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International Conference

**Advances in grain legume
cultivation and use**

BOOK OF ABSTRACTS



*Translating Legume Research Into
End-Users Reality*

*27-28 SEPTEMBER 2017
NOVI SAD, SERBIA*

International Conference

**Advances in grain legume breeding,
cultivation and uses for a more
competitive value-chain**

BOOK OF ABSTRACTS

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Characterization of the biosynthesis of saponins during seed development in peas (*Pisum sativum*) and faba beans (*Vicia faba*)

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The use of pulses as ingredients for the production of food products rich in plant proteins is increasing. However, protein fractions prepared from pea or faba beans contain significant amounts of saponins, glycosylated triterpenes which can impart a bitter taste to the final food product. In addition, saponins have also been described to be involved in plant responses to biotic and abiotic stresses(1). In this study, we identified and characterized the genes involved in saponin biosynthesis during pea seed development(2), and optimized a saponin extraction protocol to follow the biosynthesis of these compounds during the development of pea and faba bean seeds. The identification of mutants affecting the function of key genes of the saponin biosynthetic pathway is currently underway in pea(3). Acknowledgement: This study is funded under the LEG'UP FUI (Unique Interministerial Fund) project (AAP No. 18) References [1] Faizal, A. and D. Geelen (2013). "Saponins and their role in biological processes in plants." *Phytochemistry Reviews* 12(4): 877-893. [2] Morita, M., M. Shibuya, et al. (2000). "Molecular cloning and functional expression of triterpene synthases from pea (*Pisum sativum*) - New alpha-amyrin-producing enzyme is a multifunctional triterpene synthase." *European Journal of Biochemistry* 267(12): 3453-3460. [3] Dalmais, M., J. Schmidt, et al. (2008). "UTILLdb, a *Pisum sativum* in silico forward and reverse genetics tool." *Genome Biology* 9(2).