

Title: Effective Biotic Elicitors for Augmentation of Secondary Metabolite Production in Medicinal Plants

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Abstract: Plants are an essential component of our daily diet, and their nutritional value has been thoroughly studied for many years. The ability of plants to adapt to changing environmental conditions through signaling systems is an essential component of their survival. Plants undergo an array of physiological alterations to respond to stress from biotic sources. Secondary compounds frequently accumulate in crops that are sensitive to stress, particularly those with several eliciting agents or signaling molecules. Plants contain various types of bioactive compounds, including phytosterols, alkaloids, glycosides, and polyphenols, which make them valuable for the food and pharmaceutical industries. The increased production of secondary metabolites via elicitation has opened up a new field of study with the potential to provide substantial financial gains for the pharmaceutical and nutraceutical industries. These elicitors are pharmacological compounds that activate specific transcription factors and up-regulate genes to activate metabolic pathways. Thus, the current review discusses the mechanism of biotic elicitation and various elicitation techniques using biotic (proteins, carbohydrates, rhizobacteria, fungi, and hormones) elicitors that may increase the yield of secondary metabolites, particularly in medicinal plants, which is advantageous to the agrochemical and therapeutic industries.

Keywords: secondary metabolites; biotic elicitor; signal molecules; phytochemicals; medicinal plants

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