Book abstract

Push-pull polycultures harness diverse plant species that vary in terms of functional traits and influence multi-trophic interactions in agroecosystems. The most well-known of these is the maize/sorghum push-pull systems of sub-Saharan Africa which have been studied extensively for the past 20 years. This chapter will provide an updated review of the ecosystem services and the chemical ecology that underlie the effective biological control of multiple pests in these systems that enable farmers to achieve maize yields that are up to three times greater than those achieved in the typical maize monocultures of the region. Other examples of lesser-known polycultures that exploit functional diversity will also be discussed.