

Introducing Autochthonous Bacterium and Fungus Composition to Enhance the Phytopathogen-Suppressive Capacity of Composts against *Clonostachys rosea*, *Penicillium solitum* and *Alternaria alternata* In Vitro

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Figures S1–S11

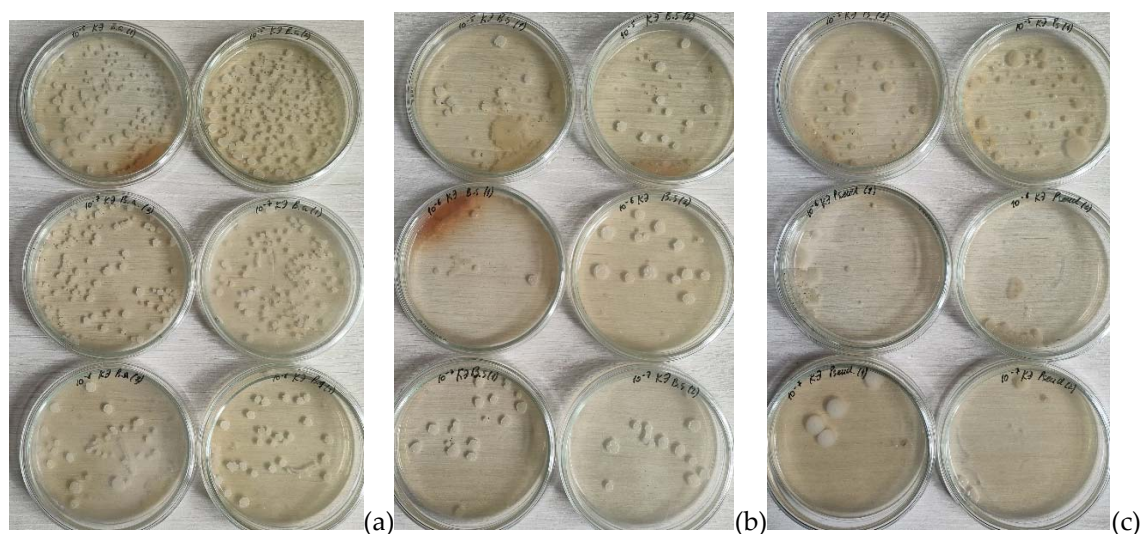


Figure S1 – Survival rate of bacteria introduced to compost (C7) after introducing bacteria: (a) *Bacillus amyloliquefaciens*; (b) *Bacillus subtilis*; (c) *Pseudomonas aeruginosa*. Colonies formed on agarized LB medium after surface seeding from serial ten-fold dilutions (variants of three dilutions in two-fold replications are presented)

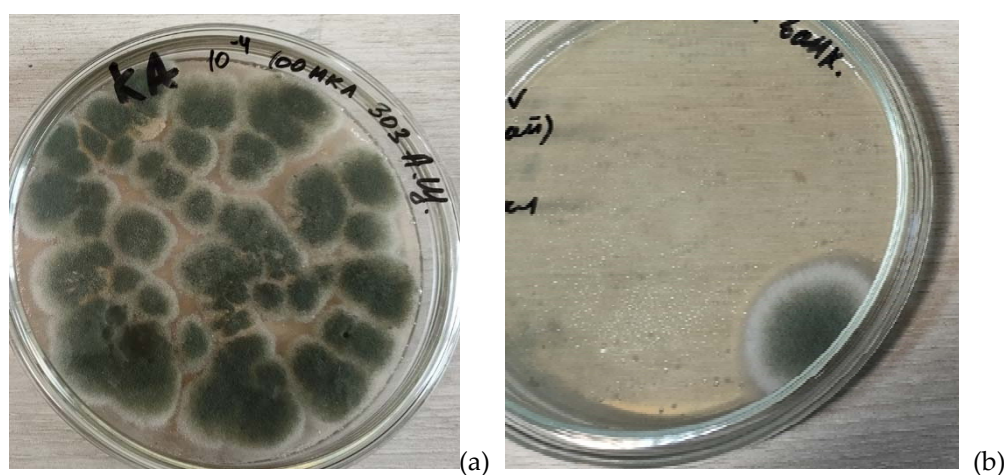


Figure S2 – *Aspergillus corrugatus*: (a) colonies of the fungus formed on PDA medium after surface seeding from one of the spore suspension serial dilutions; (b) colony formed on PDA medium via surface seeding from the last serial dilution of the compost suspension (C7) (analysis of the survival rate in compost after introducing fungus).

