Setting up nitrates vulnerable zones in Romania

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Abstract

The first analysis for establishing the zones vulnerable of potentially vulnerable to nitrates pollution has been made in 2003 by National Institute for Pedology and Agrochemistry and by National Waters Administration according with Romanian Government Directive 964/2000 regarding the „National Plan for Action of water protection against nitrate pollution originating from farm activity" that comply with European Council Directive 91/676 EEC.

With this first analysis there were found 255 places from Romania that are vulnerable to nitrate pollution that represents 8.64% of country land and 13.93% of nation arable land. They were established taking account the natural soil conditions, clime and water features related with nitrate transfer toward underground waters and creeks on the basis of nitrogen balance in farms, villages or towns, according with European nomenclature (NUTS 5).

There were identified three types of vulnerable zones:

- potentially vulnerable zones: the nitrates transfer conditions toward water bodies are favourable but there is a positive balance of nitrogen at village scale and the nitrates concentration from underground water is under 50 mg/liter;
- vulnerable zones by actual sources: the nitrates transfer conditions toward water bodies are favourable and there is a positive balance of nitrogen at locality scale;
- vulnerable zones from old sources: the nitrate transfer conditions toward water bodies are favourable but there is not a positive balance of nitrogen at locality scale, previously there were animal farms on the surface and the nitrates concentration from underground water is higher than 50 mg/liter.

In 2008 there was made another analysis and there were reassessed vulnerable zones to nitrate pollution on the basis of former evaluation from 2003 that found potentially vulnerable and vulnerable zones. This way, there were established 42 zones that are vulnerable to nitrate pollution in function of the similarities of natural and social economic conditions.

There was elaborated a guide of good farming practices for these zones in order to alleviate nitrate pollution.

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