

# **MICROALGAL BIOPESTICIDES AS A SUSTAINABLE SOLUTION FOR PLANT PROTECTION**

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Increasing awareness about the detrimental effects of synthetic pesticides including environmental pollution, pesticide-resistant pests and negative impact on beneficial organisms has promoted the use of biological control agents as an integral part of Integrated pest management. Microalgae are photosynthetic organisms that produce a variety of bioactive compounds with diverse application possibilities in plant protection. This review provides an in-depth examination of microalgae with the potential to synthesize bioactive compounds with biopesticidal activity. This review integrated findings from laboratory research to describe and evaluate several microalgae strains in the context of plant protection in an attempt to enhance our understanding of the potential of microalgae in sustainable agriculture. The review reveal potential for further exploitation of microalgae-derived biopesticides in plant protection as utilizing their antibacterial, antifungal, and insecticidal properties. To summarize, microalgae-derived biopesticides have shown promising results as a sustainable and environmentally friendly alternative to synthetic pesticides for the effective control of agricultural pests.