Product:
Penergetic-t

User application Report

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Large-scale trial on Penergetic-t in poultry farming

Introduction

A successful poultry farm depends strongly on the conditions and facilities available on-site. The origin of the animals, feed quality, suitable living conditions and animal health also play just as significant a role. In intensive poultry farming, the question is always how to achieve maximum productivity with minimal feeding costs.

The growth of the chicks is closely related to the composition of the feed and its conversion values. In feeding, it is especially important to pay attention to the stomach area. We now know that large populations of micro-organisms (up to 10^{11} per gram) live in chickens' bowels. A concentration of metabolically active micro-organisms of this size significantly influences food conversion rates and energy conversion levels. These micro-organisms react very sensitively to changes in their living conditions. The wrong composition of food, poor digestion or a damaged immune system can all lead to an increase in the number of harmful bacteria in the bowel.

Antibiotics can reduce the population of harmful microflora and improve the growth potential of the host. Various preparations of antibiotics are already present in prepared feeds to improve growth and resistance. Two factors are particularly important in determining feed quality:
1. composition of ingredients, i.e. the amount of proteins, minerals and vitamins they contain.
2. the feed must be safe for consumption, not only by the animal but also by the consumer.

We tend to revert back to synthetic preparations again and again, that on the one hand stimulate growth, but on the other hand establish themselves in the organism and thus can prove dangerous, when used excessively, in that they can promote allergies or other illnesses. For this reason, it is important that we increase the number of biologically active ingredients used in poultry farming nowadays.

In this trial, the effects of the preparation Penergetic-t 1315 (manufactured by Penergetic International AG) were tested on the growth of chickens being farmed for meat.

This preparation, which is added to the feed, harmonises processes in the organism that are essential for life. It improves digestion, stabilises health, strengthens the immune system and stimulates good intestinal flora.

Test Methods

The tests were carried out in 2002 in co-operation with the Research Laboratory of the University of Education in Vilnius and the company AB Vilniaus Paukstynas. The two test groups contained chickens of race origin 'Rosso Krosos'. The test lasted from 6th November 2002 until 18th December 2002. Each of the two test groups consisted of 100 chicks (50 males and 50 females). The first group was the control group; the second group was the test group (see table 1).

The control group received standard prepared feed with the additive 'Vilzim MFK' (manufactured by AB Biosinteze). The test group received the same standard feed as the control group, but, in addition, they were given the preparation Penergetic-t 1315 (manufactured by Penergetic International AG). See tables 2 – 4 for the composition of the prepared feed.

The objectives of the trial were:
1. To examine the dynamics of the chick mass, feed consumption, losses (deaths of chicks)
2. To test bloods for protein, nucleic acids, triglycerides and lipids
3. To carry out chemical tests on the meat

All of the results were calculated using statistical methods for organic substances.

The chicks were kept on bedding and each group of chicks was housed and cared for in the same way. The conditions comply with Lithuanian zoo-technical requirements and the recommendations of 'Ross Breeders' (Scotland), the company who supplied the chicks.

Test Results

It must be borne in mind, that the live mass was small at the beginning of the trial; therefore the level of weight gain recorded is also slightly smaller. The test results show that the test group grew better than the control group (see tables 5 – 10). Following the addition of the Penergetic-t 1315 preparation, the weight gain (chick mass) in the test group was 8.2% higher than in the control group after 42 days (weight gain in the males: 12.37%, weight gain in the females: 4.04%).

The chickens in the test group also grew better (see table 11). Their average growth per day and night was better than the control group by 8.33% over 42 days. The test group needed 3.61% less feed per kilo of live weight gain (see table 12).
Chick losses were fewer in the test group (see table 13). However, losses are more attributable to stress than to bad feeding practice.

Conclusion

- The best result for live weight gain was recorded in the test group, to whom the Penergetic-t 1315 preparation was given. The effect of Penergetic-t 1315 led to an increase of 8.2% more than the control group in the chick mass (over 42 days). The male mass of the test group, at 12.73%, was very high compared to the control group. The female mass of the test group was, at 4.04%, smaller compared with the control group.
- The feed requirements for the test group were more economical. This group needed 3.61% less feed per kilo of live weight gain.
- There were fewer deaths recorded in the test group (98%).

Table 1

Group	No. of chicks	Group	Feed
1	100 (50 ♂ + 50 ♀)	Control group	Conventional
2	100 (50 ♂ + 50 ♀)	Test group	plus Penergetic-t 1315 (50 grams / ton)

Table 2: Live weight of the chicks in grams

Group	Feed	Age of chicks (in days)			
		7	21	35	42
1	conventional	118.25	526.73	1463.45	2006.28
2	t 1315	122.35	613.29	1580.22	2173.36

Table 3: Live weight of the chicks in %

Group	Feed	Age of chicks (in days)			
		7	21	35	42
1	conventional	100	100	100	100
2	t 1315	103.43	116.43	107.95	108.20

Table 4: Live weight of the male chicks in grams

Group	Feed	Age of chicks (in days)			
		7	21	35	42
1	conventional	116.22	525.76	1471.51	2061.12
2	t 1315	118.10	616.22	1628.22	2316.28

Table 5: Live weight of the male chicks in %

Group	Feed	Age of chicks (in days)			
		7	21	35	42
1	conventional	100	100	100	100
2	t 1315	101.61	117.20	110.64	112.37

Table 6: Live weight of the female chicks in grams

Group	Feed	Age of chicks (in days)			
		7	21	35	42
1	conventional	120.28	527.70	1455.40	1951.46
2	t 1315	126.31	610.37	1532.23	2030.45

Table 7: Live weight of the female chicks in %

Group	Feed	Age of chicks (in days)			
		7	21	35	42
1	conventional	100	100	100	100
2	t 1315	105.26	115.66	105.27	104.04

Table 8: Average growth in grams

Groups	Feed	Age in days			
		0 - 7	0 - 21	0 - 31	0 - 42
1	conventional	16.89	25.08	41.81	47.76
2	t 1315	17.47	29.20	45.14	51.74

Table 9: Feed requirements for 1 kilo of live weight gain

Group	Feed	Age in days			
		0 - 7	0 - 21	0 - 31	0 – 42
1	conventional	1.18	1.76	1.88	1.94
2	t 1315	1.17	1.68	1.79	1.87

Table 10: Death rate in %

Group	Feed	Age in days			
		7	21	35	42
1	conventional	99	98	98	96
2	t 1315	100	99	99	98