

MINERAL CHARACTERIZATION OF THE RATION MANAGED IN THE DIET OF EQUINES USED IN THE ANTIVENOM PRODUCTION

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Introduction: With the advent of the globalization the agricultural products need to be competitive and to keep its chemical characteristics. It appears, therefore, the necessity of quality control of its chemical characteristics with the purpose to prevent excesses or deficiencies of essential nutrient minerals as well as of impurities that can compromise its quality. Amongst the agricultural resources they are inputs such as ration and animal feeding supplement that must be ingested of controlled form. To assure that accumulations of minerals as well as the presence of toxic elements (As, Br, Cr, Hg, Pb, etc) from the manufacture process, can constitute impurities in these inputs, the control of the chemical characteristics are essential. The chemical characterization of these input must, therefore, to restrict - to nutrient minerals essential (calcium, phosphorus, sodium, iodine, cobalt, iron and magnesium) for animal nutrition and to be in ideal concentrations for maintenance of the electrolytic balance in these organisms.

Objective: To determine the mineral component concentrations of the ration managed to the equines used in the production of antivenom at Butantan Institute by using neutron activation analysis technique and to compare the results with the described values for the manufacturer.

Method: From the commercialized ration several samples of 100 mg had been removed. They were conditioned in polyethylene cylinders and irradiated by different periods (minutes the hours) in the reactor IEA-R1 at IPEN (CNEN/SP). After the activation each samples was analyzed using a Gamma spectrometer associated with a Multichannel ADCAM (ORTEC-918) both controlled for a microcomputer PC-486 at IPEN.

Results: All the specified mineral components had been identified. Other elements as Br, Cl, Mo and the S had been also found. The presence of Potassium and Sodium in the ration can bring considerable amounts of Chlorides and Bromides; the presence of S and Mo can be related to the use of fertilizers, seasonings and punishments of acidity, usually applied in ground directed to the agricultural production.

Conclusions: It can be verified that the ration counts essential minerals to the animal nutrition. The AAN technique showed to be to tool adjusted for the quality control of this inputs.