



BOOK OF ABSTRACTS

First Legume Society Conference
2013: A Legume Odyssey

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Book of Abstracts

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International Legume Society
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Getting the message out: grow, use, feed and eat legumes

Accumulation of nickel in red clover

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Red clover (*Trifolium pratense* L.) is considered as one of the most important legumes, and today is the second most important, after alfalfa. Production of high-quality feed from red clover may be affected, among other things, the increased concentration of heavy metals in some agricultural areas, primarily due to anthropogenic influences. The aim of this study was to determine the level of nickel in red clover grown on soils with different content of nickel, in order to obtain information on safety of these nutrients. The examination was conducted on four types of soil: chernozem, vertisol, eutric cambisol and humofluvisol. Sampling of soil and plant material was carried out during May 2011, in the second year of red clover production. The total content of nickel in soil samples, at a depth 0.30 cm, was in the range 3.36-129.67 mg/kg. Maximum permitted level of nickel in soil is 50 mg/kg. The content of nickel in red clover was in the range 0,41- 6,87 mg/kg, which is below the critical and toxic concentrations to plants. It was concluded that the accumulation of heavy metals in plants did not depend only on the total content in soil, but also the affinity of the plant, and individual and interactive effects of various soil properties. It is necessary to further control of nickel in contaminated area, in order to prevent his entry into the food chain and provide safety food.

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In the rich world of global agriculture, diverse legumes can play key roles to develop environment-friendly production, supplying humans and animals with the products of high nutritional value.

The Legume Society was initiated in 2011 with two primary missions. One of them was to treasure the rich legume research tradition of the European Association for Grain Legume Research (AEP), with emphasis on carrying out its the triennial legume-devoted conferences. Another one is to fulfill a long-term strategy of linking together the research on all legumes worldwide, from grain and forage legumes pharmaceutical and ornamental ones and from the Old World to the Americas.

We do anticipate that the First Legume Society Conference will be a unique and genuine contribution to our common goals: to promote the legume research and all its benefits into all spheres of the society, linking science with stakeholders and decision-makers, and to demonstrate how an efficient, useful and firm network of the legume researchers of the world is possible and sustainable.

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