

**EFEK PEMBERIAN FORMULA KOMBINASI TEPUNG  
KACANG MERAH (*Phaseolus vulgaris L*) DAN SUKUN (*Artocarpus  
communis*) TERHADAP BERAT BADAN, TINGKAT ASUPAN PAKAN  
DAN KADAR SCFA (*Short Chain Fatty Acid*) TIKUS DIABETES**

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**ABSTRAK**

**Latar Belakang :** Diabetes Melitus (DM) merupakan salah satu masalah kesehatan di Indonesia yang jumlah penderitanya mengalami peningkatan setiap tahun. Tanda dan gejala yang sering dialami penderita DM selain peningkatan gula darah adalah penurunan berat badan yang berbanding terbalik dengan peningkatan nafsu makan. Dalam perawatannya, penatalaksanaan pasien DM mengenal 4 pilar, salah satu pilar tersebut adalah terapi gizi. Pangan fungsional yang dapat dijadikan pelaksanaan pilar terapi gizi bagi penderita DM adalah kacang merah dan buah sukun. Kedua bahan tersebut dikombinasikan untuk melihat pengaruh pati resisten yang terkandung didalamnya terhadap perubahan berat badan, tingkat asupan pakan dan peningkatan kadar SCFA yang memberi gambaran perbaikan sensitifitas insulin penderita DM.

**Tujuan :** Mengetahui efek pemberian formula kombinasi tepung kacang merah dan sukun terhadap berat badan, tingkat asupan pakan dan SCFA tikus DM.

**Metode :** Penelitian ini menggunakan metode eksperimental dan dilaksanakan di Laboratorium Pusat Studi Pangan dan Gizi (PSPG) UGM Yogyakarta menggunakan 30 ekor tikus *Sprague Dawley*, berumur 2-3 bulan, dan berat 150-200 g. Tikus tersebut dibagi menjadi 5 kelompok yang terdiri dari kelompok kontrol negatif, kontrol positif, intervensi pemberian tepung kacang merah dan tepung sukun, dengan persentase formula A (75%:25%), formula B (50%:50%), dan formula C (25%:75%). Perubahan berat badan dan tingkat asupan pakan diamati selama 21 hari sementara kadar SCFA dianalisis setelah masa intervensi. Hasil dari penelitian ini dianalisis menggunakan uji *One Way ANOVA*.

**Hasil :** Berdasarkan hasil analisa data terdapat perbedaan yang signifikan antara perubahan berat badan  $p < 0.000$  ( $p < 0,05$ ), tingkat asupan pakan  $p < 0.000$  ( $p < 0,05$ ) dan total SCFA  $p < 0,014$  ( $p < 0,05$ ) pada kelima kelompok perlakuan. Dimana pada kelompok DM dengan pemberian formula diketahui memiliki kecenderungan peningkatan berat badan, pengendalian nafsu makan dan peningkatan kadar total SCFA dibanding kelompok kontrol DM.

**Kesimpulan :** Pemberian formula kombinasi tepung kacang merah dan tepung sukun berpengaruh dalam mencegah gejala *poliphagia* dan membantu dalam meningkatkan berat badan serta kadar SCFA tikus DM.

**Kata Kunci :** Formula Kombinasi Tepung Kacang Merah dan Tepung Sukun, Berat Badan, Tingkat Asupan Pakan, SCFA .

**THE EFFECT OF GIVING RED BEAN (*Phaseolus vulgaris L*) AND  
BREADFRUIT (*Artocarpus communis*) FLOUR COMBINATON  
FORMULA ON BODY WEIGHT, FEED INTAKE AND SCFA (*SHORT  
CHAIN FATTY ACID*) LEVELS IN DIABETIC RATS**

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**ABSTRACT**

**Background:** Diabetes Mellitus (DM) is one of the health problems in Indonesia where the number of sufferers has increased each year. Signs and symptoms of DM sufferers are weight loss which is inversely with increase in appetite.. The treatment of DM patients recognizes 4 pillars, which one is nutritional therapy. Functional foods that can be used as the implementation of the pillars of nutritional therapy for DM sufferers are red beans and breadfruit. The two ingredients are combined to see the effect on changes in body weight, feed intake and SCFA levels, that it illustrate the insulin sensitivity improvement of DM patients.

**Aim:** To determine the effect of red bean and breadfruit flour combination formula on body weight, feed intake and SCFA level of DM rats.

**Method :** This research used experimental methods and was carried out at Pusat Studi Pangan dan Gizi Laboratory UGM Yogyakarta use 30 Sprague Dawley rats, aged 2-3 months, and weighing 150-200 g. The rats with were divided into 5 groups, consisting of negative control, positive control, intervention giving red bean flour and breadfruit flour, with the percentage of formula A (75%: 25%), formula B (50%: 50%), and formula C (25%: 75%). Changes in body weight and levels of feed intake were observed for 21 days while SCFA were analyzed after the intervention period. The results were analyzed using One Way ANOVA test.

**Result:** Based on the results of the data analysis, there was a significant difference between changes in body weight  $p$  0.000 ( $p < 0.05$ ), the level of feed intake  $p$  0.000 ( $p < 0.05$ ) and the total SCFA 0.014 ( $p < 0.05$ ) in the five treatment groups. Where in the DM group with formula giving was known have a tendency to increase body weight, control appetite and increase levels of total SCFA compared to the DM control group

**Conclusion:** giving of combination formula of red bean flour and breadfruit flour has a significant effect in preventing polyphagia symptoms and helps in increasing body weight and SCFA levels of DM rats.

**Keywords:** Combination formula of red bean flour and breadfruit flour, Body weight, Feed intake, and SCFA levels