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Biological management of *Aspergillus flavus* infection and aflatoxin contamination in groundnut by *Streptomyces* sp. CDA 19Harini G.¹, Narendra Kumar², Hameeda B.², Farid W.¹, Hari S.¹ and Gopal Reddy²¹International Crops Research Institute for the Semi Arid Tropics (ICRISAT), Patancheru-502324²Department of Microbiology, University college of science, Osmania University, Hyderabad-500 007

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Biological control of plant pathogenic fungi is a promising tool for ecofriendly approach for development of sustainable agriculture. In India, groundnut is grown in three seasons: rainy (85% area), post rainy (10% area) and summer (5% area). Infection and aflatoxin production by *A. flavus* is a serious problem in groundnut production management. Host plant resistance is lacking in groundnut plant to infection by *A. flavus*. Therefore integrated disease management is one of the various approaches used to prevent infection and aflatoxin contamination at pre and post harvest stages of the crop. Preharvest aflatoxin management through the use of antagonistic microorganisms and disease suppressive composts has gained importance in recent years. In the present study 40 actinomycetes isolates antagonistic to *A. flavus* were characterized. Out of them three actinomycetes inhibited *A. flavus* growth under plate culture conditions. These were further tested by dual culture method against *A. flavus* in specific and other soil borne plant pathogenic fungi in general to know the broad spectrum antifungal activity and one isolate identified as *Streptomyces* sp. CDA 19 was studied in detail. The cell culture filtrate (CCF) of CDA 19 was tested for growth inhibition and aflatoxin production by *A. flavus*. Further *Streptomyces* sp. CDA 19 was found to produce plant growth promoting hormone IAA. It also showed antagonistic traits such as production of siderophores, chitinase, glucanase, lipase, protease and acid production. This *Streptomyces* sp. CDA 19 can become a potential biocontrol agent for inhibition of *A. flavus* infection and aflatoxin production and can also aid in plant growth promotion of groundnut.