

## Microelement concentrations and regionality in deer liver and serum in Hokkaido

Katsuro Hagiwara<sup>1</sup>, Jun Noda<sup>1</sup>, Misono Kuze<sup>1</sup>, Kazuyuki Suzuki<sup>1</sup>  
and Koichiro Sera<sup>2</sup>

<sup>1</sup>School of Veterinary Medicine, Rakuno Gakuen University  
582 Bunkyo-dai, Ebetsu, Hokkaido 069-8501, Japan

<sup>2</sup>Cyclotron Research Center, Iwate Medical University  
348-58 Tomgamori, Takizawa, Iwate 020-0603

### Abstract

We analyzed 32 microelements in livers from 91 Ezo deer (*Cervus nippon yesoensis*) by Particle Induced X-Ray Emission (PIXE). In addition, ten calves were also analyzed to compare with the results from deer examined. The results indicated different levels of six microelement levels in deer and calf livers. Among the deer samples, different habitat areas indicated various levels of five microelements of Se, Br, Rb, Mo, and Cr. The low concentration of harmful elements found in liver indicates deer meat consumption is considered to be a safe practice. Microelements comparison between hepatitis E virus (HEV) infected and non-infected deer groups indicated the infected group with lower levels of Mn. In conclusions, the level of microelements found in liver from the wild deer has been affected by their biotope (habitat area) and possibly the infection status of HEV.