Introduction: beta-glucans (BG) derived from plant tissues are reported to show metabolic effects. In contrast, those fibers isolated from yeast seem to be more related to immune response modulation. Since diabetic individuals are more susceptible to exacerbation of inflammatory signs, the ingestion of fibers that could conjugate both metabolic and immune effects would be of great importance. Objective: we investigated the effect of BG - Saccharomyses cerevisae - ingestion on glycemic and lipoprotein profile of diabetic rats. Design: twenty-four adult Wistar rats were used, distributed into 4 groups in a design of entirely casualized delineation with a 2 x 2 factorial model (with and without diabetes; with and without BG). Diabetes Mellitus was induced by an intraperitoneal injection of 80mg/kg of streptozotocin. Thus, animals with fasting glycemia of over 250 mg/dl were considered diabetic. Forty-eight hours after induction, the rats received daily doses of 30 mg/kg of BG or saline solution by gavage during 28 days. Results and discussion: the Groups with DM presented a higher glycemic index and lower C peptide levels than the control groups, in addition to lower weight gain and higher ration consumption, water ingestion and urinary volume. Total cholesterol levels (CT), LDL-C + VLDL-C, plasma triacylglycerides (TAG) and alanine aminotransferase (ALT) were also higher in the diabetic animals (p < 0.05), and there were no alterations in the HDL-C levels. The ingestion of BG reduced blood glucose concentrations (30%), TAG (32%) and ALT (41%) (p < 0.05). No histopathological hepatic alterations were observed in any of the groups. Furthermore, the diabetic animals present increase in villous:crypt ratio (V:C) in the duodenum, without interference of BG. No alterations in the carcass were observed between the groups. Conclusion: it was concluded that the use of BG significantly reduced the glycemic, TAG and ALT levels, showing its therapeutic potential.

Keywords
Metabolic disease, Diabetes mellitus, Polysaccharide, Glucans.