



Prediction of contributing areas for P losses from agricultural land – an outline

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In many regions, diffuse P losses from agriculture are the main cause for eutrophication of surface waters. Studies in different countries indicate that these losses originate from a small portion of a given catchment only. The localisation of such critical source areas is a prerequisite for the evaluation of efficient and cost-effective mitigation options. Within the framework of COST Action 869 on “Mitigation options for nutrient reduction in surface water and groundwater” we are working on a project that aims to improve an existing model to predict and delineate critical source areas for P-losses from agricultural land. The model focuses on transport of dissolved P from intensively used grassland soils in small agricultural catchments. The model will be extended in particular to predict P run-off after manure applications (incidental P losses). In order to test and parameterize the model field experiments are performed in test areas, which are located within small watersheds discharging into Lake Baldegg, a lake in central Switzerland with serious eutrophication problems due to P inputs from agriculture. Special emphasis will be placed on the uncertainty related to the spatial predictions. The model is designed to evaluate possible management strategies in collaboration with local agricultural consultants and cantonal authorities. Scenario calculations will be performed to assess their potential to reduce P loads in Lake Baldegg.