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The Dutch Nutrient Quota System: Past Experience and Lessons for the Future

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Main topics to discuss:

- Environmental problems in animal agriculture and initial regulation
- Overview of the phosphate quota system
- Evaluation studies: institutional framework, data use and methodology
- Main results
- Implications for policy reform

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Hotspots in animal agriculture



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Description of the quota system

- Introduced in 1987 and extended in 1992.
- Grandfather provision based on inventory of animal numbers and P_2O_5 standard by animal type.
- Acreage based right (125 kg P_2O_5 per ha).
- The difference between the reference amount and acreage based amount became tradable by Jan. 1994. **But...**

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Description of the quota system

- Distinction of quota by 3 animal categories, geographical restrictions on trade, 25 % of quota retired with trade, policy uncertainty
- Draft policy plan (1993): by 1998 nutrient accounting and a tax instead of quota
- Final plan in Jan. 1995, also included immediate 30 % cut of swine and poultry quota in response to improvements in animal nutrition

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Description of the quota system

- July 1997: additional policy plan for 25 % reduction in herd size for swine
- Jan. 1998, environm. tax + nutrient accounting implemented but quota system is maintained
- Sept. 1998: 10 % reduction of swine herd. This became subject to litigation
- Jan. 2000: The 10 % reduction ruled legitimate but second reduction of 15 % not

Evaluation studies

- Dutch Ministry of Agriculture, analysis of quota trade (1996)
- Policy evaluation by the Netherlands Bureau of Economic Policy Analysis (2000).
- International comparison by De Walle and Sevenster (1998)
- Academic studies: Vukina and Wossink (2000) and Wossink (2000)

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Main results of studies

Economic efficiency:

- Price variation: Considerable, both between regions and over time
- Trade volume: in the first year 1.5 % of available quota and in 3 years about 8%
- Initial quota was over-allocated by 10-25 %
- Policy uncertainty affected quota market and prices considerably

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Main results of studies

Environmental efficiency:

- The environmental effects varied by sector. In cattle and dairy farming the reduction in animal numbers can be completely ascribed to the CAP of the EU
- In the swine and poultry sectors waste production would probably have been 5-10 % higher without quota system

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Main results of studies

Administrative cost and innovation:

- Administrative cost of quota system plus accompanying measures are about 44 million Euro per year
- The measures on manure application, that accompanied the quota system, provided a continuing incentive for innovation, particularly in animal nutrition

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Comparison with ex ante studies

- Too high expectation of technical solutions in policy circles. Insights provided by ex ante studies were disregarded
- As a consequence, the position of the swine industry as an exposed sector was not recognised in time. This became a major bottleneck

Policy implications

- There must be *accurate baseline data* for permit allocation
- The system must be consistent: *policy uncertainty* will cripple a quota system
- Use *ex ante* studies for *realistic assumptions* of technological, market and structural developments and for the identification of *exposed sectors*

Policy implications

- A permit system based on a proxy of the actual environmental impacts has to be combined with other policy measures that directly aim at the emissions to be environmentally effective. However, such measures will undermine the effectiveness of the permit system and the discussion about these additional measures leads to policy uncertainty

Policy implications

- Introduce permit system when actual pollution levels and policy targets are (still) reasonable close
- Provide administrative assistance when potential permit traders include small firms (as in agriculture)