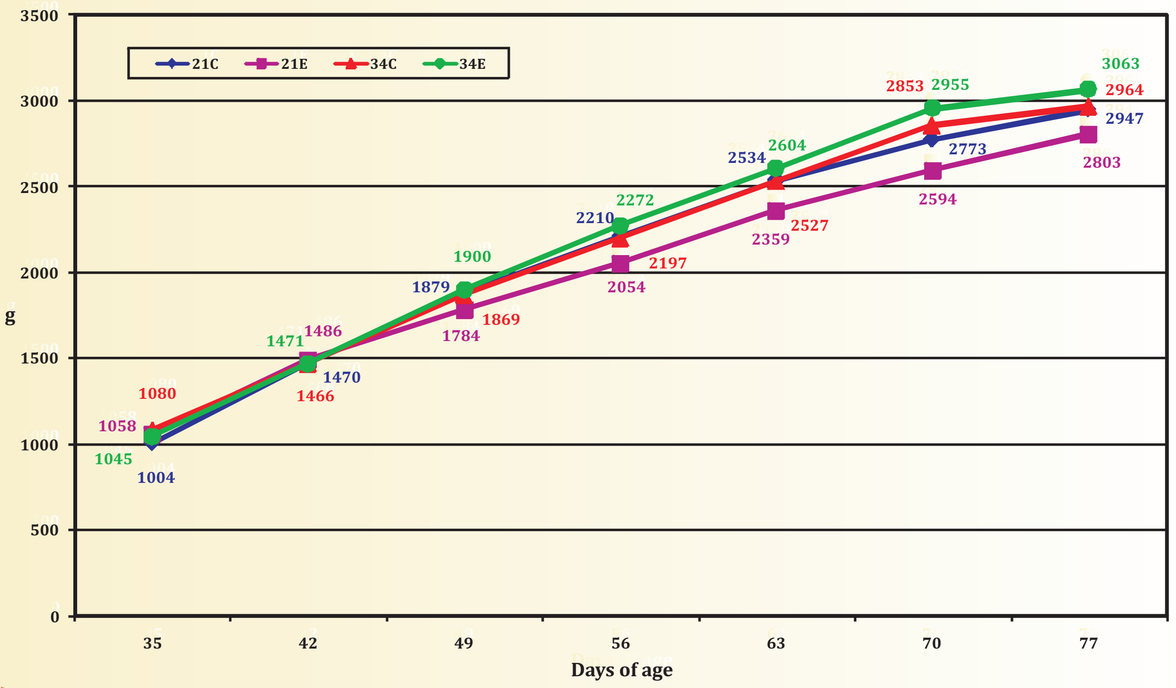
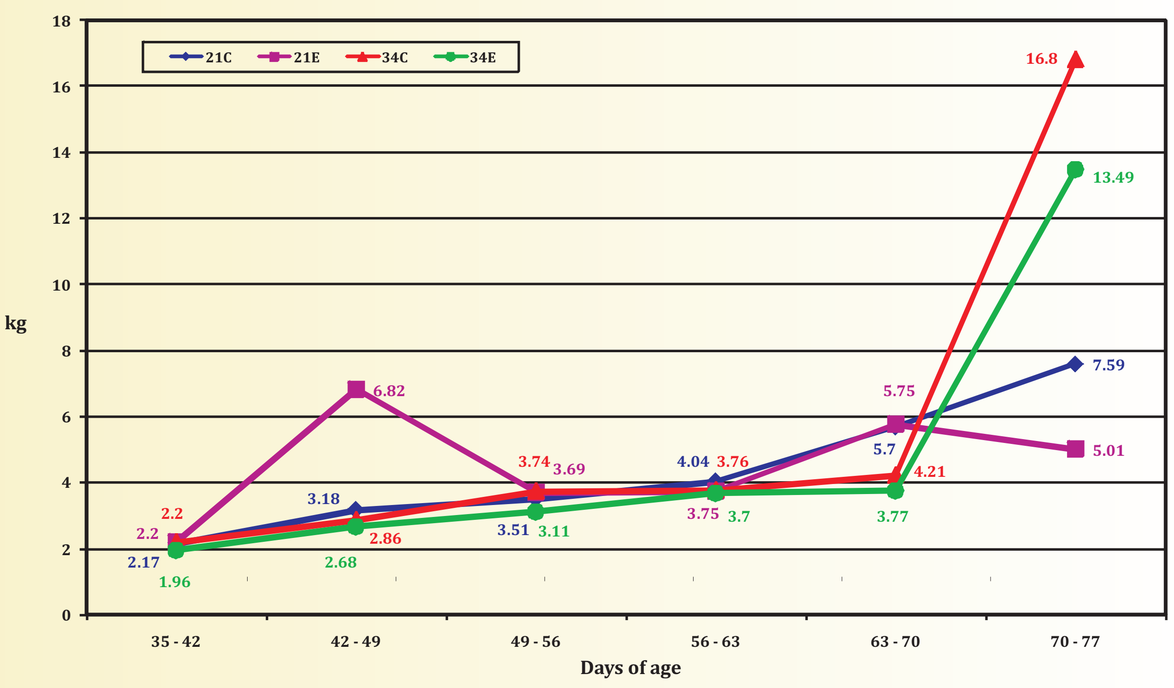


