

This paper reports on a cropping system experiment that was set up to evaluate the efficiency of IWM principles. We compared five cropping systems that were designed to meet different economic and environmental criteria and therefore characterized by contrasted levels of herbicide use. The objective was to assess whether or not any of the combinations of IWM principles tested in the cropping systems would be efficient enough to control weeds in the long term. The main criterion for assessing the performance of IWM regarding long-term weed control was the temporal variation in weed infestation over the course of the experiment. Weed management in a given field was considered successful if no increases in the overall weed density, nor in the density of each weed species (or group of species) separately, were observed. The issues of economic profitability and of other environmental impacts such as global warming, eutrophication and biodiversity are not addressed in this paper.