

### البحث الثاني

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مشارك مع آخرين من داخل التخصص منشور	2
مستخلص من رسالة	

Title	Impact of nano zinc on hormonal profile, immunity, and body/testicular measurements of ossimi lambs.
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### ABSTRACT

Objective: The aim of this study was to evaluate the effect of using different levels of ZnO nanoparticles (ZnO NPs) into drinking water (10, 20 and 30 mg/kg DM intake) for 90 days on growth, immunity, antioxidants status and physiological performance of lambs. Method: The current study was carried out at Fayoum Governorate, Egypt at a private farm called "Al Sharif farm". Healthy 16 Ossimi ram lambs, 5 months old and approximately 30 kg weight, were randomly divided into 4 equally groups (control and 3 treatment groups). The ZnO NPs were prepared by chemical precipitation method using zinc sulfate heptahydrate and characterized by X-ray diffraction technique. ZnO NPs were orally performed in water to treated lambs by drenching or dosing gun with doses of (10, 20, and 30 mg/kg DM intake) for 90 days. Ram lambs were kept under the same managerial and feeding conditions. Fresh water was provided ad libitum throughout the day. Ram lambs were biweekly weighed to follow their growth rates, calculate zinc (Zn) quantities and to adjust feed requirements. Body and testicular measurements were estimated. Blood samples were monthly withdrawn and the obtained serum was used to determine Zn levels, immunity response as immunoglobulin (IgG), antioxidants status (total antioxidants; TAC, catalase; CAT), in addition to estimates the levels of serum hormones (GH and testosterone; T). Results: Our results indicated that providing ZnO NPs to ram lambs led to insignificant increases in body weight and score, testicular measurements while body measurements were significantly increased in ZnO NPs treated lambs. Serum Zn concentration was elevated by 2.69, 4.36, and 15.70% for 10, 20 and 30 mg/kg DM treated lambs as compared to the control. Moreover, treating lambs increased CAT, TAC, T and GH ( $p \leq 0.05$ ). Conclusion: It can be concluded that Zn supplementation to ram lambs improved testosterone, GH, antioxidants and immunity status and consequently growth performance of Ossimi ram lambs.