

Spatial and temporal patterns of pesticide losses to surface waters in a small agricultural catchment

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Background

- Diffuse losses of pesticides to surface waters
 - Do we need to consider surface runoff in risk assessment and planning of mitigation strategies?



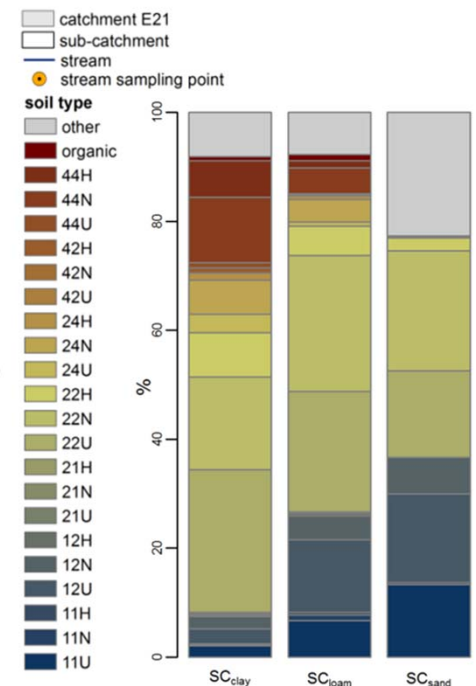
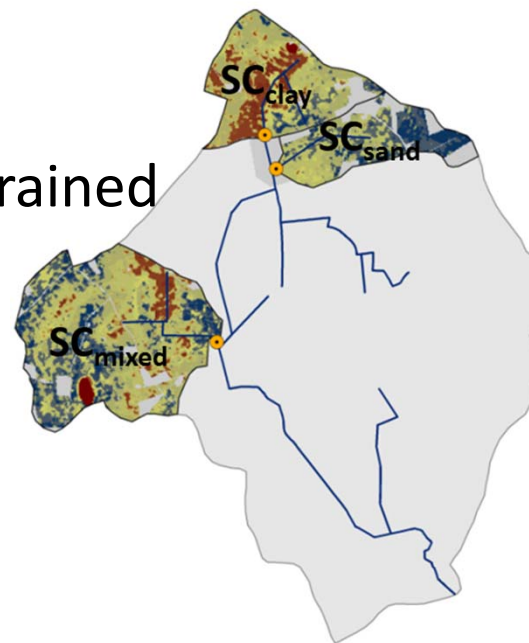
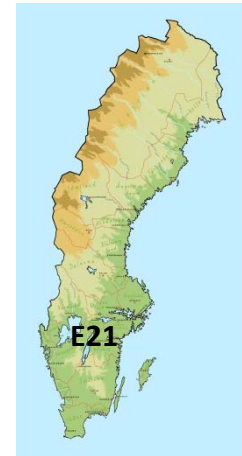
Study of a small agricultural catchment

Study site

Catchment E21

- Monitoring program for pesticides since 2002
- 1633 ha
- 92% agricultural land
- 477 mm/year
- Large variation in soil types
- Systematically subsurface drained

Three smaller sub-catchments selected based on soil type



Study of a small agricultural catchment

Water sampling

Stream



“Event-activated” passive sampler
Sub-catchment outlets

Drains



Manual grab sampling
Drains discharging in stream

Surface runoff



Passive sampling
1 field in SC_{clay} and 1 in SC_{mixed}

Sampling conducted during spring and summer in 2013 to 2015
Analyses of >100 substances through LC-MS

Results

We are currently finalizing the data analyses and intend to publish the results from this study in a peer-reviewed journal shortly.

However, an overall conclusion from the study is that we demonstrated substantial differences in pesticide losses from the three sub-catchments which could mainly be attributed to differences in soil texture (i.e. higher losses from the clay area and lower losses from the sandy area).

Thank you!

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CKB