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THE USE OF A PROBIOTIC IN THE FEED OF WEANED PIGLETS AND ITS INFLUENCE ON THE PRODUCTION INDICES

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Abstract

This study offers an alternative to forage usage antibiotics. The aim was to determine the bio effectiveness of using Protecure Pellets probiotic in nutrition of piglets weaned. The biological material used was made up of triracial crossbred resulting from the crossing of four metis F1 sows with a boar Duroc breed. The 20 piglets used in to 2 groups as biological material, were selected from four sows (metis F1), with common father (Duroc breed). Therey were selected 5piglets from each sow, seeking to have the body weight as close as possible. As a result of using Protecure Pellets probiotic weaned piglets it is obtained a higher daily average gain with 5.37% and a bioconversion index lower with 3.32%. At the end of the experiment, piglets that received Protecure Pellets in feed had a higher average body weight with 1.03 kg compared to the lot without probiotics. The results obtained from the use of the probiotic at weaned piglets, show that using this probiotic helped piglets overcome the weaning stress.

Keywords: piglets, probiotics, body weight, weaning, average daily consumption, weight gain.

INTRODUCTION

Since the importance of a well-balanced intestine microflora for adequate health and high performance has been recognised, feeding strategies have been directed to control the microbial gastrointestinal environment by nutritional means. One key strategy is to feed directly the microorganisms which are supposed to exert beneficial effects on the intestine. According to the currently adopted definition, probiotics are live microorganisms which when administered in adequate amounts confer a health benefit on the host. At the start of the 20th century, probiotics were thought to beneficially affect the host by improving its intestinal microbial balance, thus inhibiting pathogens and toxin producing bacteria. Today, specific health effects are being investigated and documented including alleviation of chronic intestinal inflammatory diseases, prevention and pathogen-induced treatment of diarrhea, urogenital infections,http://en.wikipedia.org/wiki/Probiotic - cite note-Reid-6 and atopic diseases.

Profitability of swine breeding is determined primarily by the quality of feeding, microclimate conditions (temperature, humidity, nuisance and

speed of air currents) and nutrition with testing the possibility of using probiotics.

The aim of the study is to investigate the potential economic and health benefits by the use of probiotics in weaned pigs. The researches have been conducted at A.F. FOFIU, Mizieş locality in Bihor county, during the period of April to June 2012.

MATERIAL AND METHOD

The biological material used was made up of triracial crossbred resulting from the crossing of four metis F1 sows with a boar Duroc breed. The sows F1 were obtained by crossing Landrace boars with sows of Large White breed. Females resulting from this cross are mated with males of Duroc breed, resulting in triracial crossbred, used as the biological material in breeding and industrial exploitation of pork for meat, with good production qualities. The 20 piglets divided in 2 lots as biological material were selected from four sows (metis F1), with common father (Duroc breed). We paid attention to select piglets with similar body weight.

Table 1

Specification	Lot 1 (C)	Lot 2 (experimental)
Basic mixed fodder	100%	99 97%
(% by weight)	10070	<i>,,,,,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Protecure Pellets (% of weight)	-	0.03%
Total	100%	100.00%

General scheme used throughout the experiment

The fodder used for the two lots was identical regarding the energy and protein content and the main amino acids, but the second lot received the experimental factor – probiotics (0.03% Protecure Pellets of the portion of forage) (Table 2).

Table 2

	10		
6 :6	Lot		
Specification	L1 (C)	L2 (0.03%)	
a) Structure (% of total)			
Maze	50	50	
Barley	15	15	
Wheat	15	15	
Groats soy	10	10	
Concentrate PVM	10	10	
b _Nutritional value calculated *			
Metabolisable energy	Kcal/kg	3216	
Crude protein	%	16,60	
Lysine	%	0,878	
Methionine	%	0,421	
Calcium	%	0,787	
Phosphor	%	0,617	

Mixed fodder used in weaned piglets nutrition

- Tabular values INRA – 1989

The working techniques used were those established recommended by the literature in the field: feeding, supervision and observation of daily behavior, weighing the decade following the evolution of body weight in parallel with feed consumption.

