

RINGKASAN

Potensi Probiotik Bakteri Asam Laktat Terhadap Performa Produksi Dan Analisis Usaha Pada Ayam Petelur

Biaya pakan merupakan biaya paling besar yang dibutuhkan oleh peternak yaitu mencapai 60-70% dari total biaya usaha. Berbagai usaha dilakukan dalam menekan biaya pakan tanpa mengurangi performa produksi. Penggunaan suplemen tambahan berupa probiotik menjadi salah satu alternatif yang bisa digunakan untuk meningkatkan performa produksi. Probiotik merupakan pakan tambahan berupa mikroorganisme hidup yang menguntungkan dengan cara meningkatkan keseimbangan mikroba di dalam saluran pencernaan. Mikroorganisme probiotik dapat menghasilkan antimikroba (bakteriosin) dan asam organik yang dapat menghambat pertumbuhan bakteri pathogen di dalam saluran pencernaan.

Penelitian ini bertujuan untuk melihat bagaimana efek dari probiotik bakteri asam laktat yang terdiri dari *Bifidobacterium sp.*, *Lactobacillus acidophilus*, *Lactococcus lactis*, dan *Lactobacillus casei*, yang dicampur pada air minum dalam meningkatkan performa produksi (konsumsi pakan, *Feed Conversion Ratio/FCR*, *Hen Day Production/HDP* dan berat telur) pada ayam petelur.

Ayam petelur strain Isa Brown sebanyak 36 ekor umur 30 minggu dibagi menjadi 3 perlakuan yaitu P0, perlakuan tanpa tambahan probiotik; P1, perlakuan yang diberikan probiotik BAL 1 ml/liter air minum; dan P2, perlakuan yang diberikan probiotik BAL 2 ml/liter air minum. Pengambilan data berupa telur dan

sisapakan dilakukan mulai dari minggu ke 3 sampai minggu ke 4 penelitian. Data yang didapat kemudian diolah menggunakan bantuan *Microsoft excel* dan dianalisis statistik dengan menggunakan analisis ragam/*Analysis of Variance* (ANOVA). Apabila diperoleh hasil yang berbeda nyata ($\bar{p} < 0,05$) maka dilanjutkan dengan Uji Jarak Berganda Duncan.

Hasil penelitian menunjukkan bahwa pemberian probiotik sebanyak 1-2 ml/liter air minum dapat menurunkan konsumsi pakan dan FCR pada ayam petelur, namun tidak berpengaruh terhadap berat telur dan HDP. Penggunaan probiotik bakteri asam laktat dosis 1-2 ml/liter air minum juga dapat menurunkan rata-rata biaya variabel, BEP harga dan BEP produk, dan meningkatkan keuntungan dan R/C Ratio. Berdasarkan hasil penelitian, maka saran yang bisa diberikan adalah bahwa peternak bisa menerapkan penggunaan probiotik BAL sebanyak 2 ml/ liter air minum untuk meningkatkan performa produksi dan keuntungan usaha.

SUMMARY

The Potency of Probiotic of Lactic Acid Bacteria in Growth Performance and Business Analysis of Laying Hens

Feed cost is the biggest cost required by farmers, reaching 60-70% of the total business costs. Various attempts were made to reduce feed cost without reducing growth performance. Feed additives are one of the choices that can be used to improve growth performance. Probiotics are feed additives consist of beneficial living microorganisms by increasing the balance of microbes in the digestive tract. Probiotic microorganisms that can produce antimicrobial (bacteriocin) and organic acids that can inhibit the growth of pathogenic bacteria in the digestive tract.

This research aims to see the effects of probiotics lactic acid bacteria which consist of *Bifidobacterium* sp., *Lactobacillus acidophilus*, *Lactococcus lactis*, and *Lactobacillus casei*, mixed in drinking water to improve growth performance (feed consumption, Feed Conversion Ratio / FCR, Hen Day Production / HDP and egg weight) in laying hens.

There were 36 of 30 weeks old Isa Brown laying hens which were divided into 3 treatments. There were P0, none treatment; P1, given 1 ml of probiotics per liter of drinking water; and P2, given 2 ml of probiotics per liter of drinking water. Data collection started from week 3 to week 4 of the research. The data processed using Microsoft Excel and then analyzed statistically using Analysis of Variance (ANOVA). If the results were significantly different ($\bar{p} < 0.05$), then it was processed with the Duncan's Multiple Range Test.

The results showed that the addition of probiotics lactic acid bacteria dose of 1-2 ml/liter of drinking water could reduce feed consumption and FCR in laying hens, but did not affect egg weight and HDP. The addition of probiotics lactic acid bacteria dose of 1-2 ml/liter of drinking water can also reduce the average of variable costs, BEP prices and BEP products, and increase profits and R / C Ratio. Based on the results of the research, we can suggest that farmers can apply the addition of probiotics lactic acid bacteria dose of 2 ml/liter of drinking water to improve growth performance and business profits.

**THE POTENCY OF PROBIOTIC OF LACTIC ACID BACTERIA IN
GROWTH PERFORMANCE AND BUSINESS ANALYSIS
OF LAYING HENS**

Putri Indra Irawan

ABSTRACT

The aim of this study was to determine the effect of probiotics lactic acid bacteria in growth performance and business analysis of laying hens. This study used 36 of 30 weeks-old laying hens Isa Brown strain. The concentration of probiotics *Bifidobacterium sp.*, *Lactococcus lactis*, and *Lactobacillus sp.* was $1,2 \times 10^9$ CFU/ml. There were three kinds of treatments, i.e. P0 (none treatment), P1 (given 1 ml of probiotics per liter of drinking water), and P2 (given 2 ml of probiotics per liter of drinking water). The results showed that feed consumption and FCR value of each treatment was significantly different ($\bar{p} < 0.05$). Meanwhile for egg weight and HDP, it showed that there were no significant difference ($\bar{p} > 0.05$) between all treatments. The P2 treatment showed the lowest value of feed consumption and FCR. The business analysis showed that the P2 treatment gave the highest profit among others. It can be concluded that the addition of probiotics lactic acid bacteria dose of 2 ml per liter of drinking water can be used to increase the growth performance of laying hens and also can give more profit in business analysis.

Keywords: probiotics, growth performance, business analysis, laying hens