



## NJF Seminar 418

**New insights into sustainable  
cultivation methods in agriculture**

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## **More effective agricultural water protection (TEHO project 2008 - 2010)**

Kimmo Rasa, Airi Kulmala and Sami Talola

TEHO project, Southwest Finland Regional Environment Centre, P.O. Box 47, FI-20801 Turku  
kimmo.rasa@ymparisto.fi

The Finnish Agri-Environmental Program is the main tool to reduce nutrient leaching from agricultural areas to surface water. Although over 90 % of the Finnish agricultural area is covered by the Program there is still need for more effective and farm specific measures to reduce nutrient loads. TEHO project is focused on agricultural water protection issues in the area of southwest Finland, which cover around 12 000 farms and 20 % of Finnish arable land. Southwest Finland Regional Environment Centre and two regional unions of the Central Union of Agricultural Producers and Forest Owners are taking care of the implementation.

Old, already adopted methods will be improved, evaluated and focused on farm scale and new methods and ideas will be tested in practice. Calculation of nutrient balances, precision farming or soil soluble nitrogen measurement in spring to adjust fertilization rate may be utilized to avoid over fertilization and to economize production. Certain plant species can be used to decrease P content in fields with high P-status. Improving soil water economy and soil structure are in focus as well because these are a basis for good yields and effective nutrient utilization. The measures to mitigate erosion may involve e.g. winter time plant cover, reduced tillage and well managed and sufficiently vegetated buffer zones along water courses. Slurry can be processed chemically or mechanically in order to separate N and P rich components (liquid/fiber part). Different kind of spreading methods are tested also. However, field is not a closed system in practice and thus, constructed multifunctional wetlands and other runoff water management methods should be considered.

The farmers' knowledge and skills are vital and they will be utilized in the project as well as local environmental conditions, farm resources and prevailing practices are taken into account. The aim is to find farm-specific, the most suitable water protection measures, in close co-operation with farmers and to develop environmental protection handbook for the use of the farm.