

## **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) ( $y = -0.0064x + 0.7734$ ;  $R^2 = 0.996$ ), specific gravity (BJ) ( $y = -0.0076x + 1.312$ ;  $R^2 = 0.9963$ ), and quadratic with impact resistance (KTB) ( $y = -0.0328x^2 + 0.033x + 98.984$ ;  $R^2 = 0.9999$ ) and water absorption (DSA) ( $y = -0.0605x^2 + 5.1638x + 223.09$ ;  $R^2 = 0.9977$ ). The best WRK was obtained at a combination of 46% LK + 14% RK.

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