

Regulating the Phosphorus Turnover through the Nitrate Directive in the European Union: a Kind of Anacronism in the 21th Century

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Abstract

In spite of the fact that nitrogen behaves in the soil and in the environment sharply differently than phosphorus (i.e. excess nitrogen can move down in the soil profile quite freely and threatens predominantly the underground waters, while the majority of excess phosphorus is fixed in the plough layer and threatens the surface waters through erosion and surface runoff), the phosphorus issue is regulated in the European Union through the Nitrates Directive. Thus, the must of elaborating and implementing the EU Phosphates Directive is an inevitable, and urgent task. The aim of this presentation is to evaluate the nitrogen and phosphorus turnover in the EU in the first 15 years since the European Union passed the Nitrates Directive, aimed at protecting surface and subsurface waters in EU countries. It is therefore worth reviewing the progress made in recent years in achieving the aims of this major agricultural and environmental regulation. A comparison of changes in the nitrogen (N) and phosphorus (P) balances of the EU15 and NEU12 countries and in the P supplies of the soils over the last 15 years will be used for this purpose. Calculating P balances and evaluating the soil phosphorus status in the Central and Eastern European (CEE) countries was initiated in the frames of the COST 832 Action.

The negative NP balances and worsening NP status in the CEE countries, including those which have recently joined the EU (NEU12), may result in increasingly low yields and in economic and agronomic problems. These trends are in sharp contrast to past practices in some of the EU15 countries, where strongly positive NP balances and oversupplies with NP may lead to environmental and ecological threats.

Co-operation within the European Union should help to solve both the environmental threat facing the Western part of the community, and the agronomic and economic problems in the Central and Eastern part.

Improving the Nitrates Directive and forbidding derogations against the maximum 170 kg ha⁻¹ N year⁻¹ through manure and slurry (i.e. in organic form) for the EU27 countries and administrative EU regions with the highest livestock densities is also a must for effective agro-environmental protection practice in the EU.

Key words: phosphorus, nitrates, directive

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