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TITLE: Cyanogenic glycosides – Essential or non-essential metabolites?**Name:** Lubomír Harenčár¹, Katarína Ražná²**Affiliation:** ¹PhD. Student, ²Professor at Slovak University of Agriculture in Nitra**Country:** Slovak Republic**Email ID:** harenca.l@gmail.com; katarina.razna@uniag.sk**ABSTRACT**

Plants produce several metabolites that help to keep a homeostasis between intracellular and extracellular environment. A releasing of a toxic hydrogen cyanide is highly effective biological mechanism against pathogens, herbivores and human. A role of these water-soluble metabolites lies in a defense reaction, cell signaling and growth processes. Thanks plant endogenous turnover they may serve as an important source of nitrogen as well. Metabolic pathways of cyanogenic glycosides during specific developmental stages and their species-induced variability are just as interesting. Their similarity of biosynthesis to other nutritionally important plant components (e.g. lignans) can be identified by current in silico approaches. Due to a high toxicity, it is important gradually reduce their amount however with keeping a resistance especially within edible plants. From many approaches for regulation of metabolites concentration and the expression of corresponding genes represent microRNAs in combination with elicitation suitable methodology that can help to reach a goal. The aim of this presentation is to raise an awareness about the role and potential of cyanogenic glycosides in plant food resources with possibilities of reducing their content by miRNA-based biotechnological approaches.

Presenter Name: Lubomír Harenčár**Mode of Presentation:** Oral**Contact number:** +421 918 441 282**BIOGRAPHY**

Lubomír Harenčár is in the second year of PhD's studies at Slovak University of Agriculture in Nitra. Within the Institute of Plant and Environmental Sciences works on topic of MicroRNA as a factor regulating the biosynthesis of lignans and cyanogenic glycosides of flax (*Linum usitatissimum* L.).

He has participated in several international internships at the University of Natural Resources and Natural Sciences (BOKU) in Vienna, at the Biophysical Institute of the Academy of Sciences of the Czech Republic and at the OECD in Paris. He won the international scientific conference of PhD students in Applied and Molecular Biology section at the Slovak University of Agriculture in Nitra. He is co-author of several publications and participates on projects under financial support of EU.

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