

RINGKASAN

ARIF MARDIANTO. Penelitian ini berjudul “Kadar NDF dan ADF Berbagai Bahan Pakan Limbah Agroindustri yang Difermentasi Menggunakan Isolat Bakteri Selulolitik Asal Ulat Albasia (*Paraserianthes falcataria*)”. Penelitian bertujuan untuk mengevaluasi kualitas NDF (*Neutral Detergent Fiber*) dan ADF (*Acid Detergent Fiber*) bahan pakan asal limbah agroindustri yang difermentasi dengan isolate bakteri selulolitik asal ulat albasia. Penelitian dilaksanakan pada tanggal 26 Oktober 2015 sampai dengan 10 Desember 2015 di Laboratorium Ilmu Nutrisi dan Makanan Ternak, Fakultas Peternakan, Universitas Jenderal Soedirma. Materi yang digunakan pada penelitian ini adalah tongkol jagung 400 gram, kulit kacang kedelai 400 gram, kulit kacang tanah 400 gram, serta isolate bakteri selulolitik asal ulat albasia spesies ulat boktor (*Xystrocera festiva Pascoe*) 60 ml. Metode penelitian yang digunakan adalah eksperimen dan dianalisis menggunakan *Uji Independent Sample T Test* dengan 6 perlakuan dan 4 ulangan. Perlakuan yang diberikan R1: 50 gram kulit kacang tanpa fermentasi; R2: 50 gram kulit kedelai tanpa fermentasi; R3: 50 gram tongkol jagung tanpa fermentasi; R4: 50 gram kulit kacang Fermentasi dengan 10% bakteri selulolitik; R5: 50 gram kulit kedelai fermentasi dengan 10% bakteri selulolitik; R6: 50 gram Tongkol jagung fermentasi dengan 10% bakteri selulolitik. Hasil penelitian rata-rata kadar NDF R1, R2, R3, R4, R5, R6 berturut-turut sebesar 69.86%; 67.55%; 41.00%; 61.68%; 64.82%; 42.17%. Rataan penelitian kadar ADF R1, R2, R3, R4, R5, R6 berturut-turut sebesar 58.45%; 47.85%; 36.29%; 51.89%; 45.75%; 38.96%. Hasil Analisis *Uji Independent Sample T Test* menunjukkan bahwa fermentasi bakteri selulolitik isolate asal ulat albasia berpengaruh sangat nyata ($P < 0,01$) terhadap kadar NDF (*Neutral Detergent Fiber*) dan berpengaruh nyata ($P < 0,05$) terhadap kadar ADF (*Acid Detergent Fiber*). Dapat disimpulkan bahwa isolate bakteri selulolitik asal ulat albasia dapat digunakan untuk fermentasi berbagai macam limbah agroindustri.

Kata kunci : Bakteri selulolitik, Ulat albasia, kadar NDF, kadar ADF

SUMMARY

ARIF MARDIANTO. This research entitled "NDF and ADF Level of Various fermented waste Agroindustrial Feedstuff Using cellulolytic Bacterial Isolates origin Albasia (*Paraserianthes falcataria*) caterpillar". The research aimed to evaluate the quality of the NDF (Neutral Detergent Fiber) and ADF (Acid Detergent Fiber) fermented waste Agroindustrial Feedstuff with cellulolytic Bacterial Isolates origin albasia caterpillar. The research was conducted on October 26, 2015 up to December 10 2015 in the Laboratory of Animal Nutrition and Food Sciences, Faculty of Animal Science, Unsoed. Materials used in this research was 400 grams corn cobs, 400 grams bark soybeans, 400 grams peanut skin, as well as isolate of cellulolytic bacteria origin albasia caterpillar species boktor (*Xystrocera festiva pascoe*) 60 ml. Method of the research used was experimental and analyzed using T Test Sample Independent Test with 6 treatments and 4 repetition. Treatment given were R1: 50 grams of peanut shells without fermentation; R2: 50 grams of soy skin without fermentation; R3: 50 grams of corn cobs without fermentation; R4: 50 grams of fermented peanut shells with 10% of cellulolytic bacteria; R5: 50 grams of fermented soy skin with 10% of cellulolytic bacteria; R6: 50 grams of fermented corn cobs 10% cellulolytic bacteria. The results of the research was that the average levels of NDF R1, R2, R3, R4, R5, R6 were respectively 69.86%; 67.55%; 41.00%; 61.68%; 64.82%; 42.17%. Mean of ADF levels of research was R1, R2, R3, R4, R5, R6, respectively 58.45%; 47.85%; 36.29%; 51.89%; 45.75%; 38.96%. Results of T Test Sample Independent Test Analysis showed that cellulolytic bacterial isolates origin albasia caterpillar affected very significant ($P < 0.01$) on levels of NDF (Neutral Detergent Fiber) and significantly ($P < 0.05$) on the level of ADF (Acid Detergent Fiber). It can be concluded that cellulolytic bacteria isolates origin albasia caterpillar can be used for fermentation of various sorts of agro-industry waste.

Keyword: cellulolytic bacteria, albasia caterpillar, level of NDF, level of ADF