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## **CHANGES IN NEUROTOXIN, $\beta$ -N-OXALYL- L $\alpha$ , $\beta$ -DIAMINOPROPIONIC ACID ( $\beta$ -ODAP), LEVEL IN GRASS PEA (*LATHYRUS SATIVUS* L.) GENOTYPES UNDER ARSENIC TREATMENTS**

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### **ABSTRACT**

Grass pea (*Lathyrus sativus* L.) contains a fatal neurotoxin which is known as  $\beta$ -N-Oxalyl- L  $\alpha$ , $\beta$ -diaminopropionic acid ( $\beta$ -ODAP). Four grass pea genotypes viz. BioL-212, BioL-203, BioR-231 and IC 24 were tested at three different doses (10, 20 and 30 mg L<sup>-1</sup>) of arsenic (As) treatment for neurotoxin,  $\beta$ -ODAP content and as accumulation in seeds. Variety BioL-212 exhibited decrease in  $\beta$ -ODAP content but showed non-significant accumulation of As content in seeds. Completely opposite trend, however, was noticed in BioR-231. In BioL-203, As level increased but  $\beta$ -ODAP level reduced considerably. By contrast,  $\beta$ -ODAP level increased significantly but As content marginally changed in seeds of IC 24. The results indicated differential response of genotypes to As treatments for their seed neurotoxin levels. Possible causes and consequences of  $\beta$ -ODAP accumulation under As exposure have been discussed.

**KEY WORDS:** Arsenic, Neurotoxin,  $\beta$ -ODAP, *Lathyrus sativus* L., genotypes