XIXth Meeting on Methods of Determination and on Importance of Trace Elements in Biological Material

The meeting took place in Brno on 7th May 1985, more than 100 specialists from Czechoslovakia participating. The papers presented will be published in Proceedings *Microelements '85*.

As an introduction *A. Čumakov* reported on methods of microelement fractionation in soils, and *J. Beneš* on applications of the instrumental neutron activation analysis in agrochemistry. The papers presented by *P. Mader et al.*, and by *E. Zíková et al.* concerned a comparison of the atomic absorption spectrometry and the differential pulsed polarography for the determination of lead and cadmium, respectively. The elimination of interfering effect of copper in the determination of selenium in plant material by AAS was discussed by *V. Musil* and *B. Rittich* who suggested thiourea for this purpose. *J. Tušl* presented a method of the photometric determination of bromine in biological material with use of the catalytic reaction I_2/MnO_4^-. *H. Procházka, V. Jirásek,* and *B. Kábelová* reported on the detection of radioactive residues in biological material.

Followed the communication by *Š. Poláček, A. Hruškovičová,* and *A. Ragas* on the content of copper, zinc, manganese, and iron in winter wheat. The content of lead, cadmium, zinc, and copper in grain was determined by anodic dissolving voltametry as presented by *J. Moravcová* and. *M. Lučný. A. Káldy* with coworkers determined the iron content in basic feed of cows, and *J. Mašek* and collaborators determined the manganese content in feedstuffs and in foodstuffs of animal origin. *J. Uhrín* and *P. Zvada* found higher manganese content in feeds at a locality suffering by higher precipitation from emissions. Increased concentrations of copper in soils, plants, and livers of sheep were observed by *J. Bíreš, L. Vrzgula,* and *F. Jeník* in a contaminated area. *J. Cibulka et al.* investigated the effect of partial replacement of soy and wheat meals in the diet of broilers by the preparation Provico on the lead and cadmium content in liver, kidney, and muscle. *J. Uhrín* and *P. Zvada* communicated their results on the content of lead in biological material in case of an acute poisoning of lactating cows while *Z. Svobodová, K. Drbal,* and *R. Faina* determined the lead content in components of pond ecosystems. *B. Maňkovská* and *M. G. Ostrolúcká* investigated the accumulation of lead, cadmium, and sulfur in various organs of oak. *P. Truska* and coworkers presented a paper on nickel in environment. *M. Helclová, Z. Cvak,* and *A. Freundová* studied the fluorine content in molten cheese.

The next section was introduced by *P. Dostál* who talked on the soil as a basic part of the biochemical cycle of microelements. *J. Král, F. Löbl,* and *A. Štiková* followed with their contribution about the effect of industrial compost with high content of microelements on the microbiological and biochemical activity of soil. The paper by *E. Chreneková* and *Š. Poláček* treated the risk content of some elements in soil and their transport into plants. *A. Káldy et al.* reviewed the diagnostics of defect of some trace elements in domestic animals, and *J. Illek* with *P. Jagoš* presented their several-year study on the carency of copper and zinc in the cattle in high-capacity farms. *A. Káldy* with coworkers reported on the manganese content in serum,

hair, and excrements of cows fed various levels of manganese. The paper of *J. Haták* treated the dynamics of copper in hair of horses from Kladruby. *M. Prosbová* and *N. Vrzgulová* presented a paper on the microelement profile in lambs from a region where the nutritional muscle distrophy occurs. *T. Rusek et al.* investigated the influence of the oral application of Cu^{2+} and Cd^{2+} on the levels of copper, cadmium, and zinc in various organs of piglets. *B. Bíbr* studied with *J. Lener* the excretion of various forms of molybdenum into bile of rats exposed to high copper intake in the diet. *F. Zelený* studied changes of the molybdenum content in hay after fertilization with sodium molybdate. *J. Kubizňáková* presented her results on the toxicity of beryllium for barley, corn, and grass using the study of germination, and growth of roots.

The use of chemicals in the agriculture and the increasing contamination of the environment from the development of industry have unfavourable effect on the microelement content in food and feedstuffs. The control of the hygienic quality of these products, the investigation of the biochemical influence of the microelements, and the search for new ways to the decrease of contamination was the main topic of this meeting, with the final goal of maximum improvement of the present state. The main topic of the next meetings will be the same. The coming meeting, the 20th Meeting on microelements, will take place, again in Moravia, in May 1986.

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