RINGKASAN

Pujo Sulistyo. Penelitian yang berjudul "Kecernaan Bahan Kering dan Bahan Organik Pakan Kambing yang mendapat suplementasi Sulfur dan Asam isobutirat Secara *In Vitro*" telah dilaksanakan pada tanggal 22 Desember 2016 – 4 Januari 2017 di Laboratorium Ilmu Nutrisi dan Makanan Ternak (INMT), Fakultas Peternakan, Universitas Jenderal Soedirman, Purwokerto. Tujuan penelitian adalah mengkaji pengaruh interaksi sulfur dan asam isobutirat terhadap kecernaan bahan kering dan bahan organik pakan kambing perah, mengkaji pengaruh sulfur terhadap kecernaan bahan kering dan bahan organik pakan kambing perah, serta mengkaji pengaruh asam isobutirat terhadap kecernaan bahan kering dan bahan organik pakan kambing perah.

Materi yang digunakan dalam penelitian adalah cairan rumen dari 3 ekor kambing Jawarandu jantan yang diambil di tempat pemotongan kambing, Pasar Sokaraja, Kecamatan Sokaraja, Kabupaten Banyumas segera setelah kambing dipotong dan ransum perlakuan yang terdiri atas ransum basal (rumput lapang, dedak padi, pollard dan bungkil kelapa), sulfur dan asam isobutirat. Penelitian dilakukan menggunakan metode experimental secara *in vitro* menggunakan rancangan acak lengkap (RAL) pola factorial 3x3, terdapat 9 kombinasi perlakuan dan setiap perlakuan diulang 3 kali, sehingga terdapat 27 unit percobaan. Perlakuan yang diteliti adalah P_1 = ransum basal + sulfur 0% + asam isobutirat 0 mM, P_2 = ransum basal + sulfur 0,3% + asam isobutirat 0 mM, P_3 = ransum basal + sulfur 0,6% + asam isobutirat 0 mM, P_4 = ransum basal + sulfur 0%+ asam isobutirat 0,2 mM, P_5 = ransum basal + Sulfur 0,3% + asam isobutirat 0,2 mM, P_6 = ransum basal + sulfur 0,6%+ asam isobutirat 0,2mM, P_7 = ransum basal + sulfur 0%+ asam isobutirat 0,4 mM, P_8 = ransum basal + sulfur 0,3%+ asam isobutirat 0,4 mM, dan P_9 = ransum basal + sulfur 0,6%+ asam isobutirat 0,4 mM. Peubah yang diamati yaitu kecernaan bahan kering (KBK) dan kecernaan bahan organik (KBO). Data peubah yang diuji dianalisis menggunakan analisis variansi dan dilanjutkan dengan uji *Orthogonal Polinomial*. Hasil penelitian menunjukkan bahwa interaksi antara suplementasi sulfur dan asam isobutirat berpengaruh sangat nyata ($P<0,01$) menurunkan kecernaan bahan kering, Sedangkan pada kecernaan bahan organik, interaksi antara suplementasi sulfur dan asam isobutirat tidak berpengaruh nyata. Namun suplementasi sulfur berpengaruh nyata ($P<0,05$) menurunkan kecernaan bahan organik. Kesimpulan dari penelitian adalah kecernaan bahan kering terbaik diperoleh dari interaksi antara suplementasi sulfur dan asam isobutirat pada taraf sulfur 0% dan asam isobutirat 0,2mM. dan semakin tinggi taraf suplementasi sulfur semakin menurunkankan kecernaan bahan organik dengan rata-rata penurunkan 3% .

Kata kunci : kecernaan bahan kering, kecernaan bahan organik, sulfur , asam isobutirat

SUMMARY

Pujo Sulistyo. The research, entitled "Dry Matter and Organic Matter Digestibility of Goat Feed Supplemented with isobutyric acid and sulfur *In Vitro*" was held from 22 December 2016 to 04 January 2017 in the Laboratory of Nutrition and Feed Science, Faculty of Animal Science, University of Jenderal Soedirman, Purwokerto. The research purposes are reviewing the influence of isobutyric acid and sulfur interaction against digestibility of dry material and organic material of goat feed, and reviewing the influence of isobutyric acid against digestibility of dry material and organic material of goat feed.

Materials which used in the research are from 3 the male Jawarandu goat rumen fluid that taken in the goat slaughter house, Sokaraja Subdistrict, Banyumas Regency after the time that goat is slaughter and ration which consists of basal ration (wield grass, paddy bran, pollard, and coconut oilcake), sulfur and isobutyric acid. The research is done with uses experiment method with *in vitro* using completed random design with 3x3 factorial pattern. There are combination 9 treatment and every treatment is repeated 3 times, so there are 27 treatment. Treatment that reviewed are B1= basal ration + 0% of sulfur+ 0 mM isobutyric acid, B2= basal ration+ 0% of sulfur+ 0,2 mM isobutyric acid, B3= basal ration+ 0% of sulfur+ 0,4 mM isobutyric acid, B4= basal ration+ 0,3% of sulfur+ 0 mM isobutyric acid, B5= basal ration+ 0,3% of sulfur+ 0,2 mM isobutyric acid, B6= basal ration+ 0,3% of sulfur+ 0,4 mM isobutyric acid, B7= basal ration+ 0,6% of sulfur+ 0 mM isobutyric acid, B8= basal ration+ 0,6% of sulfur+ 0,2 mM isobutyric acid, B9= basal ration+ 0,6% of sulfur+ 0,4 mM isobutyric acid. Variables that observed are dry matter digestibility and organic matter digestibility. The data were analyzed with variance analyzing and continued with *Orthogonal Polinomial* test. The research result indicated that the interaction between sulfur supplementation and isobutyrate acid decreased ($P<0,01$) dry material digestibility. But sulfur supplementation decreased ($P<0,05$) organic material digesbility. The conclusion of research are the best dry matter digestibility is got from interaction between sulfur supplementation 0% and 0,2 mM isobutyrate acid and higher sulfur supplementation the lower organic matter digestibility with decrease 3%.

Keyword : Dry matter digestibility, Organic matter digestibility. Sulfur, isobutyric acid