The Manure decree as large scale measure to reduce nutrient loads in Flanders.

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Introduction

Flanders, like many other European regions, has a nutrient problem. This problem is the result of years of excessive animal manure production, an insufficient area to spread the slurry and an excessive use of mineral fertilizers. To meet the European Nitrate Directive (91/676/EEG) Flanders created a manure decree (23/01/1991). This decree has changed a lot during the following years which didn't contribute to the understanding of the decree. Therefore a new manure decree came in force from the first of January 2007, whereby flexibility and responsibility are key concepts.

Measures

Since the new decree the whole of Flanders is classified as "vulnerable zone water" in terms of contamination by nitrate. To reduce the N-load from animal manure a general fertilizer standard of 170 kg N ha^{-1} has been introduced. Not only the amount but also the application period is fixed. It is forbidden to bring manure on the field from September 1st until February 15th and the farmer has to stay 5-10 m from waterways. On slopes > 18% no application of animal manure is allowed.
The decree forces the farmer to have a (manure) storage capacity of 3-9 months depending on the manure type. The obligation to process the manure has been revised and now depends on the municipal production of manure. In general a percentage of 0.6% has to be processed per 1000 kg net N surplus. This percentage can increase depending the total municipal production of manure. To expand his farm, a farmer has to take over nutrient emission rights from other farmers or has to process an amount of manure that is equal to 125% of his expansion.

Conclusions and look ahead

The primary goal of the Manure decree is to reduce the nitrate load to ground and/or surface water. This goal is gradually obtained via a rather strict policy. A decrease of nutrient loads was also reached trough a decrease in animals.
However, the new decree has some bottlenecks, e.g. lack of working coefficients for manure, fertilizing in August without obligation for a catch crop,… Furthermore the problem of phosphate saturation and leaching is becoming an important threat because there are only some rules concerning P application: a maximum of 40 kg P_2O_5 ha^{-1} in P saturated areas and applications between 70-90 kg P_2O_5 ha^{-1} in areas with a low phosphate binding capacity.
The new manure decree is a step forward but adjustments will probably be necessary to achieve the norm of 50 mg NO_3^-/l.