

## ABSTRAK

### EFEKTIVITAS SUBSTITUSI *SOYBEAN MEAL* DAN MINERAL ORGANIK (Zn dan Cr) TERHADAP KUALITAS SEMEN KAMBING RAMBON

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Penelitian ini bertujuan untuk mengetahui efektivitas substitusi *soybean meal* dan mineral organik (Zn dan Cr) pada pakan terhadap kualitas semen kambing Rambon. Penelitian ini dilaksanakan pada November 2022–Januari 2023 di kandang Jurusan Peternakan, Fakultas Pertanian, Universitas Lampung. Penelitian ini dilakukan dengan mengelompokkan ternak berdasarkan bobot badan menjadi 3 kelompok yaitu kecil, sedang, dan besar yang berfungsi sebagai ulangan pada 12 ekor kambing Rambon dengan 4 perlakuan dan 3 ulangan. Perlakuan pada penelitian ini yaitu: P1: ransum basal 100% (silase daun singkong, onggok, bungkil sawit, dan urea 35 g), P2: ransum basal 90% dan *soybean meal* 10%, P3: ransum basal 100% + mineral organik (Zn 40 ppm + Cr 0,3 ppm), dan P4: ransum basal 90% + *soybean meal* 10% + mineral organik (Zn 40 ppm + Cr 0,3 ppm). Data yang diperoleh dianalisis dengan menggunakan analisis deskriptif. Hasil penelitian pada volume semen yaitu P1 1,42; P2 1,38; P3 1,37; dan P4 1,50 ml/ejakulat, pH yaitu P1 6,8; P2 6,6; P3 6,6; dan P4 6,7, konsistensi yaitu P1 sedang; P2 sedang; P3 kental; dan P4 kental, warna semen yaitu P1 putih susu; P2 putih susu; P3 putih susu; dan P4 putih susu, bau yaitu P1 khas sperma; P2 khas sperma; P3 khas sperma; dan P4 khas sperma, gerakan massa motilitas yaitu P1 ++; P2 ++; P3 ++; dan P4 +++, motilitas individu yaitu P1 68%; P2 70%; P3 67%; dan P4 77%, persentase spermatozoa hidup yaitu P1 77%; P2 78%; P3 76%; dan P4 83%, konsentrasi spermatozoa yaitu P1 2.198; P2 2.218; P3 2.301; dan P4 2.381 juta sel/ml, dan abnormalitas yaitu P1 1,2%; P2 2,2%; P3 1,7%; dan P4 1,6%. Substitusi ransum kombinasi dengan *soybean meal* dan mineral organik (Zn dan Cr) dapat memberikan pengaruh terbaik terhadap kualitas semen.

**Kata kunci:** Kambing Rambon, Kualitas semen, Mineral organik, dan *Soybean meal*

## **ABSTRACT**

### **THE EFFECTIVITY OF SUBSTITUTION SOYBEAN MEAL AND ORGANIC MINERALS (Zn and Cr) ON THE QUALITY OF RAMBON GOATS SPERM**

by

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This study aims to determine the effect of adding soybean meal and organic minerals (Zn and Cr) in the feed to the sperm quality of Rambon goats. This research was conducted in November 2022–January 2023 in the farmhouse of the Department of Animal Husbandry, Faculty of Agriculture, University of Lampung. This research was carried out by grouping the animals based on body weight into 3 groups, namely small, medium, and large, which functioned as replications on 12 Rambon goats with 4 treatments and 3 replications. The treatments in this study were: P1: basal ration 100% (silage of cassava leaves, onggok, palm oil cake, and 35 g urea), P2: 90% basal ration and 10% soybean meal, P3: basal ration 100% + organic minerals (Zn 40 ppm + Cr 0.3 ppm), and P4: basal ration 90% + soybean meal 10% + organic minerals (Zn 40 ppm + Cr 0.3 ppm). The data obtained was analyzed using descriptive analysis. The results of the research on semen volume were P1 1,42; P2 1,38; P3 1,37; and P4 1,50 ml/ejaculate, pH of P1 6,8; P2 6,6; P3 6,6; and P4 6,7, consistency namely P1 medium; P2 medium; P3 thick; and P4 thick, cement color namely P1 milky white; P2 milky white; P3 milky white; and P4 milky white, odor namely P1 typical sperm; P2 typical sperm; P3 typical sperm; and P4 typical sperm, sperm mass motility namely P1++; P2++; P3++; and P4 +++, individual motility namely P1 69%; P2 70%; P3 67%; and P4 75%, the percentage of live spermatozoa namely P1 77%; P2 78%; P3 76%; and P4 83%, spermatozoa concentration namely P1 2.198; P2 2.218; P3 2.301; and P4 2.381 million cells/ml, and on abnormalities namely P1 1,2%; P2 2,2%; P3 1,7%; and P4 1,6%. The combination of ration substitution with soybean meal and organic minerals (Zn and Cr) can have the best effect on sperm quality.

**Keywords** : Organic mineral, Quality of semen, Rambon goats, and Soybean meal