Data on the development of weight gain were statistically processed by the method of analysis of variance and the difference significance was determined by applying Test T.

Piglets from each group were housed in collective boxes being respected the conditions of this technological age.

RESULTS AND DISSCUSIONS

At the beginning of the study, the average body weight of piglets in the two groups was similar, but the evolution during this experimental period was favorable for the second lot where probiotisc were used, and it was more obvious after 20 days of probiotic administration.

The total increase in weight realized throughout the experimental period was higher by 1.03 kg piglets in the first lot compared with the second lot (Table 3).

Table 3.

Specification -		Lot		C::C
		Lot 1 (C)	Lot 2 (0.03%)	Significance
Average daily gain betw	veen:			
51 – 60 days	g	350	391	***
	%	100,00	111,71	
61 – 70 days	g	365	381	*
	%	100,00	104,38	
71 – 80 days	g	385	400	*
2	%	100,00	104,21	
81 – 90 days	g	404	427	*
5	%	100,00	105,69	
91 – 100 days	g	414	422	NC
	%	100,00	101,93	INS
Average experimental c	ycle (51 – 100 days)			
	g	383,6	404,2	*
	%	100,00	105,37	Ŧ

The evolution of average daily growth at weaned piglets (g) (from the age of 50 to 100 days)

The weight gain for the second lot (where probiotics were used) was higher than in the first lot with 1.9 to 11.7%.

Regarding the entire experimental period, the average daily gain at piglets from the second lot was 5.37% higher than the first lot, aspect reported also in the literature.

The probiotic is a stimulating factor for feed, that's way the piglets from the experimental lot registered a higher average daily consumption by 2.26% compared to the first lot (Table 4).

	Specification		Lot	
	Specification	L 1 (C)	L 2 (0.03%)	
Fodder consumption	u during the period (in kg)			
51 – 60 days	Total consumption	132.7	141.27	
	Individual average consumption	13.27	14.127	
61 – 70 zile	Total consumption	146	142.7	
	Individual average consumption	14.6	14.27	
71 – 80 zile	Total consumption	164	171.27	
	Individual average consumption	16.4	17,127	
81 – 90 zile	Total consumption	184	188	
	Individual average consumption	18.4	18,8	
91 – 100 zile	Total consumption	188.8	191.2	
	Individual average consumption	18.88	19.12	
Consumption on the	entire period (50 – 100 days)			
	Total consumption	815,5	834.44	
	Individual average consumption	81.55	83.44	
Average daily consu	mption			
	Total consumption	16.31	16.68	
	Individual average consumption	1.63	1,66	

Regarding the evolution of the bioconversion index, it can be noted that the piglets in Lot 2 had a specific lower consumption by 3.32 % compared to the first lot (Table 5).

Table.	5
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		Lot		
Specification		L1(C)	L 2 (0.03%)	
Bioconversion index between:		•	· · · ·	
51 60 davia	g	3.8	3.6	
51 - 60 days	%	100,00	94.73	
61 – 70 days	g	4.0	3.7	
	%	100,00	92,50	
71 – 80 days	g	4.2	4.2	
	%	100,00	100	
81 – 90 days	g	4.5	4.4	
	%	100,00	97.77	
91 – 100 days	g	4.6	4.5	
	%	100.00	97,82	
Average on experimental cycle (51 -	- 100 days)	•	• ·	
51 – 100 days	g	4.22	4.08	
	%	100.00	96.68	

CONCLUSIONS

- Using Protecure Pellets probiotic in weaned piglets determines a higher average daily gain 5.37% and lower bioconversion index of 3.32%.

- Piglets that received Protecure Pellets in the food had an average body weight with 1.03 kg higher than those in the first lot.

- The results obtained from the use Protecure Pellets probiotic at weaned piglets, reveals that using this probiotic, helps piglets pass better over stress of weaning, leading to more easy accommodation of piglets with the new feed.

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