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**EFFECT OF SELENIUM ON SOME NUTRITIONAL PARAMETERS  
OF MICE**

A PROJECT REPORT PRESENTED BY

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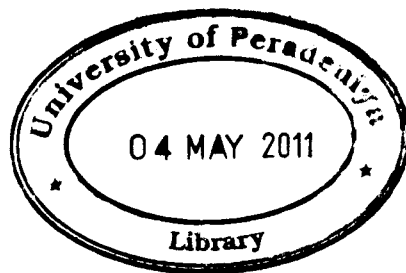
to the Board of Study in Biochemistry and Molecular Biology  
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## EFFECT OF SELENIUM ON SOME NUTRITIONAL PARAMETERS OF MICE

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Selenium is an essential trace element that needs to be present in the human and animal diet to maintain normal physiological functions. Selenium yeast is a natural dietary organic selenium supplement with proven physiological value in improving the selenium status in animals. It is easily digested, metabolized and retained in tissues with much bioavailability than inorganic forms of selenium. The aim of this study was to determine the effect of supplementing organic selenium yeast (Sel-Plex®), on some nutritional parameters of mice. Four to five months old, female, Balb/c mice were divided randomly into eight groups of four. All mice were fed with broiler starter ration *ad libitum*, for a period of 1 month. Sel-Plex® was added to the diet of four groups on a completely randomized basis at a concentration of 1 ppm, while the other four groups were fed with the normal diet without Sel-Plex®. Body weights were recorded throughout the experimental period. Blood was collected from mice at the end of the diet-feeding schedule and serum biochemical parameters including total cholesterol, HDL-cholesterol, total protein, albumin and total antioxidant levels were measured using diagnostic kits. A differential count of the white blood cells was also performed. A significantly lower total cholesterol level ( $P < 0.05$ ) was observed in the serum of selenium-supplemented mice compared with the mice of the control group. However, either HDL cholesterol level or total cholesterol/HDL ratio was not significantly affected by selenium supplementation. There was no significant difference in the total serum protein and albumin levels of mice of the selenium treated group compared to the mice of the control group. The total serum antioxidant potential was also not significantly influenced by selenium supplementation. The body weight gain of selenium supplemented mice had increased, but with no

statistically significant difference. Addition of organic selenium had slightly increased the lymphocyte count of mice. Based on these results, it was concluded that organic selenium supplementation have the potential to positively influence production parameters, lipid metabolism and immunocompetence of mice. However additional research is required to establish its significance with regard to animal nutrition, production and health.