

**PENGARUH KONSUMSI MINUMAN SERAT GLUKOMANAN PORANG  
TERHADAP ASUPAN PAKAN, BERAT BADAN, KARAKTERISTIK  
FISILOGOKIMIA DIGESTA, DAN sIgA TIKUS *SPRAGUE DAWLEY***

**INTISARI**

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Pangan fungsional berbasis serat semakin diminati. Glukomanan porang dan FiberCreme™ diketahui dapat diformulasi menjadi produk minuman fungsional dengan basis serat pangan. Namun, pengujian efek fungsionalnya dengan metode *in vivo* belum dilakukan. Maka dari itu, penelitian ini bertujuan untuk mengetahui efek fungsional minuman serat yang mengandung glukomanan porang dan FiberCreme™ terhadap asupan pakan, berat badan, karakteristik fisikokimia digesta (berat, kadar air, pH, SCFA atau *short chain fatty acid*), dan konsentrasi sIgA (*secretory immunoglobulin A*) cairan usus tikus *Sprague Dawley* (SD).

Sebanyak 24 ekor tikus SD jantan umur 8 minggu dibagi menjadi 4 kelompok perlakuan, yaitu kontrol (KON) diberi 3,6 mL akuades; kelompok Inulin (INL) diberi 0,072gr inulin/3,6 mL; kelompok minuman serat dosis 1 diberi 0,54gr minuman serat/3,6 mL (FD1); kelompok minuman serat dosis 2 diberi 1,08gr minuman serat/3,6 mL (FD2). Perlakuan diberikan dengan sonde selama 28 hari. Selama masa perlakuan, asupan pakan dihitung setiap hari dan berat badan hewan coba ditimbang setiap 7 hari sekali. Pada akhir penelitian, digesta sekum dan cairan usus duodenum diambil. Digesta sekum dianalisis berat, kadar air, pH, dan konsentrasi SCFA. Cairan usus duodenum dianalisis konsentrasi sIgA. Hasil analisis diuji statistik menggunakan *One Way Anova* ( $p < 0,05$ ) dan uji lanjutan Tuckey HSD.

Hasil penelitian menunjukkan asupan pakan hewan coba yang diberi minuman serat tidak berbeda signifikan dibanding kontrol ( $p > 0,05$ ) tetapi pertambahan berat badannya lebih rendah dibanding kontrol ( $p < 0,001$ ). Kemudian, berat dan kadar air digesta serta konsentrasi sIgA hewan coba yang diberi minuman serat tidak berbeda signifikan dibanding kontrol ( $p > 0,05$ ). Sementara itu, pH digesta yang diberi minuman serat lebih rendah dibanding kontrol namun konsentrasi total SCFA-nya juga lebih rendah dibanding kontrol ( $p < 0,001$ ). Dari penelitian ini, produk minuman serat mengandung glukomanan porang dan FiberCreme™ tidak memberikan efek fungsional yang lebih tinggi dibandingkan kontrol pada karakteristik digesta dan konsentrasi sIgA tetapi produk ini berpotensi dapat digunakan untuk mengatur penurunan berat badan.

**Kata kunci:** Glukomanan porang, FiberCreme™, minuman serat, fisikokimia digesta, sIgA, *Sprague Dawley*

**EFFECT CONSUMPTION OF GLUCOMANAN PORANG FIBER DRINKS ON FEED INTAKE, BODY WEIGHT, PHYSICOCHEMICAL CHARACTERISTICS OF DIGESTA, AND sIgA IN SPRAGUE DAWLEY RATS**

**ABSTRACT**

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The demand for functional foods based on dietary fiber is increasing. Glucomannan's porang and FiberCreme™ are known to be formulated into functional drinks based on dietary fiber. However, an analysis of its functional effect by *in vivo* method has not been carried out. Therefore, this study aims to determine the functional effects of fiber drink containing glucomannan's porang and FiberCreme™ on feed intake, body weight, physicochemical characteristics of the digest (weight, moisture content, pH, SCFA or short chain fatty acids), and sIgA concentration (secretory immunoglobulin A) intestinal fluid of Sprague Dawley rats (SD).

As many as 24 male SD rats aged 8 weeks were divided into 4 groups, namely the control that was given 3.6 mL aquadest (KON); the inulin group that was given 0.072gr inulin/3.6 mL (INL); the fiber drink group dose 1 that was given 0.54gr fiber drink/3.6 mL (FD1); and the fiber drink group dose 2 that was given 1.08gr fiber drink/3.6 mL (FD2). The treatment was given using force-feeding for 28 days. During the treatment, feed intake was calculated every day and the body weight of the rats was weighed every 7 days. At the end of the study, cecum digesta and duodenal intestinal fluid were taken. The cecal digest was analyzed for weight, moisture content, pH, and SCFA concentration. Duodenal intestinal fluid was analyzed for sIgA concentration. The results of the analysis were tested statistically using One Way Anova ( $p < 0.05$ ) and post hoc test Tuckey HSD.

The results showed that the feed intake of rats that were given fiber drink was not a significant difference from the control ( $p > 0.05$ ) but their body weight gain was lower than the control ( $p < 0.001$ ). Then, the total weight and moisture content of the digest also the sIgA concentration of the intestinal fluid given fiber drink was not a significant difference from the control ( $p > 0.05$ ). Meanwhile, the digest pH that was given the fiber drink was lower than the control but the SCFA concentration was also lower than the control ( $p < 0.001$ ). From this study, fiber drink products containing glucomannan's porang and FiberCreme™ did not provide a functional effect that was higher than the control on digest characteristics and sIgA concentrations but these products were known to have the potential regulate weight loss.

**Keywords: Glucomannan's porang, FiberCreme™, fiber drink, physicochemical of the digesta, sIgA, Sprague Dawley**