

## **EFFECTS OF JUDO 40 ON REPRODUCTIVE COMPETENCE OF MALE RATS**

**E.P. Kudavidanage, L.D.C. Peiris and W.D. Ratnasooriya**

Department of Zoology, University of Colombo, Colombo 03.

The aim of this study was to investigate effects of Judo 40 (Chlorpyrifos), a commonly used insecticide in Sri Lanka, on reproductive competence of male rats. Adult male rats (kept in standardized rat house conditions) were gavaged either with 2 doses [20 mg/kg body wt. (n = 9) and 50 mg / kg body wt. (n = 9)] of Judo 40 or the vehicle [corn oil. (n=9)] for 2 days. Treated rats were paired individually with a pro-oestrous female on post treatment days 1, 3 and 7. Mated females were laparotomized on day 14 of pregnancy and several reproductive parameters were determined. A different set of treated male rats (n = 9) was used to evaluate the effects of Judo 40 on the epididymal sperm motility, sperm capacitation, nuclear integrity of sperm DNA, morphology of sperm and sperm protein content. The results showed significant ( $p < 0.05$ ) reduction in index of libido and fertility index (20 mg/kg body wt: post treatment days 1 and 3 and 50 mg/kg body wt: post treatment days 1 and 7 for both indices). In addition, the treatment caused a significant ( $p < 0.05$ ) reduction in epididymal sperm motility, capacitation of sperm (for both doses) and nuclear integrity of sperm DNA (only in the high dose). This impairment in reproductive competence is a matter for concern if the results are applicable to man.