



# Pathways for advancing pesticide policies

Webinar co-hosted by the World Food System Center and the  
Agricultural Economics and Policy Group of ETH Zurich  
20 October 2020

## Framing the problem

- Pest management in agricultural cropping systems is critical for food security (e.g. Savary et al. 2019)
- But: adverse effects of pesticides on human health and the environment (e.g. Larsen et al., 2017, Stehle and Schulz, 2015)
- Reduction of potential risks from pesticide use explicit goal for policy and industry
  - National Action Plans to reduce risks and impacts of pesticide use on human health and the environment in most European countries (e.g. Directive 2009/128/EC).
  - From Farm to Fork plan announced in 2020 in the EU
- Little evidence that Europe has achieved the reduction in pesticide risks
  - A direct assessment of policy targets proves difficult, as most European countries do not publish or monitor data on risks (European Court of Auditors (2020))
  - Surface and groundwater contamination still regularly exceed legal thresholds (e.g. Stehle and Schulz, 2015, Spycher et al., 2018)
  - Societal concerns remain (e.g. popular initiative in Switzerland)

## Our goal

- Describe pathways to a successful reduction of potential risks from agricultural pesticide use
- Reduce risks from agricultural pesticide use but reduce or avoid trade-offs with other ecosystem services provided by agricultural production
- Develop a holistic, interdisciplinary framework that spans across various actors along the value chain



PERSPECTIVE

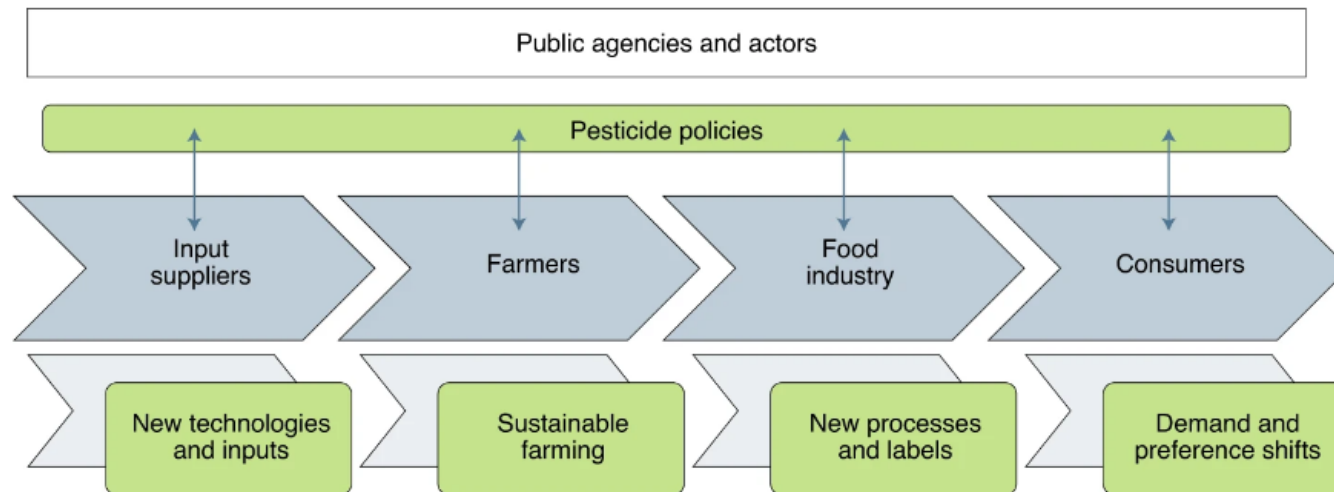
<https://doi.org/10.1038/s43016-020-00141-4>


## Pathways for advancing pesticide policies

Niklas Möhring<sup>1</sup>, Karin Ingold<sup>2,3</sup>, Per Kudsk<sup>4</sup>, Fabrice Martin-Laurent<sup>5</sup>, Urs Niggli<sup>6</sup>, Michael Siegrist<sup>7</sup>, Bruno Studer<sup>8</sup>, Achim Walter<sup>9</sup> and Robert Finger<sup>1</sup>

Numerous pesticide policies have been introduced to mitigate the risks of pesticide use, but most have not been successful in reaching usage reduction goals. Here, we name key challenges for the reduction of environmental and health risks from agricultural pesticide use and develop a framework for improving current policies. We demonstrate the need for policies to encompass all actors in the food value chain. By adopting a multi-disciplinary approach, we suggest ten key steps to achieve a reduction in pesticide risks. We highlight how new technologies and regulatory frameworks can be implemented and aligned with all actors in food value chains. Finally, we discuss major trade-offs and areas of tension with other agricultural policy goals and propose a holistic approach to advancing pesticide policies.

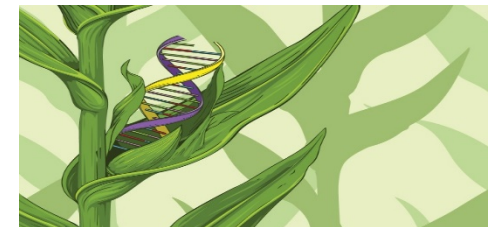
## A framework for pesticide policies



Pesticide policies interact with input suppliers, farmers, the food industry and consumers – each actor can contribute towards sustainable food systems with actions specific to their role (bottom row). Current policy measures can be classified as command and control measures (for example, pesticide authorization, bans and use regulations), market-based measures (for example, pesticide taxes, financial support of new technologies and direct payments) and information-based measures (for example, education, labelling and awareness raising). Many specific, national or regional measures are contained in each of the three categories and may target conflicting policy goals<sup>78</sup>.

## Ten key steps to achieve a reduction in pesticide risks

- Policy indicators, targets and design
  - Tangible pesticide risk indicators
  - Dimensions of policy targets
  - Realignment of agricultural policy goals
  
- Farmer and consumer actions
  - Farmer decision-making processes
  - Consumer choices and preferences
  
- Sustainable plant protection
  - Pesticide admissions and regulations
  - Sustainable farming systems
  - Plant breeding strategies
  - Smart farming
  
- Efficient and dynamic pesticide policy portfolio
  
- A holistic approach to pesticide policies



# Programme

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A discussion on key challenges and pathways for advancing European pesticide policies.

Welcome  
Robert Finger  
ETH Zurich

Speakers

Per Kudsk  
Aarhus University

Bruno Studer  
ETH Zurich

Niklas Möhring  
ETH Zurich

Karin Ingold  
University of Bern and Eawag

Webinar:  
**Pathways for advancing pesticide policies**  
Tuesday, 20 October 2020  
11:00 - 12:30 CET

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World Food System Center **DAECP**

Spotlight Presentations on the topic “Towards effective pesticide risk reduction”:

→ 10 minutes each, plus 5 minutes for discussion (questions via Q&A field)

[Per Kudsk](#), Aarhus University: Setting targets and employing pesticide taxes

[Bruno Studer](#), ETH Zurich: Reducing pesticide use at its base through plant breeding

[Niklas Möhring](#), ETH Zurich: Effective and efficient pest management decisions of farmers

[Karin Ingold](#), University of Bern & Eawag: Cross-sectoral policies and multi-level regulation

Panelist Discussion with Questions from Audience (20 minutes)