



BOOK OF ABSTRACTS

First Legume Society Conference
2013: A Legume Odyssey

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Book of Abstracts

Editors:
Aleksandar Mikić
Diego Rubiales
Vuk Đorđević

International Legume Society
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Technical Editors:
Sanja Mikić and Aleksandar Mikić

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

Variability of protein and oil content in soybean genotypes from MRIZP collection

Vesna Perić¹, Ana Nikolić¹, Mirjana Srebrić¹, Vojka Babić¹, Snežana Mladenović Drinić¹, Aleksandar Mikić²

¹*Maize Research Institute Zemun Polje, Belgrade, Serbia*

²*Institute of Field and Vegetable Crops, Novi Sad, Serbia*

Seed protein and oil content are two main seed quality traits in soybean. Numerous studies confirm negative correlation between seed protein and oil concentration. Short season soybean varieties have higher protein concentration, while late cultivars have better oil content. The objective of this study was to evaluate 135 soybean accessions different maturity groups (00,0,I,II,III) on the basis of their protein and oil concentration and to identify the genotypes with the best protein: oil ratio within each group. The accessions from soybean collection of the Maize Research Institute Zemun Polje (MRIZP) were analyzed for protein and oil content with a NIR spectroscopy. Cluster analysis using combined data of two traits was performed for genotypes of each maturity group. Categories of genotypes based on protein (low protein-LP, medium protein-MP, high protein-HP) and oil content (low oil-LO, medium oil-MO, high oil-HO) were identified. Proportion of categories differed among groups. The majority of HPHO varieties were found in maturity groups 00 and 0 (5 and 3 cultivars, respectfully). Mid season group (I) was mostly consisted of MPMO and LPHO cultivars, with exception of two MPH0 genotypes. Within the maturity group II, no medium protein cultivars were found, while 5 genotypes had oil content higher than 21%. Maturity group III was characterized by low protein cultivars, with either medium or low oil content, excepting two cultivars with high oil concentration. Although groups II and III encompassed only low protein varieties, one cultivar from each group has been identified as HPHO. Soybean collection of MRIZP contains valuable sources of genetic variation for the soybean breeding program in the future.

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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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