

161. Climate change in tropical environment: what impact on agricultural pests and diseases? What crop protection strategies?

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Global travel, world trade and change in climate conditions increase the risks from pest and disease incursions and outbreaks in many agricultural systems, threatening food security. Because insects are poikilothermic organisms they are able to change their habits and status, extend their distribution and as a consequence create more crop damage and economic losses. In this context farmers and crop protection specialists are concerned, particularly in temperate regions where the impact of climate change is obvious and well described. For example in Europe, the list of newly introduced insects, diseases and weeds coming from the south is increasing every year. In the tropical world, the impact of climate change on pest and disease populations and their natural enemies is less obvious and more difficult to apprehend. Through different examples of tropical agrosystems, this paper shows the effect of climate change on some major pests and diseases such as the coffee leaf rust, the coffee berry borer, the sugarcane stemborers, the cotton bollworm, and discusses new crop protection solutions to cope with the situation of climate change. On the one hand, these solutions are based on biosecurity plans to prevent any new introduction, and on the other hand they are based on agroecological management, with a particular emphasis on conservation of natural enemies to increase biocontrol and minimize pest infestation and outbreaks.