



RESEARCH ARTICLE.....

# Modulation of serum trace mineral profiles in post-partum acyclic surti buffaloes with GnRH alone and in combination with vitamin A, D<sub>3</sub>, E and toldimphos sodium preparation therapy

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**ABSTRACT.....** The weekly serum profile of trace elements (Cu, Co, Zn, Fe and Mn) studied from 45 day to 120 day postpartum in 18 acyclic surti buffaloes with GnRH alone and GnRH along with vitamin A, D<sub>3</sub>, E and toldimphos sodium preparation treatment revealed that the levels of most elements varied non-significantly between treatments (T<sub>1</sub> and T<sub>2</sub>) and control (T<sub>3</sub>) groups during different weeks postpartum and even within the group between intervals postpartum. The overall mean serum copper, cobalt, zinc, iron and manganese values in T<sub>1</sub>, T<sub>2</sub> and control (T<sub>3</sub>) groups were 1.41±0.03, 1.42±0.03 and 1.29±0.03 ppm; 0.61±0.02, 0.62±0.02 and 0.61±0.04 ppm; 1.66±0.13, 1.78±0.12 and 1.60±0.09 ppm; 3.21±0.06, 3.28±0.04 and 3.24±0.08 ppm; 0.146±0.007, 0.153±0.008 and 0.142±0.022 ppm, respectively. In the study, no differences found in serum trace minerals levels between treated and control groups at different time intervals except in mean copper concentration at 14<sup>th</sup> and 21<sup>st</sup> day with 0 day and 7<sup>th</sup> day in the GnRH treated (T<sub>1</sub> and T<sub>2</sub>) group. It was found that control group mean copper values were differ significantly from GnRH treated (T<sub>1</sub> and T<sub>2</sub>) groups at 7<sup>th</sup>, 14<sup>th</sup> and 21<sup>st</sup> day, respectively. However, the mean copper values were placed within the normal physiological range. Moreover, microelements cannot be synthesized in the body. Hence, at last it was concluded that trace elements should be daily supplied in the field and in organized farms as mineral mixture to suffice the requirement of the trace elements.

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