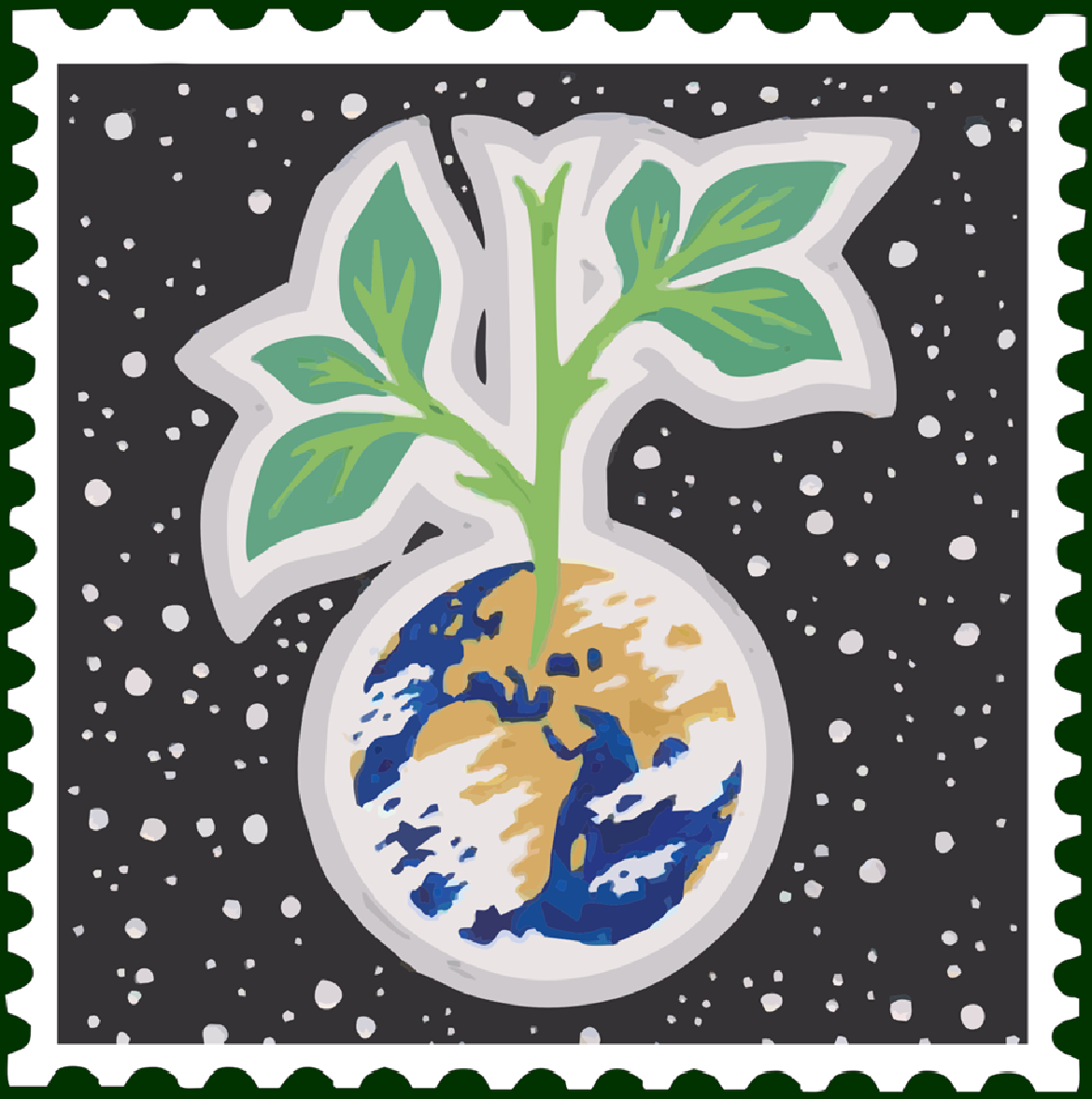

BOOK OF ABSTRACTS

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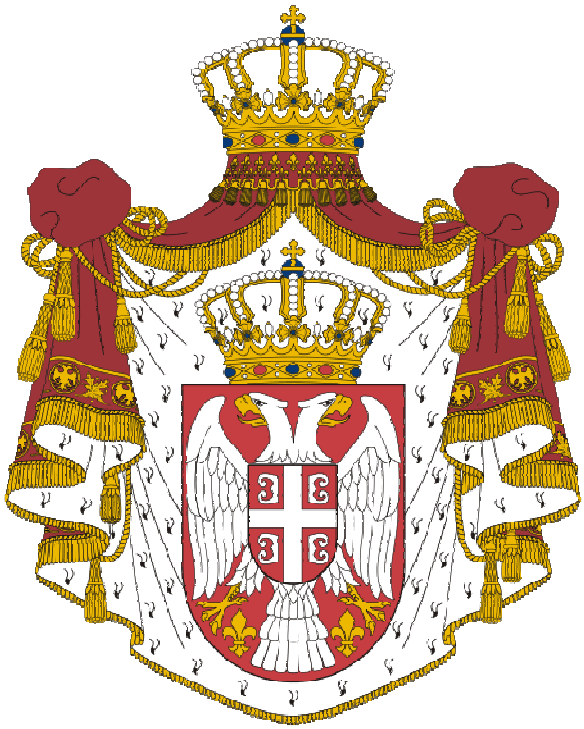

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Programme

Stereological analysis of petiole of forage and grain soybean cultivars

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The structure of petiole resembles the stem structure in most of the legumes and has higher potential impact on digestibility than leaf lamina. Petiole anatomy of forage and grain soybean cultivars was analyzed using stereological method. The aim was to obtain data about petiole structure, to assess the proportion of different tissues from its proximal to distal end and to compare petiole characteristics between grain and forage cultivars. Lignified petiole tissues were xylem and sclerenchyma. Their volume densities (*Vv*) were the lowest in distal petiole part, closest to the leaf blade, whilst *Vv* of epidermis and collenchyma were the lowest in proximal region. Xylem proportion gradually increased towards the petiole base, whilst the proportion of phloem and the number of vascular bundles significantly increased from proximal to distal petiole end, probably as the result of bundle division along the petiole length. Thin epidermal and collenchyma tissue, the small size of vascular bundles and small groups of sclerenchyma are favorable characteristics concerning petiole digestibility. 'Tyrone'could be singled out as the cultivar with the highest *Vv* of parenchyma and the lowest *Vv* of xylem and sclerenchyma, and significantly the lowest *Vv* of epidermis and collenchyma in petiole. Grain cultivars had higher *Vv* of phloem compared to forage cultivars, which enabled faster transport of photosynthates from leaves to grains. No significant differences were recorded between forage and grain cultivars in anatomical parameters connected to digestibility, so petioles do not reduce the potential of grain cultivars to provide the high quality forage.

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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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