

What research is required for economically and environmentally sustainable farming?

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This Congress is being held on an island that is a Nitrate Vulnerable Zone. No other land area in the western world has achieved such a status!

With this designation come completely new parameters for agriculture in general and grassland production in particular. Alongside this change in emphasis for the grass based industry is the implementation of the Common Agricultural Policy reform. For farming within the European Union it is not completely about maximising production, about “growing two blades of grass where one grew before”. It’s also about creating a diverse landscape, about less pollution about greater recreational opportunities, about sustainability about protection of flora and fauna. For the first time in our history, we as grassland farmers and livestock producers will be paid for our multifunctionality in 2005.

That change in emphasis brings immense challenges for me as an “intensive” dairy farmer. How can I react to a 170 kgs/ hectare N limit on my enterprises? How do I manage a system that produces vast quantities of waste? How do I reduce phosphorous inputs within my farming system? How do I maintain a competitive farm business within an increasingly global marketplace that is sustainable economically and environmentally? Can I adapt my grass-based farming systems to be both nutrients efficient, input efficient and profitable? Can I cope with the legislation coming down the “track” on air emissions in a business where ammonia and methane are produced in large quantities?

A survey of research projects at a number of centres throughout the British Isles would suggest to me that much of the previous and current research is serving yesterday’s industry and there are few answers to my list of concerns about how I shape my business to meet current legislation or future legislation on water and air quality. Much of the current research has three main strands:

- The first seeks to maintain or increase production whilst constraining or reducing costs.
- The second seeks to develop land management approaches to reduce the impact of farming on the landscape.
- The third seeks to create added value away from the farm gate, using farm outputs as global commodities.

These strands are far from integrated, certainly do not enhance sustainability, and in most cases do no more than quantify the problems rather than identify the solutions.

The areas of food chain connections that maximise the human health attributes of grass-based livestock products, the role of technology transfer and the public perception of science are the challenges ahead.