

STUDY OF THE EFFECTS OF ZEARALENONE ON OVARIAN WEIGHT OF RATS

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Abstract

Zearalenone may enter the food chain and lead to negative effects on the reproductive system of domestic and laboratory animals. Its estrogenic effects are proven: reduced fertility, increased embryo resorption, damage the reproductive tract, changes in serum levels of progesterone and 17β -estradiol, changes in weight of uterus, ovaries and mammary glands. The aim of the study was to examine the effects of zearalenone on the ovarian weight in female rats.

Experimental controlled study included 63 female rats which were applied three test doses of zearalenone: 0.1, 0.3 and 0.5 mg/kg body weight and ovarian weight changes were observed during four observation periods of 7 days. Ovarian weight values are described in the measures of central tendency and variability measures. Kruskal-Wallis's test and intergroup comparison of estimated significant differences in ovarian weight compared to applied dose and duration of the observation period were applied. Differences at $p < 0.05$ were considered statistically significant or highly statistically significant at $p < 0.01$.

The test dose of 0.1 mg/kg after 14 days led to a statistically significant increase in ovarian weight, and then to a statistically significant decrease. Other test dose during all observational periods have led to a statistically significant decrease of ovarian weight. Intergroup differences ovarian weight, depending on the applied dose of zearalenone, were statistically significantly different after 14, 21 and 28 days, with less ovarian weight were statistically significantly associated with a higher dose applied zearalenone.

Zearalenone modeled ovarian weight in rats depending on the dose and duration of application.

Key words: Zearalenone, Rats, Ovaries.