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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PROGRAMME

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Friday, May 10th

08:00 - 09:00	Registration
09:00 – 11:15	Session 6: Translational omics for legume improvement
	Keynote lecture. Richard Thompson
	Nuno Felipe Almeida *et al.*: Transcriptional profiling of grass pea genes differentially regulated in response to infection with *Ascochyta pisi*
	Balkan Canher *et al.*: Functional exploration of salt responsive *Phaseolus vulgaris* (common bean) genes using model organism *Arabidopsis thaliana*
	Julie Hofer *et al.*: Characterisation of a double-flowered mutant in pea (*Pisum sativum*)
	Bernadette Julier *et al.*: Lucerne genomics, potential application in breeding
	Živko Jovanović *et al.*: Dehydration affected the expression of miR398 and miR408 in pea (*Pisum sativum* L.)
	Mariusz Banach *et al.*: Identification and characterization of cDNA genes FLK and FVE of the autonomous pathway of flowering *Lupinus luteus*
	Fathi Hassan & Hans-Jörg Jacobsen: Transgenic approaches to overcome challenges caused by biotic and abiotic stresses in grain legumes
11:15 – 11:45	Coffee break
11:45 – 12:15	Session 7: Responses to biotic and abiotic stresses in legumes. Keynote lecture. Diego Rubiales
12:15 – 12:45	Session 8: Non-food, non-feed and other alternative legume uses Keynote lecture. Peter Gresshoff
12:45 – 14:30	Lunch
14:30 – 16:00	Session 7: Responses to biotic and abiotic stresses in legumes. Selected offered oral presentations
	Kim W *et al.*: Investigating the role of solanapyrone toxins in *Ascochyta blight* using toxin-deficient mutants of *Ascochyta rabiei*
	Stefano Pavan *et al.*: Molecular characterization of pea powdery mildew *er1* resistance
	Anupama Hingane *et al.*: Studies on water-logging tolerance in pigeon pea: Future prospectus
	Jovanka Miljuš-Djukić *et al.*: Salt stress response in three pea species (*Pisum arvense, P. sativum and P. fulvum*) *in vitro* cultures
14:30 – 16:00	Session 8: Non-food, non-feed and other alternative legume uses. Selected offered oral presentations
	Peter Baresel *et al.*: OSCAR – a new European project on cover crops
	Hannu Känkänen: Reducing use of fossil energy by biological N fixation
	Aleksandar Mikić: All legumes are beautiful, but some legumes are more beautiful than others
	Ermelinda L. Pereira *et al.*: The effect of legume cover crops grown in an olive orchard on soil microbial activity
16:00 – 16:30	Coffee break
16:30 – 18:30	Legume Society Founding Assembly
20:30 – 22:30	Second International Legume Football Cup: finals
20:45 – 21:15	Third-place play-off
21:30 – 22:30	Final

The effect of legume cover crops grown in an olive orchard on soil microbial activity

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Microbial biomass and soil respiration are major indicators of the soil biological fertility which can be affected by soil management practices. The aim of this study was the evaluation of the effect of three ground-cover treatments, imposed to an olive orchard, on soil microbial biomass and activity. The ground-cover treatments were: Natural vegetation (Nat veg); Natural vegetation fertilized with 60 kg N ha^{-1} (Nat veg +N); and a mixture of eleven self-reseeding annual legumes (Legumes) grown as a cover crop. The experiment was carried out in a rainfed olive orchard located in Mirandela, NE Portugal. Three years after the experimental set-up had been installed, random samples of soil were collected in two depths, 0-10 cm and 10-20 cm. The microbial biomass C (Cmic) was determined by the fumigation-extraction method; the basal respiration (BR) as the rate of CO_2 evolved in a 7 days soil incubation at 25 °C; and soil organic C (Corg) by the Walkley-Black method. The Cmic:Corg ratio and the metabolic quotient (qCO_2), defined as the respiration rate per unit of biomass, were thereafter estimated. The values of Cmic and BR were significantly higher under the Legumes treatment in comparison with Nat veg +N and Nat veg. It seems that Legumes increased the C stored in the soil and promoted soil microbial activity, two soil quality factors usually related to the sustainability of the agrosystems.