

Wieme, Rachel, “Efficacy of Organic Herbicides in an Organic Cacao (*Theobroma cacao*) Plantation in Costa Rica.” Advisor: Hugo Hermelink. St. Olaf College. 2011.

The global demand for organically produced products continues to rise; however, organic farming presents many challenges such as pest, disease, and weed control, without the use of conventional agrochemicals. Weed control input costs are a major difference between conventional and organic systems; there is not yet a comparable market for organic herbicides. This study tests two newly discovered organic products Kemon and Prodesa in multiple concentrations, as well as organic vinegar, for herbicide effects in shaded cacao (*Theobroma cacao*) plantation and un-shaded pasture environments. After six weeks, Kemon was successful at a minimum of 6 l/ha and Prodesa was successful at a minimum of 4 l/ha in shaded cacao environments; both provided control for at least two months. Vinegar was not a successful herbicide in this tropical system. None of the organic products cause sufficient damage to plants in the un-shaded pasture area. There are many opportunities for future research with these products to prepare them for further production and marketing.