

Influence of slurry application technique on P and N loading of drainage tiles

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Near ground application techniques of slurry have been introduced as means to reduce nitrogen volatilisation and thus minimise gaseous nitrogen losses during the application phase. We wanted to know, if application of slurry via near ground application techniques also would have an effect on nitrogen and phosphorus losses via the drainage pathway. We therefore conducted a study where we used rainfall simulation to induce soil water flow in grassland directly after application of slurry with different near ground application techniques compared to the traditional application. Phosphorus, nitrogen and flow rates of drainage tiles below the rainfall simulation area were measured. Results reveal, that considerable amounts of water moved directly from the grassland surface to the drainage tiles via preferential flow pathways. This water also contained P and N from slurry, but total amounts of P and N transported were very much depending on the type of application technique. Explanations for this behaviour will be presented.