

## **The Effect of Gibberellic Acid on Gamma-Aminobutyric Acid (GABA) Metabolism in Phaseolus Vulgaris L. Plant Exposed to Drought and Salt Stresses**

**Authors :** Fazilet Özlem Çekiç, Seyda Yılmaz

**Abstract :** Salinity and drought are important environmental problems in the world and have negative effects on plant metabolism. Gamma-aminobutyric acid (GABA), four-carbon non-protein amino acid, is a significant component of the free amino acid pool. GABA is widely distributed in prokaryotic and eukaryotic organisms. Environmental stress factors increase GABA accumulation in plants. Our aim was to evaluate the effect of gibberellic acid (GA) on GABA metabolism system during drought and salt stress factors in Phaseolus vulgaris L. plants. GABA, Glutamate dehydrogenase (GDH) activity, chlorophyll, and lipid peroxidation (MDA) analyses were determined. According to our results we can suggest that GA play a role in GABA metabolism during salt and drought stresses in bean plants. Also GABA shunt is an important metabolic pathway and key signaling allowing to adapt to drought and salt stresses.

**Keywords :** gibberellic acid, GABA, Phaseolus vulgaris L., salinity, drought

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