

ABSTRAK

PENGARUH SUBSTITUSI SUMBER PROTEIN KONSENTRAT DENGAN *SINGLE CELL PROTEIN* (SCP) TERHADAP KADAR TOTAL PROTEIN PLASMA DAN FIBRINOGEN DOMBA LOKAL

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Ketersediaan bungkil kedelai sebagai sumber protein utama dalam konsentrat masih bergantung pada impor sehingga diperlukan alternatif sumber protein yang lebih ekonomis dan mudah diperoleh. *Single Cell Protein* (SCP) berbasis fermentasi molase *Saccharomyces cerevisiae* berpotensi digunakan sebagai substitusi bungkil kedelai karena memiliki kandungan protein yang cukup tinggi. Penelitian ini bertujuan mengevaluasi pengaruh substitusi bungkil kedelai dengan SCP terhadap kadar total protein plasma dan fibrinogen darah domba lokal. Penelitian ini dilaksanakan di Domba Sakti Farm, Bibis, Bangunjiwo, Bantul, Daerah Istimewa Yogyakarta. Penelitian menggunakan 20 ekor domba jantan lokal umur 8–12 bulan yang dibagi menjadi empat kelompok perlakuan, yaitu substitusi bungkil kedelai oleh SCP sebesar 0% (P0), 7,5% (P1), 15% (P2), dan 22,5% (P3). Pakan diberikan dalam bentuk campuran hijauan dan konsentrat dengan perbandingan 60:40 selama 10 minggu. Sampel darah diambil melalui vena jugularis sebanyak 10 ml pada minggu ke-10 untuk pemeriksaan TPP menggunakan refraktometer dan fibrinogen dengan metode *heat precipitation*. Data dianalisis menggunakan uji Kruskal-Wallis. Hasil penelitian menunjukkan bahwa substitusi bungkil kedelai dengan SCP tidak memberikan pengaruh nyata ($P > 0,05$) terhadap kadar TPP maupun fibrinogen darah domba lokal. Rataan kadar TPP pada kelompok P0, P1, P2, dan P3 berturut-turut adalah 6,24; 6,66; 6,48; dan 6,68 g/dL, sedangkan kadar fibrinogen berturut-turut sebesar 240; 300; 240; dan 300 mg/dL. Seluruh nilai masih berada dalam kisaran normal. Disimpulkan bahwa SCP dari fermentasi molase *Saccharomyces cerevisiae* berpotensi sebagai substitusi bungkil kedelai hingga level 22,5% dalam konsentrat tanpa memberikan efek negatif terhadap profil protein plasma dan indikator inflamasi domba jantan lokal.

Kata kunci: domba, fibrinogen, protein, *Saccharomyces*, SCP

ABSTRACT

THE EFFECT OF SUBSTITUTING CONCENTRATE PROTEIN SOURCES WITH SINGLE CELL PROTEIN (SCP) ON TOTAL PLASMA PROTEIN AND FIBRINOGEN LEVELS OF LOCAL SHEEP

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The availability of soybean meal as the primary protein source in concentrate feed still depends on imports, creating the need for alternative protein sources that are more economical and readily available. Single Cell Protein (SCP) derived from *Saccharomyces cerevisiae* molasses fermentation has potential as a substitute for soybean meal due to its relatively high protein content. This study aimed to evaluate the effect of soybean meal substitution with SCP on total plasma protein and fibrinogen levels in local sheep. This research was conducted at Domba Sakti Farm, Bibis, Bangunjiwo, Bantul, Special Region of Yogyakarta. A total of 20 local male sheep aged 8–12 months were divided into four treatment groups consisting of soybean meal substitution with SCP at 0% (P0), 7.5% (P1), 15% (P2), and 22.5% (P3). The animals were fed a forage and concentrate mixture at a ratio of 60:40 for 10 weeks. Blood samples of 10 ml were collected through the jugular vein during the 10th week for TPP examination using a refractometer and fibrinogen analysis using the heat precipitation method. Data were analyzed using the Kruskal–Wallis test. The results showed that soybean meal substitution with SCP had no significant effect ($P > 0.05$) on TPP or fibrinogen levels. Mean TPP values in P0, P1, P2, and P3 were 6.24, 6.66, 6.48, and 6.68 g/dL, respectively, while mean fibrinogen levels were 240, 300, 240, and 300 mg/dL, respectively. All values remained within the normal physiological range. It was concluded that SCP derived from *Saccharomyces cerevisiae* molasses fermentation has the potential to substitute soybean meal up to a 22.5% inclusion level in concentrate feed without adversely affecting the plasma protein profile and inflammatory indicators of local male sheep.

Key words: fibrinogen, protein, *Saccharomyces*, SCP, sheep