THE EFFECT OF TWO - ELEMNETED PROBIOTIC PREPARATE ON BASIC FATTENING PARAMETERS OF HYBRID HUBBARD JV

EFECTUL A DOUĂ PREPARATE PROBIOTICE ASUPRA INDICILOR PRODUCTIVI AI HIBRIDULUI HUBBARD JV

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Growth stimulators on basic of probiotics are preparations biological character with correctly defined strains live micro organisms. Most important signification their used consisted in positive stimulation natural micro flora of digestive tract therefore fortified mechanisms of autoimmunity system of organism, what very narrowly relate with achieved utility animal parameters. Healthy and vital individuals marking better nutrient utilisation, equally growth intensity consistent higher slaughter vield. Propoul is two - elemental probiotic preparate designated for poultry, which include special selected strain of genus Lactobacillus. Results their affect is improve of immunity, metabolism and also favourable effect on utility. In 42days experiment we tested effect of probiotic preparate Propoul on basic fattening parameters of hybrid Hubbard JV. We divided broiler chickens into three groups control (C) without probiotic, experimental 1(E1) with decreased probiotic amount during fattening period and experimental 2 (E2) with constant concentration of testing preparate). Propoul in fluid form we was applicating in drinking water. Effect of probiotic positive manifested in all observed parameters. With exception organic growth and growth index, where we founded favourable effect his application especially in first two weeks in all other both experimentals by expressive rate dominated in achieved values in compared with control. Mostly, from aspect average live weight, where we recorded from 2. week to end of fattening period statistically high significant (P < 0.01) and statistically very high significant difference (P < 0.001) in benefit of E1 and E2 groups.

Key words: probiotics, broiler chickens, fattening parameters

Introduction

Probiotics are such potential tools in modern poultry production not only as performance enhancer to uptake the maximum production from the same feed quantity but boosts up the immunity, minimizes the disease recovery time and reduces the mortality. The mechanism of probiotics action is not yet known and is

open for research, although there are several hypotheses. There is increasing evidence to suggest that probiotics act by stimulating the host's immune systems. Probiotics stimulate the immunity of the chickens in two ways: flora from probiotic migrate throughout the gut wall and multiply to a limited extent or antigen released by the dead organisms are absorbed and thus stimulate the immune system.

Probiotics fed chickens had more weight than other group (Lan et al., 2003). Recently, it has been reported that poultry growth is promoted with the increasing doses of probiotics. Ahmad (2004) determined that growth pattern of treated birds showed an increase in weight gain relative to the control, up to 1.0 gram per 10 kg feed but beyond that the pattern was reversed. Feed conversion ratio as affected by probiotic preparates is the subject of controversy. Some studious (Hamid et al., 1994) show that probiotics supplementation in feed of broiler chickens improve the feed conversion ratio while other suggest no such effect on feed conversion ratio (Ergun et al., 2000). The aim of this study was determined effect of probiotic preparate Propul in drinking water on basic fattening parameters of broiler chickens.

Materials and Methods

The experiment realised in half-operation conditions experimental base of Department of Poultry Science and Small Animal Husbandry of Slovak University of Agriculture in Nitra in three-floor cage technology. Tested preparate Propoul contented two components - probiotic strain *Laktobacillus fermentum* with potented component maltodextrin and fructooligosaccharide. Totally 180 one day broiler chickens both sexes of hybrid Hubbard JV divided into three groups:

Control group - between probiotic preparate

Experimental group 1- addition of probiotic preparate Propoulin fluid form in drinking water (from 1 day to 2. week of age - 6.6 ml, from 3. week to 6. week of age - 3.7 ml).

Experimental group 2 - addition of probiotic preparate Propoul in fluid form in drinking water (from 1 day to 6 week 3.3 ml)

In this experiment we used feed mixtures with standard content.

The average body weight of growing broiler chickens we measured every week. We appreciated basic fattening parameters in this experiment:

- average live weight (g)
- average daily gain (g)
- feed consumption (kg)

- mortality (%)

Effectuality of fattening was evaluated by European Production Efficiency Factor (EPEF).

Results and Discussions

In 7 day of age we recorded higher value of average daily gain in both experimental groups with addition of probiotic preparate in comparison with control group and we noted high statistically difference (P<0.01). The tendency of improved live weight in both experimental groups continued to end of fattening period and differences in comparison with control group were very high statistically significant (P<0.001). We found massive effect of higher level of probiotic in drinking water in experimental group 2 from 28 to 42 day, however differences of average daily weight were statistically no significant (P>0.05). The results of growth ability of broiler chickens are shown in Graph 1.



Graph 1 Comparison of broiler chickens growth ability from day 1 to day 42

We determined that average daily gain in both experimental groups was higher in comparison with control group during over fattening period. The comparison of average daily gain of experimental groups had a fluctuating tendency but from 28 to 42 day we recorded higher values of parameters in experimental group 2 (Graph 2).



Graph 2 Comparison of average live weight gain broiler chicken during fattening period

The feed consumption was positive affected by addition of tested probiotic preparate Propul. Lowest value of feed consumption we observed in experimental group 2 (1.62 kg), following experimental group 2 with value 1.64 kg. Difference between experimental groups was 1.22 % in benefit experimental group 2. Feed consumption of control group was highest (1.70 kg) and difference between control group and experimental group 1, respectively experimental group 2 was 3.53 % respectively 4.71 %.

During over fattening period we recorded any mortality in groups growing broiler chickens.

In the course evaluation of European Production Efficiency Factor we found better EPEF in experimental group 2 (270.04) second in sequence was experimental group 1 (256.63) and worst value achieved control group (220.49).

Conclusions

The application of probiotic preparate Propoul with strain *Laktobacillus fermentum* with potented components maltodextrin and fructooligosaccharide very high statistically significant improved growth ability of broiler chickens. Dates indicated that the addition tested probiotic had a positive influence on feed consumption. In last week we recorded positive effect of higher level of tested probiotic in drinking water on growth ability of broiler chickens compared with group of broiler chickens with lower level of probiotic in drinking water.

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Stimulatorii de creștere sunt preparate biologice care încorporează microorganisme vii în structura lor. Cel mai important lucru este că utilizarea lor are efect pozitiv stimulând microflora de la nivelul tubului digestiv, îmbunătățind mecanismele sistemului imunitar. La indivizii sănătoși și cu vitalitateridicată se observă o mai bună utilizare a nutrienților, la fel și intensitatea de creștere și un mai mare randament la sacrificare. Propoul este un probiotic destinat păsărilor care include tulpini selecționate din genul Lactobacillus. Folosirea lui îmbunătățește imunitatea și, metabolismul păsărilor. Într-un experiment de 42 de zile am testat efectul preparatului probiotic Propoul asupra hibridului Hubbard JV. Puii au fost împărțiți în trei variante experimentale: martor (C) fară administrare de probiotic, experimental 1 (E1) cu cantitate descrescătoare de probiotic în timpul perioadei de creștere și experimental 2 (E2) cu concentrație constantă. Propoul în formă lichidă a fost administrat în apa de băut. Efectul pozitiv al probioticelor a fost observat la toți parametrii măsurați. Cu excepția creșterii organelor și a indicilor de creștere noi am semnalat efect favorabil în special în primele două săptămâni. Au fost înregistrate diferențe semnificative (P < 0.01) și foarte semnificative în ceea ce privește creșterea (P < 0.001)între loturile experimentale.

Cuvinte cheie: probiotice, pui de carne, parametrii de creștere.