

Which concepts should we use to end with pesticides ?

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After a period of increase of global world food production, mainly through an important use of fertilizers and pesticides, agriculture needs a new paradigm for many reasons : i) pesticide efficiency has decreased because of resistance; ii) workers exposure and health issues; iii) environmental contamination; iv) exposure of population and consumers and health issues; v) strong decrease of biodiversity. But how can we control bioagressors without pesticides ? Several concepts have emerged in the last years : biological control, biocontrol and agro-ecology. Which are the frontiers of such concepts and can we achieve this goal with these concepts. We will show that biological control is a concept mainly driven by zoologists (entomologists) which has pushed out the plant community. Biocontrol is a concept mainly driven by the industry in the quest of alternatives to pesticides in the recent development of organic agriculture. By another hand, plant protection in agro-ecological systems has not totally set a barrier with pesticide use. So, we propose here a new concept for plant protection excluding pesticide use which is called IBIOM : Integrated Biological Regulations Management. IBIOM excludes pesticide use, integrates several control options, combines biological control (plants being part of biological control), biocontrol and agronomic practices at spatial and temporal scales (management).