INTISARI

Beras merupakan makanan pokok hampir mencakup dua per tiga populasi penduduk dunia termasuk di Indonesia. Beras memiliki indeks glikemik tinggi sehingga dihindari oleh penderita diabetes melitus. Beberapa penelitian menunjukkan bahwa pengelolaan diabetes melitus bisa menggunakan makanan kaya *resistant starch* (RS) salah satunya beras *parboiled,* yang mana memiliki indeks glikemik rendah serta mampu mendorong pertumbuhan probiotik dalam usus sehingga bermanfaat bagi diabetes melitus. Penelitian ini bertujuan untuk mengetahui efek pemberian beras parboiled terfortifikasi kromium, magnesium dan kayu manis terhadap jumlah Bakteri Asam Laktat (BAL), kadar pH dan *Short Chain Fatty Acids* (SCFA) pada tikus diabetes. Pada penelitian ini digunakan kelompok tikus TSPS (Diet beras parboiled terfortifikasi kromium dan magnesium pada tikus diabetes), TDPS (Diet beras parboiled terfortifikasi kromium, magnesium dan kayu manis pada tikus diabetes), TDNP (Diet beras parboiled non fortifikasi pada tikus diabetes), TDNPF (Diet beras ciherang pada tikus diabetes), TDPF (Diet pakan standar untuk tikus sehat), TDPFK (Diet pakan standar pada tikus diabetes). Perlakuan diberikan selama 14 hari. Analisis BAL menggunakan metode *platting agar de Man Rogosa and Sharpe*, kadar pH menggunakan pH meter elektronik dan SCFA menggunakan *Gass Chromatography* (GC). Analisis statistik menggunakan *one way anova* jika beda nyata dilanjutkan uji *Duncan multiple rage* test. Hasil penelitian menunjukkan bahwa tidak terdapat perbedaan signifikan antara kadar pH pada kelompok kontrol TDPF dan TDPFK dengan kelompok perlakuan (TSPS, TDPS, TDNP, TDNPF). Sedangkan tidak terdapat perbedaan nyata jumlah BAL dan SCFA antara kelompok kontrol TDPF dan TDPFK dengan kelompok perlakuan (TSPS, TDPS, TDNP, TDNPF).

Kata kunci : diabetes, fortifikasi, mikrobia digesta, parboiled

The Effect Of Fortified Parboiled Rice By Chromium, Magnesium, Cinnamon On The Number Of Digesta Lactic Acid Bacteria And Short Chain Fatty Acid Diabetes Rats

ABSTRACT

Rice is a staple food that covers almost two-thirds of the world's population including in Indonesia. Rice has a high glycemic index so it is avoided by people with diabetes mellitus. Some research shows that the management of diabetes mellitus can use foods rich *in resistant starch* (RS) one of which is *parboiled rice*, which has a low glycemic index and is able to encourage the growth of probiotics in the intestines so that it is beneficial for diabetes mellitus. This study aims to determine the effect of giving chromium, magnesium and cinnamon fortified parboiled rice on the number of Lactic Acid Bacteria (BAL), pH levels and *Short Chain Fatty Acids* (SCFA) in diabetic mice. In this study used groups of TSPS rats (Diet of parboiled rice fortified chromium and magnesium in diabetic mice), TDPS (Diet of parboiled rice fortified chromium, magnesium and cinnamon in diabetic mice), TDNP (Diet of parboiled rice non fortification in diabetic rats), TDNPF (Diet of ciherang rice in diabetic rats), TDPF (Standard feed diet for healthy mice), TDPFK (Standard feed diet in diabetic rats). Treatment is given for 14 days. BAL analysis uses *the platting method agar de Man Rogosa and Sharpe*, pH levels using electronic pH meters and SCFA using *Gass Chromatography* (GC). Statistical analysis using *one way anova* if the difference is real followed by duncan *multiple rage* test. The results showed that there was no significant difference between pH levels in the TDPF and TDPFK control groups and the treatment groups (TSPS, TDPS, TDNP, TDNPF). While there was no noticeable difference in the number of BAL and SCFA between the TDPF and TDPFK control groups and the treatment groups (TSPS, TDPS, TDNP, TDNPF).

Keywords: diabetes, fortification, microbial digesta, parboiled