

## UK Agricultural Production Research – Why bother?

Notes from a Royal Agricultural Society of England discussion meeting  
6th February 2003, Royal Society, London

In recent years attention has focussed on farming's dire economic situation and the future sustainability of land use. The importance of science in agriculture has been somewhat overlooked, as has the importance of science to the general economy. The RASE is a farming organisation rooted in science. As part of the Society's Year of Science a group of influential scientists, technology translators, farmers and environmentalists was brought together to consider whether agricultural production research should continue to be a priority for an industry which is, after all, only 0.7% of the nation's economy. This paper highlights the main themes of that discussion and draws some conclusions for the agricultural industry.

The first part of the meeting was chaired by Lord Selborne, the latter part by Prof Chris Pollock. Introductory presentations were made by Dr Ben Mifflin, former Director of IACR Rothamsted and now chairman of Crop Evaluation Ltd and Jim Godfrey, Chairman of the Scottish Crop Research Institute and a farmer in Lincolnshire.

Research opportunities exist for British agricultural scientists and institutes in three main areas: genome studies; integrative biology, where agricultural science can benefit from advance in other areas of biology; and the development and application of new technologies. The key threat is a lack of investment. This is manifested in different ways; firstly there is a poor long-term career structure for scientists in Britain as most contracts are based on short-term funding. However much of the key work, namely genomics, is complex and of a long-term nature. Secondly the commercial investment in agricultural science is in decline. For example just 1% of the value of the UK's wheat crop is reinvested in plant breeding.

Representatives from commerce insisted that a clear vision for production agriculture in the UK and Europe is necessary. Once that has been agreed the regulatory system has to enable the vision to become a reality. Companies are now relocating their research facilities outside the EU because they have interpreted the signals that Europe is closed to the business of technological advance. Emerging technologies could offer a multitude of benefits, but only if regulation and our attitude to risk allows. Decisions have to be taken now, not when other countries have tried and gained the advantage. The UK's system of regulating Stem Cell Research is a good model to follow. Engineering disciplines have also coped successfully with the precautionary principle, a viable interpretation is needed for biology disciplines.

Many people at the meeting believed that the Curry report on sustainable food and farming had delivered a vision for agriculture and were busy aligning their priorities accordingly. Focus is on the environmental responsibilities of farming<sup>1</sup> and society and the socio-economic aspects of rural communities. Yet these have to be tied in with the rest of the food chain. [One participant noted that one man's friendly beetle is another man's customer complaint.] These may be considered to be short-term issues and do assume the continuation of a stable world situation. The starting point for such decisions should be that agriculture has an important role in sustaining people, animals and land, whilst remembering that land is a finite resource and as such has to be used efficiently.

The BBSRC has just published a long-term workplan which places sustainable agriculture amongst its priorities. DEFRA plans to publish its science strategy in May and is the only Government department to attempt linkages with its relevant research council and the science sectors of other departments. The key message is that agriculture is no longer just food production, it is "production +". Plus environment, plus energy, plus fuel, plus housing.... Research now has to help find profitable ways to enable this variety of land management activities and farmers need to realise that they cannot stick to the same cropping and management patterns as in the past.

Nevertheless some fundamental production research will continue to be funded. The problem still remains: how to turn this into practical applications for the agricultural industry? Being very fragmented, the agricultural industry does not have the structures to ensure such delivery. And because of this the usual push-pull relationship fails. The pull (demand) from industry is missing. How can extra spending on production research be justified when there are few signals from the industry - the end user - of what is needed or valued? It was agreed that this must be in the remit of the Sustainable Food and Farming Research Priorities Board. The Board, scientists and farming must also engage with those outside science and food production to generate an appreciation of the bigger picture. For example the viability of other parts of the food supply chain could be affected by further reductions in UK agricultural production.

## Conclusions:

- DEFRA will shortly publish its science policy. This should be a clear lead for all those involved in science for agricultural production and should look forward over a twenty-year period. As in so many areas though, the UK may need to concentrate further on the areas where it can be a world class leader such as Intellectual Property.
- Much effort is required to improve technology transfer and increase “industry pull”. It seems that farmers are not aware of the value they receive from investment in science research and development and their outlook is generally more short-term. However those sectors such as pig and poultry which are nearer the market (and not directly subsidised) tend to invest more in research.
- Research is necessary to determine how “production plus” can enable a variety of land management activities to deliver a range of goods including those that will support economic viability.

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<sup>1</sup>Farming & Food: a sustainable future. Report of the Policy Commission on the Future of Farming and Food, January 2002.