Focus on phosphorus (P) at catchment level in Sweden

Barbro Ulén¹ and Anuschka Heeb²

¹Department of Soil and Environment, Swedish Agricultural University, Uppsala, Sweden
²County Administrative Board of Östergötland, Sweden

A pilot project Focus on Phosphorus started in 2007 as part of the advisory campaign Focus on Nutrients. It aims to involve farmers in finding the most effective countermeasures against phosphorus (P) losses by testing established and experimental practices. The project is being carried out in three agricultural catchments with clay soils (470-750 ha) in southern and central Sweden. In a local working team, farmers, advisors and researchers discuss the topic on catchment scale. The farmers participate voluntarily and they are not obliged to follow any recommendations emerging from the project. Advice is given on fertilisation and nutrient balances, tillage practices, animal nutrition, livestock housing, manure storage, buffer strips along streams and wetlands.

In one of the selected catchments, in the county of Östergötland, poorly functioning and old drainage systems and surface ponding of fields were identified as being part of the problem. Systematic advice on drainage has therefore been given to all farmers. A total of 9 fields have been identified as being an important source of P transport, based on P soil content and studies of P sorption/desorption. In addition, at least 10 fields, or parts of fields, have been identified as being at high risk of high P transport to recipients, based on studies of the tile drainage systems and water movements within the soil. Independent on the project, farmers have tested countermeasures such as reduced tillage, direct drilling in autumn, and liming with sewage sludge or industrial lime products. However, they have re-cultivated some buffer strips along the streams, since subsidies for these have been reduced. To date, very few other countermeasures against P losses have been implemented in practice.