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Environmental Science & Technology

To the editor

Submission of article

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Dear Editor,

enclosed is a manuscript to be considered for publication in Environmental Science & Technology titled

Large scale risks from pesticides in small streams

Pesticides enter freshwater ecosystems from agricultural areas and may have adverse effects on biota. However, relatively little is known about their large-scale distribution and dynamics. Especially, small streams may be at high risk because of adjacency to fields and small water columns.

We compiled and homogenized monitoring data from all German Federal States with a focus on small streams. Our results show that:

1. regulatory threshold exceedances depend non-linearly on agricultural land use within the catchment
2. measured pesticide concentrations depend on precipitation events before sampling and therefore current monitoring underestimates risks
3. the annual dynamic of concentrations is compound-specific and corresponds to applications
4. especially, neonicotinoids pose a risk to small agricultural freshwaters.

Our study should be of general interest and adds valuable information on chemical monitoring, pesticide dynamics and ecological risk arising from them.

If you have any further questions do not hesitate to contact me.

Yours sincerely,
Eduard Szöcs