

KU LEUVEN

Transport of Dissolved Organic Phosphorus (DOP) from soil to surface water on different land uses

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Introduction



European Environment Agency (2012)

Research questions

 What is the contribution of DOP in the P load to surface water?

• What is the effect of land use on this contribution?

 What are the major pathways of DOP to reach the surface waters? duction

Study Area



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2. Methods

Analytical Measurements



Van Moorleghem et al., 2011



2. Methods

<u>3. Results</u>

4. Conclusion

Study Area

Suction CupSamplerRiver

Area: 230 ha







2. Methods

<u>3. Results</u>

Arable Land





Arable Land





2. Methods

<u>3. Results</u>

4. Conclusion

Grassland

Suction Cup
Sampler
Piezometer
River

Area: 34 ha







2. Methods

<u>3. Results</u>

4. Conclusion

Grassland







2. Methods

<u>3. Results</u>

Grassland



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1. Introduct

2. Methods

<u>3. Results</u>

4. Conclusion

Forest



- ▼ Sampler
- Piezometer
- River



Area: 266 ha



Forest





2. Methods

<u>3. Results</u>

4. Conclusion

Forest

Baseflow TP





2. Methods

<u>3. Results</u>

4. Conclusion

Forest

Baseflow TP



Month of 2012



2. Methods

3. Results

4. Conclusion

Conclusion

- Arable land (223.9 gP.ha⁻¹.y⁻¹)
 - Erosion during high rainfall
 - High concentrations of TDP (> 0.5 mg/l)
 - 10 % DOP
- Grassland (70.5 gP.ha⁻¹.y⁻¹)
 - Higher concentrations of TDP in peakflow
- Forest (1.3 gP.ha⁻¹.y⁻¹)
 - Higher P concentrations in baseflow in summer
 - Produced in river and temperature related



2. Study area

3. Results

4. Conclusion

Conclusion

Thank You!

