

Annex to Response

All Change in R & D by Jeff Moorby

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The horticultural industry needs access to good UK-based research and development if it is to thrive. Yet, there have been major reductions in R and D capacity over several years and about a further 100 redundancies have been announced as a result of the recent Quinquennial Review of HRI. East Malling is likely to become independent of HRI at Wellesbourne and Efford may have to close. The thinking behind this paper was to try and describe how this situation has arisen. To do that it is necessary to look back about 20 years.

Those with long memories will remember that in about 1980 there were 4 BBSRC (then called the Agricultural Research Council, ARC, later to become the Agricultural and Food Research Council, AFRC) institutes primarily concerned with horticultural research. These were East Malling concerned with fruit, the National Vegetable Research Station at Wellesbourne, The Glasshouse Crops Research Institute at Littlehampton and a small unit working on hops at Wye. In addition there were 9 ADAS horticultural sites, Fairfield, Kirton, Stockbridge House, Lea Valley, Efford, Cleppa Park, Luddington, Brogdale and Rosewarne. These were supported by MAFF. There was also a considerable amount of fruit research at Long Ashton, glasshouse and other engineering at Silsoe and research relevant to horticulture at several other ARC institutes in England and Wales. Scottish problems were covered by the Scottish Plant Breeding Station and Scottish Horticultural Research Institute. These later merged to become the Scottish Crop Research Institute.

How times have changed.

I have chosen 1980 as my base line because until then horticultural and agricultural research policy was driven by a series of government White Papers that had the aim of making the UK as self-sufficient for food as possible. At that time a well-recognised justification for new research was the substitution of imports by home-grown produce. This aim disappeared soon after 1980, but might be restored with the increased concern about 'air-miles' and environmental pollution and attempts to favour local produce.

In the late 1970s the government accepted the proposals of a committee chaired by Lord Rothschild that basic research should be funded by the ARC, applied research by MAFF and 'near market' research by those who would benefit most from it. The way these proposals have been implemented has caused two main problems. The strategic research that develops the results of the basic research to a point that they can be used in applied programmes tended to slip between the responsibilities of the ARC and MAFF. This tendency has become more pronounced as the BBSRC has favoured molecular and genetic research that have a longer time to application. The result is that the basic and applied work have drifted apart. The second problem is that the major beneficiaries of the near market research, the supermarkets, have never contributed to the research except on a very limited basis. Even then, they have attempted to restrict the results obtained to themselves and their suppliers.

The best way to understand the changes that have occurred is to follow the money. The expenditure on research gives an appreciation of its extent, but not its content. The costs in the annual research reports are listed as the prices when the reports were prepared. It is necessary, therefore, to take some account of inflation. I have done this using the 'All Items Retail Price Index' published by the Office for National Statistics to adjust the research costs to a common base of September 2003. I cannot guarantee that the amounts quoted are exact. The published data has not been expressed in a consistent fashion over the period I have considered. Because of this I have had to make some approximations and combine some of the data. Never-the-less, I am sure that the changes I have illustrated have taken place and the amounts are realistic.

The 'base' situation in the ARC institutes in the 1979/80 financial year is shown in Table 1. The total cost was almost £6M in 1980 prices; the equivalent of more than £16M today. I have not tried to discover the costs of the ADAS stations. Their facilities were not as comprehensive as the ARC institutes and the work they did was more applied, but their total costs must have been a further several million pounds.

Table 1.

Funding (£,000) for ARC Horticultural Institutes in 1979/1980. The total expenditure is also shown adjusted to September 2003 prices using the ‘All Items’ Retail Price Index.

