PENGARUH KOMBINASI RUMPUT KUMPAI DAN LIMBAH KOL TERHADAP KARAKTERISTIK FISIK WAFER RANSUM KOMPLIT

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Abstrak. Penelitian ini bertujuan untuk mengetahui rasio yang optimum antara rumput kumpai (RK) dan limbah kol (LK) terhadap karakteristik fisik wafer ransum komplit (WRK). WRK tersusun atas 60% hijauan dan 40% konsentrat. Konsentrat terdiri dari 21% dedak padi, 6% bungkil kelapa, 6% bungkil inti sawit, 1% mineral mix dan 1% NaCl. Penelitian dilaksanakan menggunakan Rancangan Acak Lengkap dengan 4 perlakuan dan 5 ulangan. Perlakuan merupakan rasio LK:RK sebagai berikut P0: 60% LK + 0% RK, P1: 45% LK + 15% RK, P2: 30% LK + 30% RK dan P3: 15% LK + 45% RK. Analisis ragam menunjukkan bahwa perlakuan tidak berpengaruh nyata (P>0,05) terhadap kadar air, tetapi berpengaruh sangat nyata (P<0,01) terhadap nilai kerapatan, berat jenis, ketahanan benturan dan daya serap air. Uji Polynominal Orthogonal menunjukkan bahwa rasio LK:RK (X) memiliki hubungan linier (P<0,01) dengan kerapatan (KRP) ($y = -0,0064x + 0,7734$; $R^2 = 0,996$), berat jenis (BJ) ($y = -0,0076x + 1,312$; $R^2 = 0,9963$), dan kuadratik dengan ketahanan benturan (KTB) ($y = -0,0328x^2 + 0,033x + 98,984$; $R^2 = 0,9999$) dan daya serap air (DSA) ($y = -0,0605x^2 + 5,1638x + 223,09$; $R^2 = 0,9977$). WRK terbaik diperoleh pada kombinasi 46% LK + 14% RK.

Kata kunci*:* Rumput kumpai, karakteristik fisik, wafer ransum komplit, limbah kol

Abstract. This study aims to determine the optimum ratio between hymenachne amplexicaulis (RK) and cabbage waste (LK) on the physical characteristics of complete wafer ration (WRK). WRK is composed of 60% forage and 40% concentrate. The concentrate consists of 21% rice bran, 6% coconut cake, 6% palm kernel cake, 1% mineral mix and 1% NaCl. The study was carried out using a completely randomized design with 4 treatments and 5 replications. The treatment is the LK:RK ratio as follows: P0: 60% LK + 0% RK, P1: 45% LK + 15% RK, P2: 30% LK + 30% RK and P3: 15% LK + 45% RK. Analysis of variance showed that the treatment had no significant effect (P>0.05) on the moisture content, but had a very significant effect (P<0.01) on the value of density, specific gravity, impact resistance and water absorption. Orthogonal Polynomial Test shows that the ratio of LK:RK (X) has a linear relationship (P<0.01) with density (KRP) ($y = -0.0064x + 0.7734$; $R2 = 0.996$), specific gravity (BJ) ($y = -0.0076x + 1.312$; $R2 = 0.9963$), and quadratic with impact resistance (KTB) ($y = -0.0328x2 + 0.033x + 98.984$; $R2 = 0.9999$) and water absorption (DSA) ($y = -0.0605x2 + 5.1638x + 223.09$; $R2 = 0.9977$). The best WRK was obtained at a combination of 46% LK + 14% RK.

Keywords: Hymenachne amplexicaulis, physical characteristics, complete wafer ration, cabbage waste