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Economic and environmental performance of alternative policy
measures to reduce nutrient surpluses in Finnish agriculture

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Abstract

This paper provides an economic sector level analysis of the effectiveness of different policy measures in decreasing nitrogen (N) and phosphorus (P) surpluses from agriculture in order to reduce nutrient runoff from agricultural fields to watercourses and to improve water quality of surface waters. Assuming no changes in the EU level policies after CAP reform 2003 we focus on national level policy measures such as full or partial de-coupling of national support from production, payments for reduced nutrient surpluses of N and P, and N fertiliser tax. None of the analysed policy measures is superior one with respect to environmental performance, since full decoupling of national support would be the most effective in reducing P surpluses while payment for reduced nutrient surplus performed best with respect to N surpluses. Economic performance (farmers' compliance cost per %-reduction of N or P surplus) of full and partial de-coupling of national support is clearly better than that of specialised agri-environmental policy instruments, because both decoupling scenarios result in the increase of farmers' income in comparison to base scenario, and thus compliance costs are in fact negative in these two cases. Our analysis confirms the fact that the overall policy package matters a lot for the effectiveness of agrienvironmental policy measures. Environmental performance of agri-environmental policy measures may be significantly reduced, if they are implemented jointly with production coupled income support policies. Thus, in order to increase the effectiveness of agri-environmental policy measures agricultural income support policies should be decoupled from production and this alone would bring substantial reduction in nutrient surpluses.

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