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Growth promotion and mildew suppressive effect of phylloplane bacteria of mulberry (*Morus* spp.)

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ABSTRACT

Studies were conducted to evaluate growth promotion and mildew (*Phyllactinia corylea*) suppressive effect of phylloplane bacteria of mulberry (*Morus* spp.) *in vitro* and *in vivo* and the effective bacteria were identified. Among 18 bacteria, 4 isolates showed highly significant (P<0.01) reduction with >70 per cent suppression of conidial germination. The highest reduction was showed by the isolate Pb-5 (13.87%) by suppressing 86.13 per cent conidial germination followed by Pb-4 (17.23%) with 82.17 per cent. Similarly, six isolates significantly increased the seed germination. Significantly high (P<0.01) seed germination was obtained (93.44%) with treatment of the isolate Pb-6 followed by Pb-3 (86.22%), Pb-7 (86.22%) and Pb-4 (85.47%). Most effective bacterial isolates were identified as *Bacillus megaterium* (Pb-1) *Bacillus subtilis* (Pb-1) *Bacillus cereus* (Pb-1) and *Pseudomonas aeruginosae* (Pb-1). *In vivo* studies revealed highly significant (P<0.01) with >60% reduction of disease severity with the application of *B.megaterium* (63.42%) and *B.cereus* (60.73%). The study suggests exploration of either of these bacteria for biological control of mildew in mulberry.

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