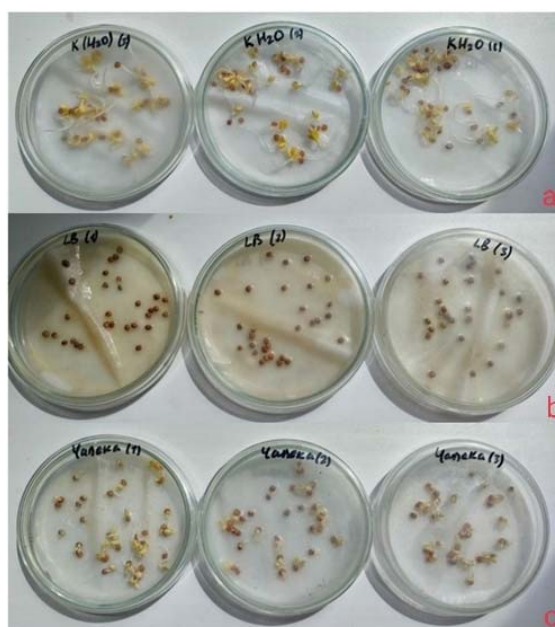


Figure S3 – Effect of undiluted liquid nutrient LB (Luria–Bertani) and Czapek media on test plant (*Raphanus sativus*) seed growth: (a) control (water)—no plant growth inhibition; (b) LB medium—complete inhibition of plant growth; (c) Czapek medium—lower but significant inhibition of plant growth.

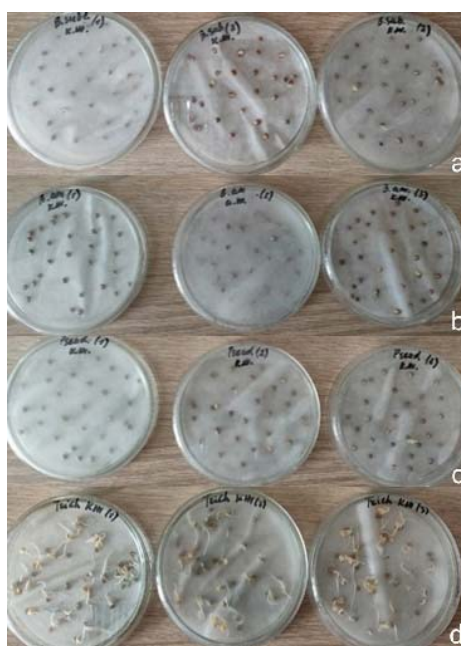


Figure S4 – Inhibition of seed germination induced by culture supernatants without dilution: (a) *Bacillus amyloliquefaciens*; (b) *Bacillus subtilis*; (c) *Pseudomonas aeruginosa*; (d) *Aspergillus corrugatus*.

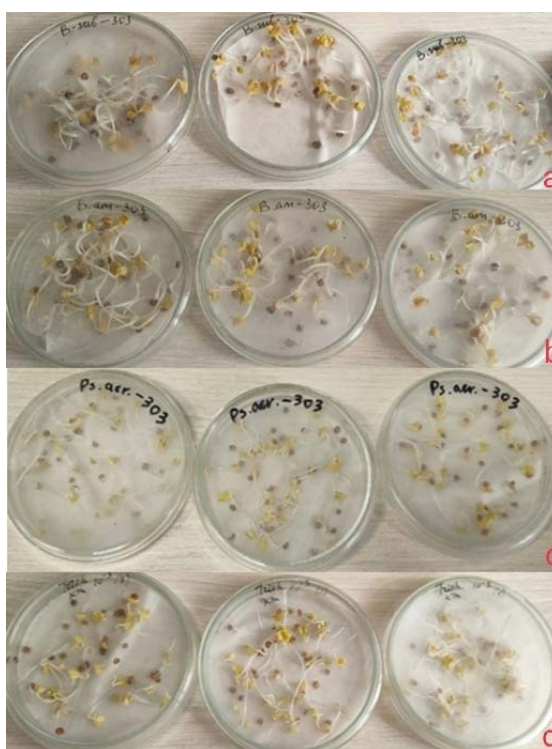


Figure S5 – Analysis results for diluted (1:1000) culture supernatants: (a) *Bacillus subtilis*; (b) *Bacillus amyloliquefaciens*; (c) *Pseudomonas aeruginosa*; (d) *Aspergillus corrugatus*. *B. subtilis* and *B. amyloliquefaciens*—no seed germination inhibition observed, normal plant growth was noted; *P. aeruginosa* and *A. corrugatus*—less active growth.