East Malling	2370
Glasshouse Crops Research Institute	1863
NVRS Wellesbourne	1590
Wye Hops	165
Total 1979/1980	5988
Total 2003 prices	16282

In the early 1980s the government started to reduce the funding it provided for research in both the ARC and MAFF. This resulted over the following 5 to 10 years in the closure of the Letcombe Laboratory, the Weed Research Institute and the cessation of all fruit work at Long Ashton; with some of the fruit work being transferred to East Malling. There were also reductions in all the other ARC institutes. The main change in horticulture was the merger of the 4 ARC institutes and 3 ADAS stations, Kirton, Stockbridge House and Efford, to form, initially, the Institute for Horticultural Research, soon renamed Horticulture Research International, HRI. The other 6 ADAS stations were closed and the remainder of ADAS privatised. GCRI was closed a few years after the formation of HRI and some of the work and staff transferred to Wellesbourne. The situation in 1985/86 when HRI was established is shown in Table 2. There had been an increase of about £1M from 1979/80. This again ignores the costs of the 3 remaining ADAS sites but also the reduction in the costs to MAFF resulting from the closure of the other 6 ADAS sites.

Table 2.

Funding (£,000) for ARC Horticultural Institutes in 1985/1986 at the time HRI was established. The total expenditure is also shown adjusted to September 2003 prices using the ‘All Items’ Retail Price Index.

* £ 100,000 of this was provided by the Hop Industry.

East Malling	3597
Glasshouse Crops Research Institute	2763
NVRS Wellesbourne	2581
Wye Hops	232*
Total 1985/1986	9173
Total 2003 prices	17393

Hopes for a period of stability after the formation of HRI proved groundless and, although the institute had a large building programme, the recurrent funding necessary to run the facilities effectively was never forthcoming. The changes since 1990/91 are shown in Figure 1 and now include the costs of the ex-ADAS sites. They show how the total funding (after adjustment to 2003 prices) increased slightly in the first 3 years but has declined by about 27% since then. The figure also shows a decrease of about 40% in the number of HRI staff. The extra 100 redundancies announced recently will bring the reduction to more than 50%.

See Figure 1 (at end of text)

The data has been broken down further in Figure 2 to show how the various agencies have funded HRI. The BBSRC increased funding until 1995/96 (Fig 2a) but this source has declined since then to 76% of that in 1992/93. Fig.2b shows the amount supplied by MAFF/DEFRA in its commissions to HRI. This has decreased throughout the whole 11 years to only 53% of the original amount. Some of the decrease has occurred because of the transfer of some work from commissions to competitive contracts. Where HRI has been successful in these competitions their costs are included in the ‘Other’ category (Fig, 2c) that includes all other sources, eg from the European Union and HDC. HRI was successful in increasing the ‘other’ funding until 1997/98 but since then it has declined to 67% of the maximum. This category includes both basic and applied research, the proportions of which change from year to year depending on the contracts and grants obtained. Some of the decrease in ‘other’ funds has resulted from the HDC funding being listed separately since 1997/98. This has decreased by 73% since then (Fig. 2d). The separation of Stockbridge House from HRI and the diversion of HDC funds to support the SOLA and other work accounts for some of this decrease, but I have been unable to quantify the extent of the transfer.

See Figure 2 (at end of text)

I have not been able in this short article to analyse which research projects have ended and which have survived. What is obvious is that the funding provided by DEFRA and HDC for applied work has declined much more than that from BBSRC for basic research. This must be the reason for the claims made by some people that HRI favours basic work. I am sure this is not from choice. The type of work merely reflects the funds available and the largest cuts have been made by DEFRA and HDC.

The current situation is confused. HRI has some guaranteed funding from DEFRA for the next 5 years and has formed an association with Warwick University. It will retain some work at Kirton. Most of the basic work supported by BBSRC in the 'old' HRI was at Wellesbourne, and the 'new' HRI will, presumably, want to retain this. The future of East Malling is still unclear, but may be resolved before this article is published. About 50 redundancies have been announced at East Malling and Wye and the East Malling Trustees hope to establish a research organisation independent of HRI. It seems unlikely that a new organisation would be viable if supported by fruit work alone, so it will probably have to compete with HRI and Stockbridge House for work on other crops. The Quinquennial Review, from which these recent changes stem, proposed that Efford should either close or become independent. Negotiations are underway, involving the South East England Development Agency, to keep some horticultural research on the site but nothing has been resolved. If successful it would generate even more competition for funds from the still reducing amount available.

