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CHELATED MINERAL SUPPLY EFFECT EVALUATION ON HORSES BY Cu, Fe, K, Mn AND Zn DETERMINATIONS IN THEIR HAIR

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Minerals including Fe, Cu, Mg, K, Mn and Zn work as co-enzymes to make blood, bone, other tissues and body fluids better. Therefore, they are involved in neural transmission and enzyme and hormone production in animals. Animal diets should be supplemented with a concentrated formulae of these elements, due to either their low total amount or to their low bioavailability.

Because of mineral importance in animal nutrition consequently in animal performance, this work aims at evaluating supplement effect using a mixture of Cu, Fe, K, Mg, Mn and Zn considering that each of them is with a specific amino acids, usually given to horses that participate in competitions. This evaluation was carried out by comparing mineral concentrations found in hair before and after 48 days animals have been supplemented with minerals.

The evaluation was performed with five horses known to be clinically well and belonging to Military Police of São Paulo State. The animal hair samples were cut in the lateral part from the neck. Instrumental neutron activation analysis (INAA) followed by gamma-ray spectrometry was applied to estimate mineral concentrations in hair samples.

Results obtained in these analyses showed that the contents of Zn and K were significantly higher ($P < 0.05$) in hair collected after mineral supply than those collected before. The contents of Cu, Fe, Mg and Mn varied differently from animal to animal.

Mineral supply effect was also observed since it improved their health and performance.