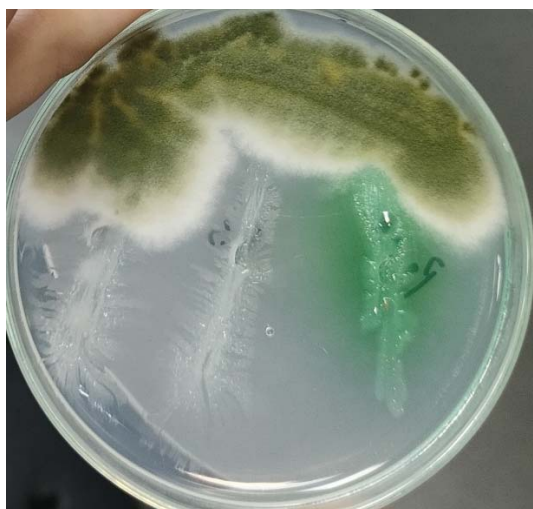


Figure S6 – Evaluation of the antagonist microorganism's compatibility before forming a composition: normal development of all four cultures. No zones of growth inhibition were noted, and compatibility was confirmed. At the top horizontally, the fungus *A. corrugatus*; bacteria are perpendicular: from left to right—*B. amyloliquefaciens*, *B. subtilis*, *P. aeruginosa*.

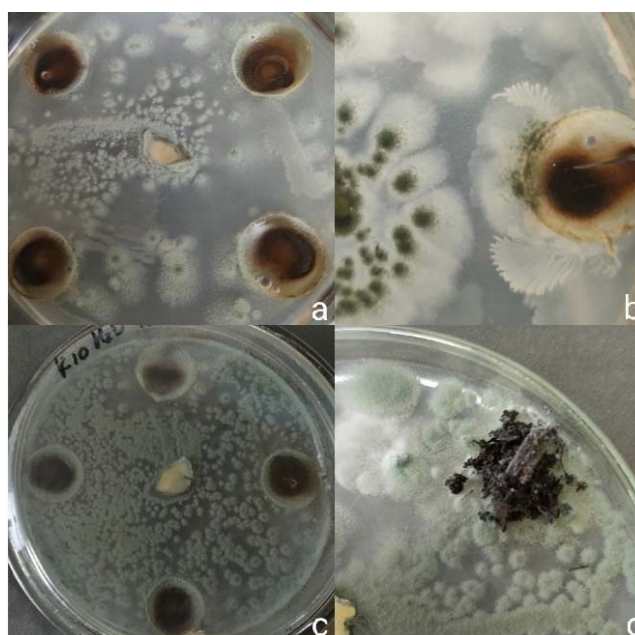


Figure S7 – Examples of no suppression of *Penicillium solitum*: (a) C7B1—phytopathogen spread over the entire surface of the Petri dish and grows in the wells with the compost suspension; (b) C7L—*P. solitum* grows in the wells with the compost suspension; (c) C7W—extensive spread of the pathogen and abundant growth in the wells; (d) C36W—phytopathogen grows on one of the compost lumps.

