

**Hawkins, Paul, "Epiphyte Control on Cacao (*Theobroma cacao*) Trees." Advisor: Hugo Hermelink. Colorado College. 2010. 12pp.**

We studied the impact of sprayable vinegar, salt, and copper sulfate solutions on epiphyte-covered cacao trees (*Theobroma cacao*) from March 9<sup>th</sup> to April 29<sup>th</sup> 2010. The principle study site was a 110-hectare organic cacao farm, Finmac of Pueblo Nuevo, Costa Rica. Epiphyte coverage limits productivity by preventing flowers underneath from protruding, pollinating, and bearing fruit. One hundred trees in total were examined, with five different clones of trees. Mean epiphyte plant damage was greater with application than without; vinegar provided the most rapid and overall damaging effect ( $P < 0.0001$ ). Additionally, epiphyte plant damage showed vulnerability to continued application. The variation between individual trees and different tree clones was not significant. Organic cacao farmers seeking to increase productivity by removing epiphyte layers may find help with vinegar products.