

# Results of a Multi-Stakeholder Workshop on Incorporating the Benefits of Vegetative Filter Strips into Aquatic Risk Assessment & Risk Management

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## Goals of the Workshop

The overall goals of the workshop were to develop a set of multi-stakeholder consensus recommendations to:

- Provide a path forward towards incorporating the use of VFS in risk assessment and risk management of pesticides;
- Lead to improved cooperation and collaboration among stakeholders to leverage available data and information regarding the design, effectiveness, and implementation of VFS and other runoff mitigation measures for various crops and regions; and,
- Support the development of strategies to increase producer engagement and adoption of VFS and other runoff mitigation measures to protect soil and water resources.



## What are Vegetative Filter Strips?

- VFS are widely used for erosion control and runoff mitigation
- EPA /PMRA currently uses VFS on pesticide labels to reduce pesticide transport to off-site areas. Represents a risk/benefit decision not based on quantitative risk assessment.



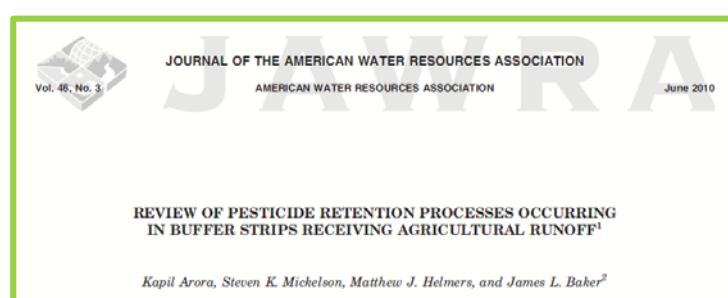
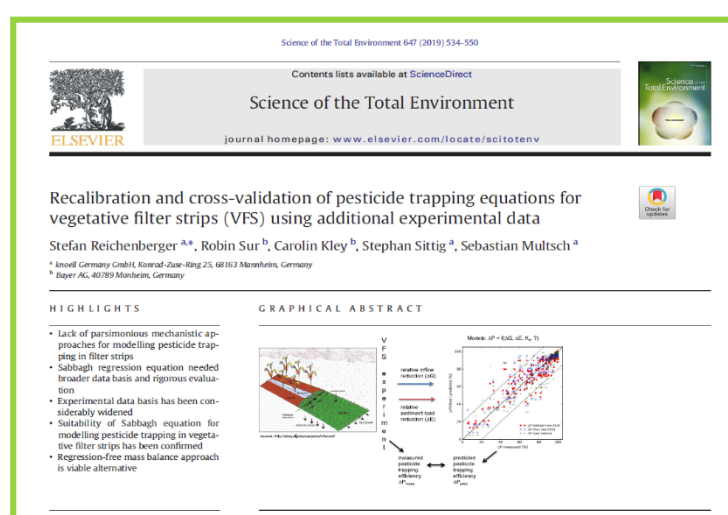
## Why Quantify VFS Effectiveness in Risk Assessment?

- Reflect realistic, real-world farming practice based on sound science
- Increase transparency and strengthen regulatory agency's risk-based decision in challenging regulatory environments
- To foster sustainable farming by crediting mitigation efforts.



## Why move forward now on VFS?

- Scientists have performed many field and modeling studies on VFSs to quantify removal of pesticides in runoff and on sediment
- Goal is to implement an effective risk mitigation practice in regulatory risk assessments through stakeholder collaboration



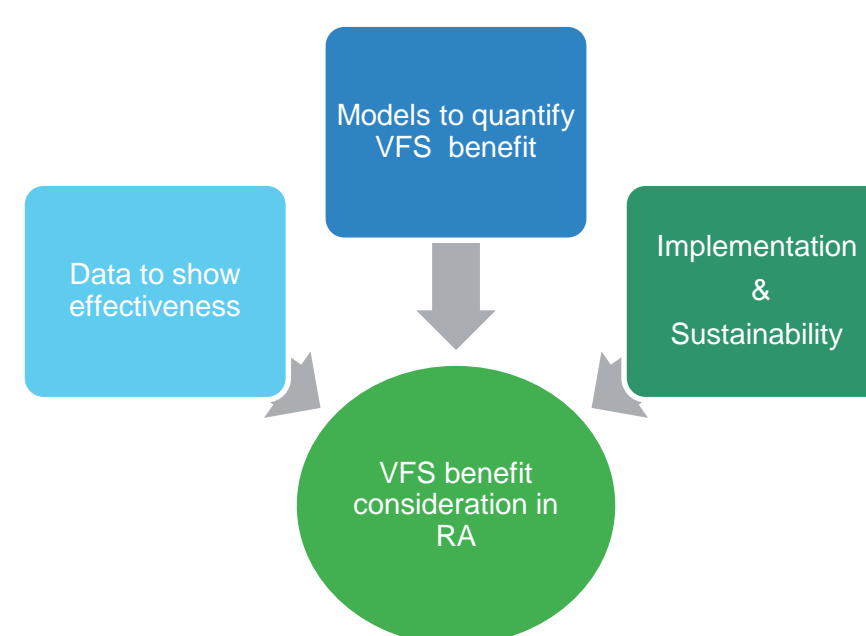
## Scientific Evidence for VFS Effectiveness?

- Industry supported compilation and analysis of published data on VFS efficiency (Arora et al, 2010)
- 57 studies (35 with pesticides), 304 individual test results for 30 pesticides and metabolites
- 2018 publication (Reichenberger et al, 2019) compiled published data for evaluations of pesticide trapping efficiency equations
- 15 studies, 244 individual test results for 18 pesticides and metabolites



## What about buffer management?

- Filter strips must be properly installed and managed to maintain performance
- Minimize concentrated flow
- Promote infiltration
- Literature (i.e. Dosskey et al. 2007) indicates that performance of well-managed filter strips generally improve over time
- Enhanced filtration due to increasing density of vegetation and changes in soil structure



## Stewardship will be required.

- Dissemination and refinement of training materials
- NRCS, Extension
- Communications with growers
- University Extension Meetings
- Company grower meetings
- Consideration during visits by extension agents and company representatives
- Value case development needed for growers

## Resources

- Presentations from this workshop can be found at NC State website: <https://ipm.ces.ncsu.edu/innovation-and-regulation-in-agriculture-workshop/>
- Recording of a AGRO Lunch and Learn Webinar on this workshop can be found at <https://www.agrodiv.org/webinars/>
- References:  
Reichenberger et al. Sci. Total Environ. 647 (2019) 534-550. <https://doi.org/10.1016/j.scitotenv.2018.07.429>  
Arora et al. JAWRA (2010) 46(3): 618-647 <https://doi.org/10.1111/j.1752-1688.2010.00438.x>

## Conclusions from Workshop

- Under the auspices of the 2018 CERSA Workshop, multiple stakeholders across public and private sectors agree that Vegetative Filter Strips (VFS), defined in the broadest possible manner, have been shown to be effective to remove pesticides.
- -Technology and supporting data exists to quantify mitigation of pesticide runoff
- -Other regulatory agencies (such as Europe) are incorporating VFS in their assessments
- Therefore, recommend EPA should incorporate filter strip technology into risk assessments and risk management.

## Scientific Program Committee

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