

## **Assessment of Glutathione peroxidase activity in blood plasma and semen Following Nutrition by Nano-selenium supplementation in Khuzestan Arabian rams**

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### **Abstract**

Selenium is an essential nutrient that play a very important role in the body and is an antioxidant. The biological role of selenium is based on its effects on the structure of many selenoproteins. This experiment aimed to investigate the effect of nano-selenium nutritional supplementation on blood and semen glutathione peroxidase activity in Khuzestan Arabian rams. In this experiment, twelve Arabian rams with an average weight of  $73\pm 3$  kg and two to four years old were used. Animals were divided into three groups; the control group (without nano-Selenium) and two experimental groups that received the 0.4 and 0.8 mg nano-selenium per kg dry matter, respectively. The results showed that selenium concentrations in blood and semen increased in treatment 0.4 compared to the control, which was significantly increased in the blood. Blood and semen selenium concentrations in group 0.8 were significantly higher than group 0.4 and control. The blood and semen glutathione peroxidase activity significantly increased in treatment 0.4 compared to control and in treatment 0.8 compared to the control and treatment 0.4. Finally, it was concluded that Nano-selenium supplementation increases the blood and semen glutathione peroxidase activity of Arabian rams and treatment 0.8 showed the best results.

**Key words:** Glutathione peroxidase, Nano-selenium, Blood, Semen, Arabian ram

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