

## Nature-based Solutions for Mitigating the Impact of Climate Change on Plants: Utilizing Encapsulated Plant Growth Regulators and Associative Microorganisms

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**Abstract :** Over the past decades, the climatic CO<sub>2</sub> concentration and worldwide normal temperature have been expanding, and this drift is anticipated to be more extreme. This situation of climate alter escalate abiotic stress components (such as dry spell, flooding, saltiness, and bright radiation) that debilitate timberland and related environments as well as trim generation. These variables can contrarily influence plant development and advancement with a ensuing lessening in plant biomass aggregation and surrender, in expansion to expanding plant defenselessness to biotic stresses. As of late, biostimulants have ended up a hotspot as a viable and economical elective to reduce the negative impacts of stresses on plants. In any case, the larger part of biostimulants has destitute solidness beneath natural conditions, which leads to untimely debasement, shortening their organic movement. To unravel these bottlenecks, small scale- and nano-based definitions containing biostimulant atoms and/or microorganisms are picking up consideration as they illustrate a few points of interest over their routine details. In this survey, we center on the embodiment of plant development controllers and plant acquainted microorganisms as a technique to boost their application for plant assurance against abiotic stresses. We moreover address the potential restrictions and challenges confronted for the execution of this innovation, as well as conceivable outcomes with respect to future inquire about.

**Keywords :** bio stimulants, Seed priming, nano biotechnology, plant growth-promoting, rhizobacteria, plant growth regulators, microencapsulation

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