

ABSTRACT

Since the dawn of agriculture, humanity has been in an arms race with insect pests, which seemed concluded in favor of our agricultural production systems with the advent of insecticides. These agrochemicals further permitted unbridled expansion of monoculture cropping systems, thereby increasing efficiency and production levels. Little did we understand ecology, or we would have foreseen the humongous negative impacts of agrochemical-based monoculture on ecosystem health. It is now generally accepted that the practises are largely responsible for dwindling biodiversity and the erosion of nature's own checks and balances. To reverse this trend, frequently referred to as the 6th mass extinction, insecticides are rolled back on a large scale, which, combined with sustainable management practises and ecological intensification, should reestablish and support biodiversity in our agroecosystems. Although this brings nature back in our production systems, this may not automatically equate harnesses self-regulating properties of ecosystems. As agriculture is always moving against the grain of nature, what is much needed are eco-smart innovations that harmonize production with building ecosystem resilience, where biodiversity is actively recruited and cultivated, and where ecosystem services are not leached out, but rather synergistically utilized. In this presentation I will highlight some of such innovations in pest control in fruit production and, more recently, coffee.