



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



# Quantity based indicators fail to identify extreme pesticide risks

*N. Möhring<sup>1</sup>; S. Gaba<sup>2</sup>; R. Finger<sup>1</sup>*

*1: ETH Zurich, Agricultural Economics and Policy Group, Switzerland, 2: INRA, USC 1: 3: 3: 9: , Centre d'Etudes Biologiques de Chizé, France*

*Corresponding author email: [nmoehring@ethz.ch](mailto:nmoehring@ethz.ch)*

## **Abstract:**

*To reduce environmental and health risks caused by pesticide use, efficient and effective policies strongly demand a precise and meaningful quantification of these adverse effects. The indicators currently used in policy analysis are diverse and mainly focus on a purely quantitative dimension of used pesticides. Using a unique dataset on pesticide use of Swiss farmers, we demonstrate that the two most important quantitative indicators on average show a significant correlation with pesticide risks, but they have almost no explanatory power for applications with extreme risks for the environment and human health. Single applications and application regimes with extreme risks, have been shown to be central for potential environmental and human health impacts of pesticides. These findings render the use of common, quantitative indicators in-effective to reduce environmental and health risk - in the worst case leading to biased policy incentives and adverse outcomes of current pesticide policies.*

*Acknowledgment:*

**JEL Codes:** Q58, C46

#1811

