



EVALUATION OF THE REPRODUCTIVE TOXICITY OF CHLORPYRIFOS METHYL, DIAZINON AND PROFENOFOS PESTICIDES IN MALE RATS.

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ABSTRACT



The toxic effects of organophosphorus pesticides (i.e. chlorpyrifos methyl, diazinon and profenofos) on male reproductive system of rats were evaluated. Rats received pesticides mixed with powdered feed at concentrations of 5 and 50 ppm of each pesticide for 65 successive days. Sex organs weight, semen picture, concentrations of the hormones [i.e. testosterone, luteinizing hormone (LH), and follicle stimulating hormone (FSH)], activities of acetylcholinesterase (AChE) and histopathological changes in testes were the criteria used to evaluate the reproductive toxicity of the treated rats. Results showed that the effect of all tested pesticides on testes and seminal vesicles weights was dose-dependent since all tested pesticides at 50 ppm significantly decreased their weights. Serum AChE activity was inhibited with all tested pesticides. Both the concentrations of the tested pesticides decreased sperm count associated with increase in the number of morphologically abnormal spermatozoa of treated rats; however sperm motility was significantly decreased with the highest concentration of the tested pesticides. A decrease in the serum testosterone was observed in all treated groups; however LH and FSH levels were decreased with the highest concentration of the tested pesticides. Tissues of treated rat's testes showed slight alterations when histopathologically examined especially with the higher concentrations