

## **USE OF *TRICHODERMA* FUNGI IN SPRAY SOLUTIONS TO REDUCE *Monilia roreri* INFECTION OF *Theobroma cacao* FRUITS IN NORTHEASTERN COSTA RICA**

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The cacao tree, *Theobroma cacao*, is an important cash crop in tropical agricultural zones. Cacao production in Latin America was decimated in the 1970s by *Monilia roreri* pod rot, commonly known as “monilia.” *Monilia* pod rot, the most significant and rapidly dispersed threat to cacao fruits, is still highly concerning to cacao plantations in South and Central America, who may lose half their annual profits to monilia. Chemical fungicides and cultural management strategies have been employed to combat monilia with limited success. Recent studies have suggested *Trichoderma* as a potential biocontrol agent for use against monilia, yet success has varied. *Trichoderma*’s preference for soil habitat may explain its limited efficacy as an anti-fungal when applied to cacao fruits, above the soil. Here, keeping in mind *Trichoderma*’s soil-dwelling growth habit, I describe the testing of *Trichoderma* spray solutions enhanced with soil as a nutrient source intended to optimize *Trichoderma*’s viability and thus its antagonism towards monilia. Fruits of 96 cacao trees on FINMAC, an organic plantation in northeastern Costa Rica, were studied between March 22 and April 26, 2013 under five distinct treatments including various combinations of *Trichoderma* and soil mixed in water. Treatments were applied once at the beginning of the study and again halfway through the study period. *Trichoderma* treatments were shown in some cases to significantly reduce incidence and severity of monilia pod rot in cacao fruits.