Inhibition of growth and ochratoxin A production of *Aspergillus carbonarius* by B*acillus* strains isolated from cocoa bean fermentation.

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Ivorian raw cocoa beans are recurrently subject to ochratoxin A (OTA) contamination. The use of chemical and physical means to reduce or prevent the OTA production in cocoa beans is prohibited or inefficient. The present study aimed to improve the sanitary quality of raw cocoa bean by determining the potential for biological control of fungal growth and OTA production of *Aspergillus carbonarius* using *Bacillus* sp strains isolated from fermented cocoa beans. Results of both direct and indirect tests carried out using the double layer agar technique showed seven (7) *Bacillus* strains with *A. carbonarius* growth inhibition abilities at up 50 %. In addition, inhibition of fungal growth tests in a liquid culture medium have revealed OTA production inhibition abilities of tested *Bacillus* strains, whether by the culture supernatant or the cell suspensions. The cell suspensions of strains BC35, BC46, BC52, BC53 and BC54 showed an important antagonistic effect to OTA production ranging from 78.7 to 95.8 %. However, only liquid culture supernatants of strains BC35, BC54 and BC46 recorded the best activities about 6.4, 48.4 and 70.0 % respectively against to OTA production. Results suggest a direct or an indirect action via metabolites produced by tested *Bacillus* strains on *A. carbonarius* growth coupled probably with consumption and / or OTA binding. We could hope tested Bacillus strains could be a promising agent for biological control of growth and OTA production of *A. carbonarius* in raw cocoa beans during the post-harvest processing.