

the potential to interfere with the nuclear weapons test signals that are the target for monitoring compliance with the CTBT. R-2003.00117

### 348 CORRELATION BETWEEN LIMESTONE DOSIS AND MINERAL CONTENTS IN TROPICAL GRASS FORAGE. M. J. A. Armelin<sup>1</sup>, O. Primavesi<sup>2</sup>, A. C. Primavesi<sup>2</sup>, M. Saiki<sup>1</sup>.

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The field trial was performed at the experimental farm of Southeast Embrapa Cattle, São Carlos-SP, Brazil, on a 16 year old *Brachiaria decumbens* pasture, grown on a dystrophic Hapludox, being recovered by limestone and fertilizer use. The experimental design was a randomized block, with 6 replications and 5 treatments. The 100 m<sup>2</sup> blocks were established in the pasture. Each block received a sequence of limestone dosis (0, 1, 2, 4 and 8 t/ha). The forages samples were taken one year after limestone broadcast on soil surface application. Instrumental neutron activation analysis (INAA) followed by gamma-ray spectrometry was the analytical method used to determine mineral contents. The statistical analysis showed a negative linear correlation of Br, Co, Cr, Mn and Zn contents in forage with the limestone dosis, while Mg was affected in a positive linear.

### 349 PUBLIC AWARENESS OF NUCLEAR SCIENCE IN EUROPE. A.Kugler, Chairmen of Nuclear Physics Board of European Physical Society, Nuclear Physics Institute, CZ 250 68 Rez, Czech Republic

PANS originated from the idea that it is important to convey to the general public important issues associated with Nuclear Science. The assumption is that an informed public is better able to come to sensible judgements based on knowledge instead of prejudice. The image of anything "nuclear" is presently viewed in Europe with suspicion mainly due to the public perception being influenced by sensational negative media coverage rather than a balance view across the whole field. If nuclear science is to have a healthy future, then it is important that we initiate activities that can start to bring about a more balanced view. This is the basic remit of PANS. It is an activity that was started several years ago by two bodies, which represent Nuclear Physics community in Europe, i.e. by the NPB of EPS and NuPECC of ESF. In the framework of PANS projects like BOOK and EXHIBITION were successfully carried out, while others are still in preparation, like CD-ROM, PANS-WEB etc.

### 351 SELENIUM AND NUTRITION: THE ACCURACY AND VARIABILITY OF THE SELENIUM CONTENT IN COMMERCIAL SUPPLEMENTS. A.E. Veatch<sup>1,2</sup>, J.D. Brockman<sup>3</sup>, V.L. Spate<sup>2</sup>, J.D.

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Selenium is a required trace-element that has been found to be protective against serious chronic diseases such as cancer and cardiovascular disease in some, but not all, epidemiological studies using both case-control and intervention designs. As a result, the fraction of the adult U.S. population now taking a daily selenium supplement is steadily increasing. In this study we analyzed 10 or more replicate Se supplement tablets, from each of 15 different products representing 12 different brand names and sampled at two different times separated by approximately 28 months. Two chemical forms, seleno-yeast and selenate were tested in 50, 100 and 200 mcg/tablet dosages (seleno-yeast) and 25 and 200 mcg/tablet dosages (selenate). Variations in contemporary lots were evaluated for 2 seleno-yeast supplements and one selenate-containing multi-vitamin for both sampling periods. The Se content provided on the product label is generally understated. One tablet contained 2.5 times more selenium than the stated dose. Selenate supplements are less accurately labeled and more highly variable compared to yeast supplements. One popular multivitamin,