



BOOK OF ABSTRACTS

First Legume Society Conference
2013: A Legume Odyssey

9-11 May 2013, Novi Sad, Serbia

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Book of Abstracts

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International Legume Society
Institute of Field and Vegetable Crops, Novi Sad, Serbia
2013

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

Drought tolerance of *Vicia* sp. at germination stage

Dušica Jovičić, Zorica Nikolić, Gordana Zdjelar, Dragana Milošević, Maja Ignjatov, Aleksandar Mikić, Đura Karagić

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Drought is considered the most important abiotic stress which limits growth and productivity of plants and degrades agricultural soils. Therefore, testing drought tolerance of different species, particularly in the early stages of development, is of great importance. The aim of the experiment was to examine the tolerance of vetch to water stress during the germination stage. Three species of vetch, *Vicia sativa* L., *Vicia villosa* Roth and *Vicia pannonica* Crantz, produced at the Institute of Field and Vegetable Crops in Novi Sad, were tested. The substrates for germination were moistened with the PEG solution of 0, 0.3, 0.6 and 0.9 MPa concentrations. As indicators of drought tolerance, germination and growth parameters (shoot and root length, fresh and dry weight of seedlings) were determined. With an increasing concentration of PEG, all the tested parameters were reduced, but the results showed the interaction between the species and drought level. Although *V. pannonica* had the lowest percentage of germination in the control (74%) compared to *V. sativa* (90%) and *V. villosa* (93%), within these species a minimum germination rate decreased with increasing levels of water stress was observed. Similar dependences have been obtained for the other tested parameters. The existence of significant differences in germination and seedling growth, in drought conditions simulated in the laboratory, suggest that these indicators can be used as criterion for ranking the species or cultivars most tolerant of drought stress at the germination and seedling stages.

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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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