EFFECT OF MANNAN OLIGOSACCHARIDES ON SOME NUTRITIONAL AND BIOCHEMICAL PARAMETERS OF MICE

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Prebiotics are non-digestible food ingredients that beneficially affect the host by selectively stimulating the growth and/or activity of one or a limited number of bacteria in the colon, and thus improve host health. They have become increasingly popular as feed additives in recent years due to their numerous health benefits. Mannan-oligosaccharides, a prebiotic candidate derived from the cell wall of *Saccharomyces cerevisiae* have shown promising effects on animal health such as decreasing pathogenic microflora in the gut, stimulating a strong immune response and elevating the strength of intestinal mucosa. The aim of this study was to determine the effect of addition of mannan-oligosachcharide Bio-Mos®, on some nutritional and biochemical parameters of mice. Thirty-two, female, sixteen to twenty-week-old, Balb/c mice were assigned randomly into two groups, namely treatment and control, with eight replicates of 4 mice each. Both groups were fed with broiler starter ration *ad libitum*, but to the feed of the treatment group 5% of Bio-Mos® was added. Body weights were recorded throughout the experimental period. Blood was collected from mice after a period of one-month feeding schedule. Serum biochemical parameters including total cholesterol, HDL-cholesterol, total protein and albumin levels were determined using diagnostic kits. A differential count of the white blood cells was also performed. Bio-Mos® supplementation had significantly reduced the total serum cholesterol level of test group mice. Both HDL cholesterol level and cholesterol/HDL ratio were not significantly affected by Bio-Mos® supplementation. Although the total serum protein concentration of mice was not significantly affected by Bio-Mos® supplementation, serum albumin level had shown a significant increase (P <0.05). An improvement of the body weight gain was observed in test group mice, but with no statistically significant difference. Addition of Bio-Mos®

favourably increased the lymphocyte count and significantly decreased in the neutrophil count ($P<0.05$) of mice. It was concluded that inclusion of prebiotic (Bio-Mos®) to the feed of mice had a positive influence on some biochemical and immunological indices of blood and seems to be a suitable functional feed additive from the production and animal health point of view.