BOOK OF ABSTRACTS

First Legume Society Conference

2013: A Legume Odyssey

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First Legume Society Conference
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Book of Abstracts

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International Legume Society
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Programme

9
Session 1
Achievements and challenges in crop legume research

15
Session 2
Legume genetic resources and phylogenetic relationships

47
Session 3
Legumes in foods and impacts on human health

69
Session 4
Advances in legume breeding concepts and tools

115
Session 5
Legume seed production, meeting market requirements and economic impacts

137
Session 6
Translational omics for legume improvement

185
Session 7
Responses to biotic and abiotic stresses in legumes

225
Session 8
Non-food, non-feed and other alternative legume uses

235
Session 9
Understanding and enhancing the legume cropping environment

275
Session 10
Mechanisms of beneficial legume-microbe interactions

289
Session 11
Legumes in animal feeds: requirements and impacts

305
Session 12
Getting the message out: grow, use, feed and eat legumes

Antioxidant potential and total phenolic content of Serbian red clover cultivars

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Red clover (*Trifolium pratense*) is rich in phytoestrogens as well as other phenolic substances which contribute to its antioxidative properties. Still, its antioxidative potential has not been thoroughly investigated. The aim of this study was to determine radical scavenging capacity and total phenolic content of red clover cultivars from Serbia observing different plant parts. Leaves, stems and flowers from four red clover cultivars (Kolubara, Una, Avala, K17) were grounded and extraction with water, 3M HCl and ethanol was performed. Radical-scavenging capacity was measured by reaction with the stable DPPH (2,2-diphenyl-1-picrylhydrazyl) radical and calculation of the amount necessary to decrease initial DPPH concentration by 50% (IC_{50}). Total phenolic content (TPC) was determined according to the Folin-Ciocalteu method and expressed as gallic acid equivalents (GAE). Antioxidant potential and TPC of leaves and flowers were not statistically different, but on average, flower extracts had the highest antioxidant activity (IC_{50} 0.087 mg/ml) and leaf extracts the highest TPC (30.30 mg/g GAE). Sample with the highest antioxidant activity (IC_{50} 0.074 mg/ml) and TPC (32.95 mg/g GAE) was the flower of Kolubara cultivar. This cultivar also had on average the highest TPC (23.06 mg/g GAE) when observing all plant parts, while cultivar Avala had the highest antioxidant potential (IC_{50} 0.176 mg/ml). Leaves and flowers of Serbian red clover cultivars are rich sources of phenolic compounds with antioxidant potential. Stems were poor in phenols as well as in antioxidant activity compared with other plant parts. Cultivar Kolubara had the highest TPC and Avala the highest antioxidant potential.

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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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