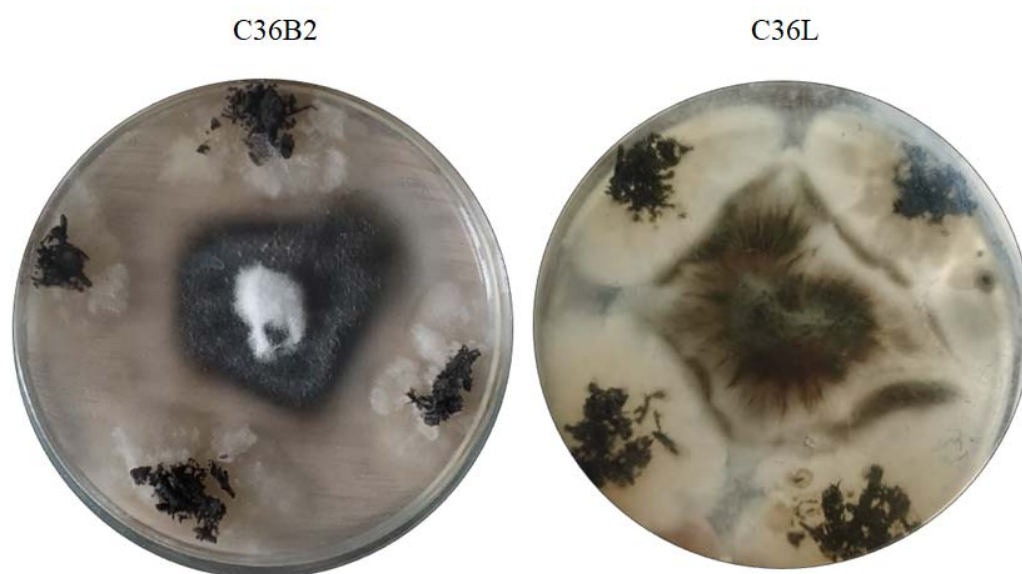


Figure S8 – Examples of the suppression effect (less mycelial growth inhibition of *Alternaria alternata* than in the best variants, with introduced microorganism composition): left—the effect of variant C36B2; right—C36L. C36L—physical interaction between compost micromycetes and phytopathogen is observed; for C36B2, both zones of inhibition and physical interaction are visible (different antagonism mechanisms).

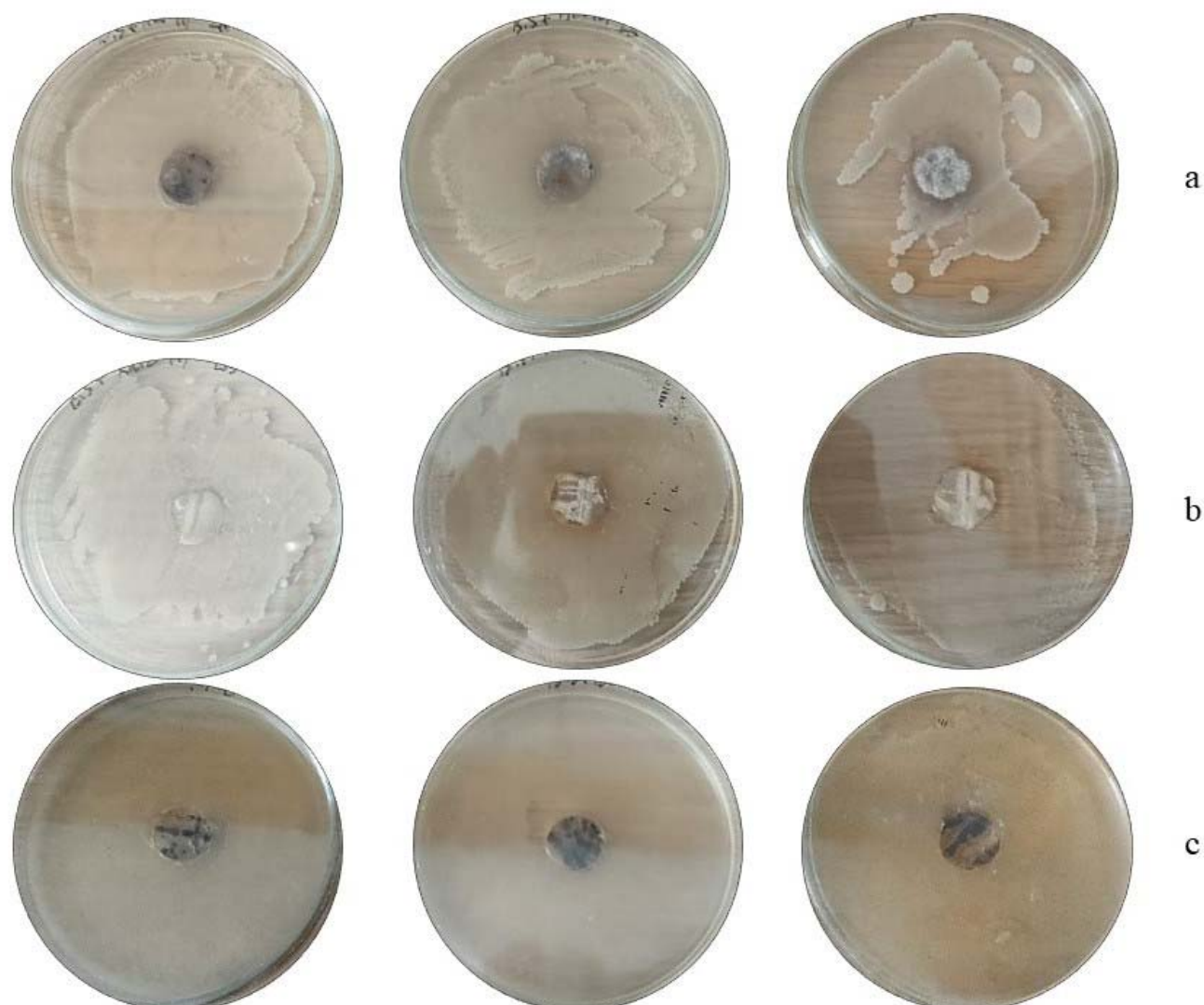


Figure S9 – Examples of the suppression effect (pure culture of antagonistic bacteria *B. subtilis* against phytopathogens): (a) bacteria spread over the entire surface of the Petri dish, no growth of *A. alternata* is observed; (b) bacteria spread over the entire surface of the Petri dish, no growth of *C. rosea* is observed; (c) bacteria spread over the entire surface of the Petri dish, no growth of *P. solitum* is observed. Three repetitions of each experiment.