HRI was established to provide a single, fully integrated research service for UK horticulture, but particularly England and Wales. The situation that is now developing will produce 3, and possibly 4, organisations competing with each other. It seems inevitable, as horticulture and agriculture form a decreasing proportion of the UK economy, that any government will continue to reduce the funding it provides for research on these topics. Other sources have become available, eg the EU, but these are hard to obtain, often look at European-wide problems, not just the UK, are expensive to manage and there are often delays in delivery of the funds from Brussels. It seems unlikely that the new situation will be more efficient than the previous single organisation. The different sites will not be equipped to take on all the work, even though there will be some duplication of the facilities. Indeed they will probably find it difficult to fully utilise everything they have because of the funding restrictions. There will have to be some rationalisation of existing facilities as they are replaced or modernised. The most likely scenario would seem to be that the sites will have to collaborate for much of the work.

A final problem is the supply of suitably trained R and D staff with local experience. Although the results of basic work are easily portable, the more applied research becomes the more it is sensitive to local conditions and practices and its development requires local experience. It will be interesting to see how this local expertise can be maintained and replaced. There are few universities now offering training in the more applied aspects of plant science and many of the graduates are either from, or move, overseas to work in industries that are competing with the UK. DEFRA opted out of this several years ago when it abolished its post-graduate studentships. HDC offer a few studentships, as do BBSRC, but the latter are almost exclusively for basic work.

It will be interesting to follow future developments. There seems to be a general acceptance that 'May you live in interesting times' is a Chinese curse. Readers should retain the interest but forget the curse. All my Chinese friends say they have never heard of it.

Figure 1

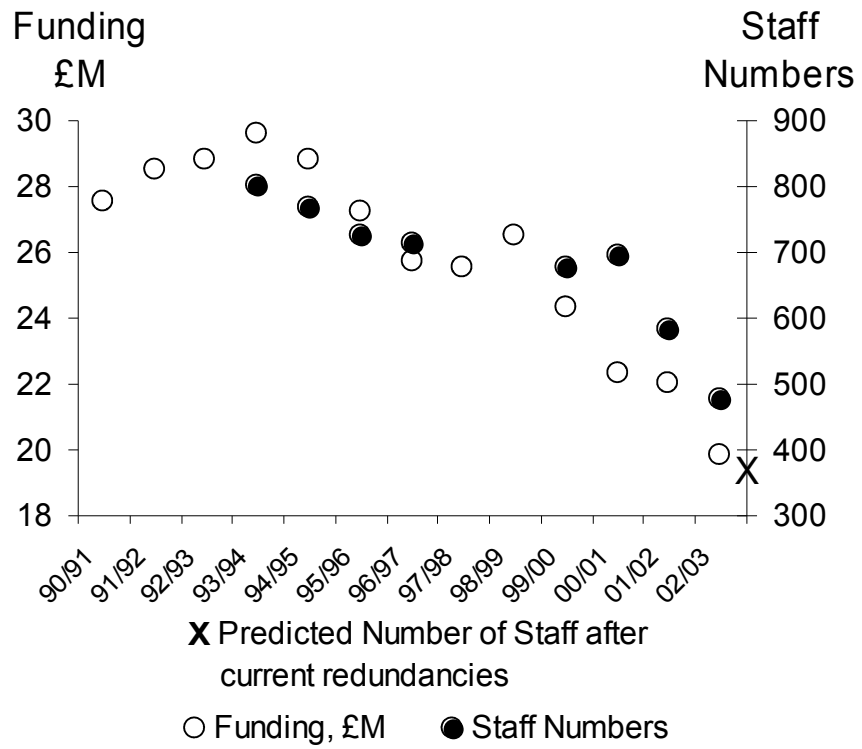


Figure 2

