

## ABSTRAK

**BURHANUDIN**, C/N Rasio dan Kadar Air Kompos Berbahan Baku Feses Sapi Potong Yang Diperkaya Azolla (*Azolla microphylla*) telah dilaksanakan pada tanggal 6 Januari 2019 sampai 3 Februari 2019 di peternakan UD Amanah Farm (Beef and Sheep Fattening) bapak M. Bata, Desa Datar, Kecamatan Sumbang, Kabupaten Banyumas, Jawa Tengah. Tujuan penelitian adalah Mengetahui pengaruh penambahan Azolla terhadap C/N rasio dan kadar air pada kompos berbahan baku feses sapi potong. Materi yang digunakan dalam penelitian yaitu total feses sapi potong 1.800 kg dengan kadar air berkisar 70%, Azolla segar yang telah ditiriskan selama 24 jam sebanyak 180 kg, serbuk gergaji sebanyak 180 kg, abu sebanyak 180 kg, aktivator sebanyak 4,5 kg, kapur dolomit sebanyak 36 kg dan semua bahan digunakan untuk 18 gundukan. Alat yang digunakan yaitu 1 buah cangkul yang digunakan untuk mengaduk atau membalik adonan, 1 unit timbangan digunakan untuk menimbang berat bahan. Metode penelitian dilakukan secara eksperimen dengan menggunakan Rancangan Acak Lengkap (RAL) yang terdiri dari tiga perlakuan dan enam kali ulangan. Perlakuan yaitu penambahan azolla dengan level 0 % ( $P_0$ ), 2,67% ( $P_1$ ), dan 5,34 % ( $P_2$ ) dalam bentuk BK. Variabel yang diamati adalah C/N rasio dan Kadar air. Hasil penelitian menunjukkan bahwa Rataan C/N rasio kompos yang diperkaya dengan azolla dengan  $P_0$ ,  $P_1$ , dan  $P_2$  secara berturut – turut yaitu 18,89 ; 18,64 ; dan 15,47. Rataan Kadar air kompos yang diperkaya dengan azolla dengan  $P_0$ ,  $P_1$ , dan  $P_2$  secara berturut – turut yaitu 60,84% ; 62,82% ; dan 60,95%. Hasil analisis variansi menunjukkan bahwa penambahan azolla dalam pembuatan kompos berbahan baku feses sapi potong tidak berpengaruh nyata ( $F_{hitung} < \text{dari } F_{tabel} 0,05$ ) terhadap C/N rasio dan kadar air kompos. Kesimpulan dari penelitian ini Pemanfaatan azolla *sp* dalam pembuatan kompos berbahan baku feses sapi potong ada kecenderungan dapat menurunkan C/N rasio, namun tidak dapat menurunkan kadar air kompos sampai batas 50%.

**Kata kunci :** C/N Rasio, Kadar Air, Feses Sapi Potong, *Azolla microphylla*, Kompos

## **ABSTRACT**

**BURHANUDIN**, C/N Ratio and Water Content on Compost Made From Beef Cattle Feces Enriched with Azolla (*Azolla microphylla*) was held on January 6, 2019 to February 3, 2019 at UD Amanah Farm (Beef and Sheep Fattening) owned by Mr. M. Bata, Datar Village, Sumbang Subdistrict, Banyumas Regency, Central Java. The purpose of the research was to determine the effect of C/N ratio and water content on compost made from beef cattle feces enriched with Azolla. The material used in the research was 1,800 kg beef cattle feces with the water content of around 70%, Fresh Azolla which has been drained for 24 hours as much as 180 kg, sawdust as much as 180 kg, ash as much as 180 kg, activator as much as 4,5 kg, dolomite lime as much as 36 kg and all ingredients used for 18 mounds. The tool used is 1 hoe used to stir or flip the dough, 1 weigher used to measure the weight of the material. The research method was carried out experimentally using a Completely Randomized Design (CRD) consisting of three treatments and six replications. The treatment was the addition of azolla with a level of 0% ( $P_0$ ), 2,67% ( $P_1$ ), and 5,34% ( $P_2$ ) in the form of dry matter. The variables observed were C/N ratio and water content. The results showed that the average C/N ratio of compost enriched with Azolla with  $P_0$ ,  $P_1$ , and  $P_2$  was respectively 18.89; 18.64; and 15.47. Average compost water content enriched with azolla with  $P_0$ ,  $P_1$ , and  $P_2$  in a row which is 60.84%; 62.82%; and 60.95%. The results of the variance analysis showed that the addition of azolla in compost made from beef cattle feces did not have a significant effect ( $F_{count} < F_{table}$  0.05) to the C/N ratio and the water content of the compost. The conclusion of this research was the addition of azolla sp in the compost made from beef cattle feces there is a tendency reduce the C/N ratio, but can not reduce the water content compost to the limit of 50%.

**Keywords:** C/N Ratio, Water Content Beef Cattle Feces, Azolla Microphylla, Compost