Figure S10 – Examples of the suppression effect (pure culture of antagonistic bacteria *B. amyloliquefaciens* against phytopathogens): left—bacteria spread over the entire surface of the Petri dish, no growth of *C. rosea* is observed; right—bacteria spread over the entire surface of the Petri dish, no growth of *A. alternata* is observed.

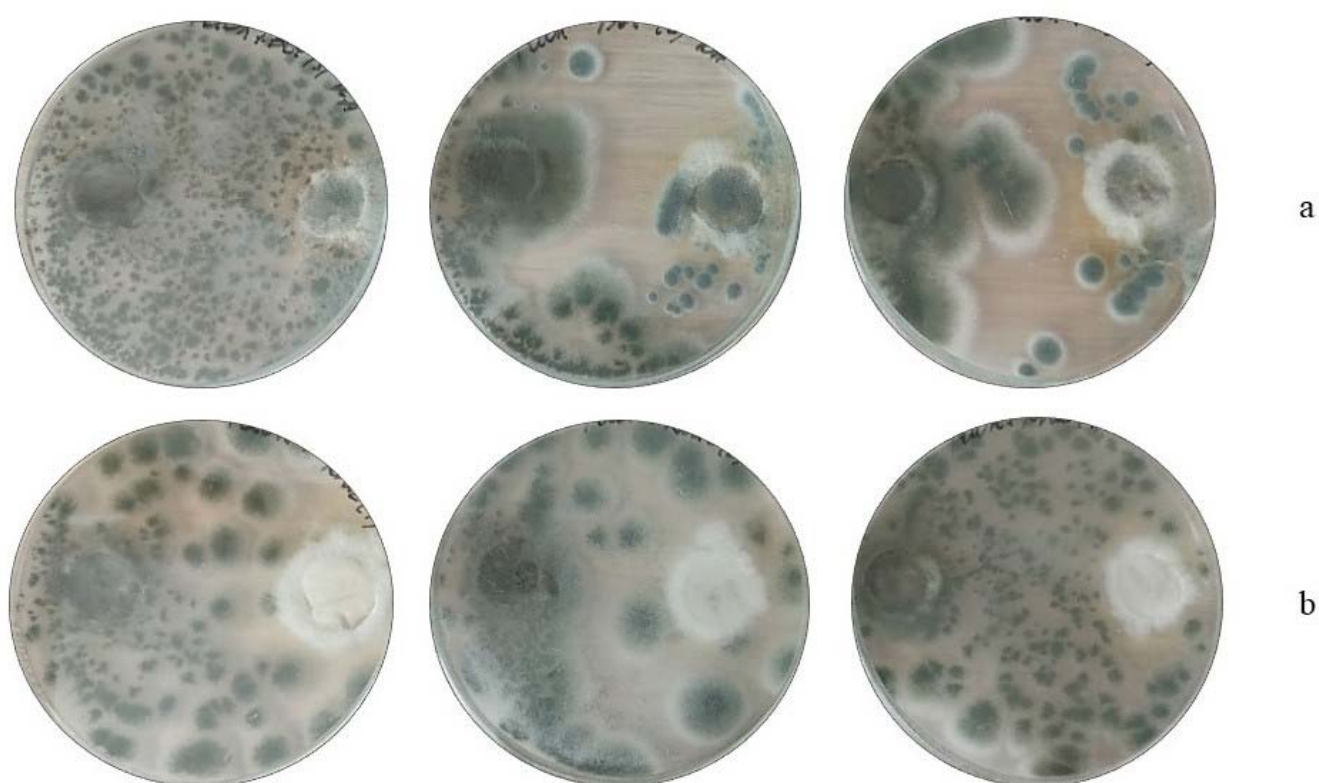


Figure S11 – Examples of the suppression effect (pure culture of antagonistic fungus *A. corrugatus* against phytopathogens): (a) the fungus takes up from 47 to 94% of the Petri dish area, *P. solitum* takes up from 6 to 29% of the Petri dish area; (b) the fungus takes up from 86 to 94% of the Petri dish area, *C. rosea* takes up from 6 to 14% of the Petri dish area. Three repetitions of each experiment.