

**Natureza do trabalho:** Resumo

**TÍTULO**

*EFFECTS OF PERINATAL EXPOSURE TO INSECTICIDE FIPRONIL ON SEXUAL BEHAVIOR OF MALE RATS*

ALINE LIMA DE BARROS, CIBELE SANTOS BORGES, MARILIA MARTINS CAVARIANI, PATRÍCIA VILLELA E SILVA, WILMA DE GRAVA KEMPINAS, ARIELLE CRISTINA ARENA

UNIVERSIDADE ESTADUAL PAULISTA, UNESP, SÃO PAULO, SP, BRASIL

**RESUMO**

**Introduction:** Exposure to several substances during the hypothalamic sexual differentiation can interfere with the pattern of nervous system development of offspring, inducing permanent changes in the reproduction neuroendocrine control. Fipronil, an insecticide blocker chloride channel associated with the gamma-aminobutyric acid (GABA) and widely used in various crops, has been listed as a probable endocrine disruptor. Studies have demonstrated that this compound can affect the thyroid, reproductive parameters and the central nervous system. **Objective:** This study evaluated the effects of perinatal exposure to fipronil and its late repercussion on sexual behavior in adult male rats. **Methods:** Pregnant rats were exposed to fipronil (0.03; 0.3 or 3 mg/kg) on 15-21 gestational days and on 1-7 postnatal days, by gavage. At adult life, males were evaluated for the pattern of sexual preference, male, female sexual behavior after castration and hormone replacement. **Results:** The animals of the treated groups showed no pattern of sexual preference in terms of the total number of visits to areas of male or female. Similarly, the animals after perinatal exposure to fipronil showed no statistically significant difference in the male and female sexual behavior test. **Discussion:** It is known that in addition of testosterone/estradiol, the brain masculinization process involves a number of active transmitters and their receptors. Activation of GABAA receptors in the hypothalamus of neonatal males is an important step in this process. In this way, substances capable of blocking this receptor as the insecticide fipronil may impair the masculinization of the hypothalamus. **Conclusion:** As in the present study was not observed behavioral changes in the evaluated parameters, it is suggested that even after perinatal exposure to fipronil, the hypothalamus was completely masculinized well as defeminized because the animals did not show female behavior in the presence of a male.