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Risk assessment study of BT toxins (*Cry1AC and Cry2AC*) on non-target soil Rhizobacteria

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The risk assessment of GM crops demonstrates their impact on the ecosystem as well as non-target organisms (NTO's). Among the NTO's, plant growth promoting Rhizobacteria (PGPR) demand more critical experimental studies since they are playing a significant role in plant growth. A comparative study of Bt with non-Bt cotton rhizosphere was conducted, on some selected bacterial strains, biochemical characterization, auxin biosynthesis and molecular characterization was done to assess the risks of Bt protein on non-target PGPR strains. No significant differences (P>0.05) was observed in Colony forming units (CFU), colony morphologies and other biochemical activities during comparative analysis of both control and experimental strains except reduced phosphatase activity in some experimental bacterial strains. Our findings confirmed the absence of possible transfer of *Cry1AC and Cry2AC* into bacterial strains from Bt cotton rhizosphere. No significant changes were observed in biochemical and molecular characteristics of these soil bacteria except a decreased phosphatase activity in some bacterial colonies.

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