

***Trichoderma stromaticum* SOLID STATE FERMENTATION TO GET A
BIOLOGICAL CONTROL OF *Crinipellis pernicioso*,
AN IMPORTANT CACAO PEST**

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Trichoderma sp a fungus that has been widely studied in Solid State Fermentation or Semi Solid Fermentation, SSF, process, to apply in the control of several phytopathogenic fungi. This paper deals with the specific case of *Trichoderma stromaticum* and its production, desirable for field application against *Crinipellis pernicioso*, the agent of a serious fungal disease of cacao, in Latin America, called "witches' broom". Solid State Fermentation or Semi Solid Fermentation, SSF, an ancient art, presents now a renewed interest, due to its technological potential. The microscopic heterogeneity, the so called weakness of SSF is becoming its major strength, as cause for increasing yields and changing cell physiology of appropriate microorganisms. There are a few number of studies about the factors that influence microbial kinetics (growth and production) in SSF, relative to the Submerged Fermentation, SmF. It was studied the mass production by Solid State Fermentation of the *Trichoderma stromaticum*, using as an alternative reactor a plastic bag autoclavable with 3 liters capacity. The culture media for *Trichoderma stromaticum* used wheat bran with the addition of inducers (chitin) to get chitinase. The plastic bag with the substrate in the center received a thermal treatment of 2 x 2 minutes (heat and wait) using a Panasonic domestic microwave oven high potency. The substrate after treatment didn't present contamination. The mass production of *T. stromaticum* in SSF was done to optimize the most important environmental parameters of the system and to develop a method for biomass estimation through the measurement of dimethyl sulfide (DMS) released during the process. The results obtained in the traditional tray bioreactor were similar to that obtained in the plastic bag, with a water activity (a_w) of 0.987, in the dark, and inoculum concentration of 5.0×10^5 spores per gram of the moisturized substrate.