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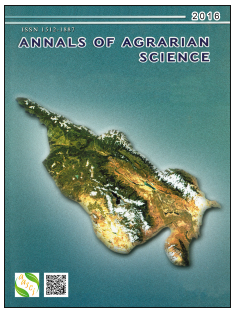

Screening of endophytic actinomycetes for their herbicidal activity

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PII: S1512-1887(17)30085-4

DOI: 10.1016/j.aasci.2017.11.001

Reference: AASCI 153

To appear in: *Annals of Agrarian Sciences*

Received Date: 30 June 2017

Revised Date: 7 November 2017

Accepted Date: 8 November 2017

Please cite this article as: H. Singh, B. Naik, V. Kumar, G.S. Bisht, Screening of endophytic actinomycetes for their herbicidal activity, *Annals of Agrarian Sciences* (2017), doi: 10.1016/j.aasci.2017.11.001.

Title: Screening of endophytic actinomycetes for their herbicidal activity

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Abstract

Endophytic actinomycetes were isolated from 6 different plants collected from Uttarakhand, India. Actinomycetes isolates were screened for their herbicidal activity against *Parthenium hysterophorus*, *Ageratum conyzoides* and *Bidens biternata*. These isolates belong to the seven different genera. None of the isolate showed herbicidal activity on SCN agar plates. Therefore, direct fermentation method was used for the phytotoxin production in the submerged culture to study the herbicidal activity against different test weeds. The significant differences were observed in the production of phytoxin in SCN and GS medium. In the case of *Ageratum conyzoides* (billygoat weed), the culture filtrate of *Nocardiodes* sp. 1, *Nocardiodes* sp.2 and *Actinomadura* sp. showed 60% reduction in seed germination. However, culture filtrate of endophytic actinomycetes was ineffective on seed of *Bidens biternata* in the pre-emergence condition. In *Parthenium hysterophorus*, the highest seed germination reduction was observed with the culture filtrate (in SCN) of *Nocardiodes* sp.1 (80%). While in GS medium, maximum inhibition was observed in culture filtrate of *Saccharopolyspora* sp. (80%). The culture filtrates exhibited phytotoxic activity towards