Modulation of content and composition of glucosinolates in *Brassica* upon abiotic stress

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Plants elicit multiple responses when exposed to a variety of biotic and abiotic stress factors. These stress factors induce signaling cascades that activate ion channels, kinases, production of reactive oxygen species (ROS), and accumulation of plant hormones. These signals affect eventually both the primary and secondary metabolism resulting in a substantial variation in the plant metabolome. Plant secondary metabolism shows a high phenotypically plasticity in response to both biotic and abiotic stress factors. Glucosinolates are secondary sulfur compounds, which occur in high levels in Brassica vegetables and which are responsible for their characteristic flavor and odor and maybe involved in the defense against insects and pathogens. Moreover, they also have high nutraceutical and pharmacological value. Currently more than 130 different glucosinolates have been identified in plants and more than 30 of them are present in Brassica species. Their content and composition in plants is strongly affected during plant development and is affected by various environmental factors, *viz.* nutrient availability (S, N, K, Se and B) temperature, drought, UV-B, as well as fungal and bacterial pathogens. In the current study, the impact of chloride and sulfate salinity and high levels of Cu, Zn and Ni on the content and composition of glucosinolates was investigated in seedlings of *Brassica* species.

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