

PAPER 4**Challenges from EU and international environmental policy and legislation to animal production from temperate grassland**

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At present the EU faces two fundamental challenges- to produce enough food for the growing number of, on average, better-off and longer living people, and the same time to preserve natural resources and the environment. The two challenges are closely interrelated, and each is heightened by climate change. The objective of Government Policy arising from the Water Framework Directive is to have all waters in the State in a 'good condition' by 2015. It is acknowledged that this target may not be met, but if a reduction in eutrophication levels is not evident by then, more drastic legislative steps may be taken to reduce the risk of losses of nutrients to water bodies. These could reduce farm productivity or at least add to production costs in some circumstances. With the gradual removal of milk quotas there is a unique opportunity in Ireland to significantly increase milk production. The challenge for Teagasc, INRA and European Agriculture Research is to develop systems through science, innovation and development methodologies that allow farmers dairy farmers to expand milk production without compromising water quality. Until recently, many farmers have been unaware of the environmental and financial costs associated with water pollution and have often not recognised the environmental and socio-economic benefits they could provide to the wider society by implementing best management practices. Implementation and adoption of these measures and practices have mostly been hampered by the relatively low price of easily available N and P fertilisers, which often made it more cost effective to apply fertilisers in excess than implement best management practices. This situation has changed dramatically in recent times with large increase in fossil fuel prices which has contributed to corresponding large increase in the cost of fertiliser. The Water Framework Directive is concerned with different aspects of water quality including nutrient enrichment of water bodies, in particular from P and N, the causes of eutrophication. The sustainability of grass-based systems can be improved through increasing the efficiency of conversion of inputs to products, increasing the use efficiency of organic manures and the selection of the optimal cow for the specific system. The presence of grassland will be more favourable to biodiversity and the conservation of soils and carbon storage than cropping systems. Climate change may further enhance grass-based systems in areas with oceanic climate and increase the use of legumes in roughage production. If we are going to be successful in meeting the objectives of the Water Framework Directive it is imperative that there is continual and open dialogue between the science community and those that work in policy and manage land. Farmers are unlikely to be able to implement changes on their own: There is little point identifying environmentally damaging agricultural practices unless related agricultural research provides feasible and economic viable alternatives that farmers can implement. Without the active involvement of all participants in the entire process, from problem identification through to solution, there will not be any long term resolution.