



REVIEWING THE POSSIBILITY OF THE SUBSTITUTION OF ANTIBIOTICS WITH PROBIOTICS IN DIET FOR WEANED PIGLETS



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INTRODUCTION

In the last ten years, in the nutrition of domestic animals, there has been an indication of the negative consequences of the use of antibiotics in the diet of domestic animals. When using the probiotics, effects similar to antibiotics can be achieved, while avoiding possible side effects (residues, withdrawal, resistance, allergies, genotoxicity, etc.). They can increase their gain by stimulating the animals immune system, and thus increase resistance to infectious agents. In addition, the disadvantage of antibiotics is that it takes longer, 5-10 days from the beginning of consumption, before their action starts. It is considered that probiotics act similarly to normal intestinal microflora: neutralize toxins, suppress microflora growth, compete with adhesive sites, cause metabolic disorders of other bacteria, stimulate immunity, produce vitamins, and restore normal intestinal microflora after antibiotic therapy. The aim of this paper is to evaluate the ability of probiotics to act as a substitute for antibiotic growth promoters in respect to health and productivity of weaned piglets.

MATERIALS AND METHODS

The trial included 36 pigs of the same bred composition (F1) distributed in two feeding treatments. Immediately after the piglets were weaned, on the basis of uniform initial weight, they were distributed to experimental groups, taking into account that in each group the sex ratio is the same. In the initial period of the experiment, animals were fed during 27 feeding days, with a starter mixture containing 20% of the crude protein, and in the final period of the experiment, which lasted 16 feeding days, the meals were formulated to contain 18% of the crude protein (grower). The first group of piglets, control, was fed with mixtures based on the use of antibiotics, and the other group of piglets with mixtures where instead of antibiotics Digestar for piglets was included at a concentration of 0.03% of the diet. Food and water were *ad libitum*. During the research period, the following production indicators were monitored: body weight, average daily gain, average daily food consumption, food conversion, by trial periods, and economic justification for the introduction of Digestarom over the kilogram of piglets gain in the trial.

RESULTS

Table 1. Production results in piglets in the initial research period

Group	1 (control)	2 (trial)
Initial body weight of piglets, kg	9.77	9.63
Final body weight of piglets, kg	17.02	16.12
Trial duration, days	27	27
Average daily gain, g	268	241
Index, %	100.00	89.92
Average daily food consumption, kg	0.475	0.452
Index, %	100.00	95.16
Feed conversion ratio, kg	1.77	1.87
Index, %	100.00	105.65

Table 2. Production results in piglets in the final research period

Group	1 (control)	2 (trial)
Initial body weight of piglets, kg	17.02	16.12
Final body weight of piglets, kg	22.36	22.76
Trial duration, days	16	16
Average daily gain, g	334	415
Index, %	100.00	124.25
Average daily food consumption, kg	0.813	0.829
Index, %	100.00	101.97
Feed conversion ratio, kg	2.43	2.00
Index, %	100.00	88.30

Table 3. Production results in piglets in the initial research period

Group	1 (control)	2 (trial)
Initial body weight of piglets, kg	9.77	9.63
Final body weight of piglets, kg	22.36	22.76
Trial duration, days	43	43
Average daily gain, g	293	305
Index, %	100.00	104.9
Average daily food consumption, kg	0.601	0.592
Index, %	100.00	98.50
Feed conversion ratio, kg	2.05	1.94
Index, %	100.00	94.63

CONCLUSION

- ❖ lower gain by 10.1%, and unfavorable food conversion, by 5.65%, in piglets during the initial period of trial;
- ❖ in the second, final, period increase of gain by 24.2% and more favorable food conversion by 17.7%;
- ❖ during the entire trial period, Digestar additive showed positive effects on the gain, which was better by 4.09%, and the conversion of food was more favorable by 5.37% compared to the group of piglets fed with mixtures based on antibiotics;
- ❖ The Digestar in the mixture showed positive effects on the price of piglets growth which was more favorable by 6.48% compared to this indicator realized when animals were fed mixtures in which the Neodox antibiotic was incorporated.