Figure 2: Feed conversion per kg live weight (kg)



MATERIALS AND METHODS

In the experiment forty Hyplus® rabbits (♂ PS59 x ♀ PS19) were used. The rabbits obtained from a commercial farm were weaned at the age of 21 and 34 days by the 20 ones per age (group 21 and 34). Rabbits were placed in fattening cages (0.15 m^2 per rabbit). At each weaning age rabbits were split into 2 groups which received a commercial pelleted type feed mixture (9.5 MJ ME, 17.7 % of crude protein) and experimental type feed mixture included 1 % of Akomed R® (60.8 % caprylic acid, 38.7 % capric acid and 0.5 % lauric acid) and 0.5 % lipase (group C and E). The kids have access the solid feed of the does till weaning. Water and feed mixture were available *ad libitum*.

Animals were individually weighed every week, feed consumption was measured daily. At the end of the experiment, 77 days of age, six rabbits per group of the average live weight were slaughtered. The slaughter and carcass dissection were carried out in an experimental slaughterhouse. Rabbits were fasted overnight, and slaughtered the following morning by electric stunning and bleeding by jugular cut. The method of carcass measurements was harmonised with Blasco and Ouhayoun (1996).

Results of performance and slaughter parameters were evaluated by one-way ANOVA, using the GLM procedure of SAS (SAS Inc., 2003).

Table 1: Carcass analysis at 77 days of age (n = 6)

Characteristics	Weaning age and diet				Significance	SEM
	21C	21E	34C	34E		
Live weight 77th day of age (g)	2 825	2 839	3 008	3 025	ns	37.19
Carcass weight (g)	1 526^{b}	1 494^{b}	1 847^{a}	1 872^{a}	***	41.62
Dressing percentage (%)	52.58^{b}	52.36^{b}	55.91^{ab}	56.84^{a}	***	0.48
Fore part of the carcass (%)	49.18^{ab}	50.94^{a}	46.27^{b}	45.26^{b}	***	0.58
Hind part of the carcass (%)	48.39^{a}	48.52^{a}	44.73^{b}	46.60^{ab}	*	0.48
Loin (%)	17.84	17.66	16.86	17.55	ns	0.22
Hind legs (%)	30.70^{a}	30.82^{a}	27.87^{b}	28.88^{ab}	**	0.34
Thigh muscles (%)	22.28	21.87	21.03	23.24	ns	0.32
Renal fat (%)	2.99^{a}	2.10^{ab}	1.29^{b}	1.19^{b}	**	0.21
Liver (%)	5.75^{a}	5.08^{ab}	4.33^{b}	4.07^{b}	**	0.18

***P ≤ 0.001; **P ≤ 0.01; *P ≤ 0.05; ns = nonsignificant difference; SEM = standard error mean
a, b - Means marked with a different superscript letter within each column are significantly

CONCLUSION

There was no significant effect of supplement of Akomed R® and lipase on growth of rabbits. There was a positive effect of Akomed R® and lipase on feed conversion where rabbits had a significantly (P≤0.001) lower feed conversion in comparison with rabbits without Akomed R®. There was no significant effect of weaning age on growth and weight gain, but the feed consumption was higher in rabbits weaned at 34 days of age. Final live weight at 77 days of age was non-significantly higher in both groups of rabbits weaned at 34 days of age in comparison with rabbits weaned at 21 days of age. Dressing percentage was significantly (P≤0.001) higher in both groups of rabbits weaned at 34 days of age. The proportion of renal fat was negatively affected by weaning age and positively by the supplement. Rabbits weaned at 21 days of age had a higher renal fat content. Mortality was not influenced by supplement of Akomed R®, lipase and weaning age.

ACKNOWLEDGEMENTS

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