IMPORT OPPORTUNITIES AND PROBLEMS:
A BRITISH VIEWPOINT

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INTRODUCTION

In just over two decades the British Isles have seen more imports of foreign breeds than for many decades previously. The full history of events would be a comprehensive document but my intention in this review is first to sketch in the outlines mentioning what appear to be the salient events in that history. An attempt will then be made to assess the outcome of this activity and see what lessons for the future can be learnt from past experience.

FOREIGN BREED IMPORTS INTO BRITAIN

Beef Cattle

The history of imports dates from a proposal to introduce the Charolais breed from France for experimental trial. This proposal met with fierce opposition from the National Cattle Breeders’ Association objecting on two counts, firstly the risk of disease and secondly the fact that such an importation would be an open acknowledgement that British breeds might be inferior and this would undoubtedly affect the export trade in pedigree stock. After due enquiry 27 Charolais bulls arrived in 1962 and for Britain at least marked the beginning of the ‘exotic boom’. Use of the Charolais bulls was intended as an experiment and tests were carried out at some 45 centres, although most of these were never fully reported. Those summaries that did appear showed an advantage in growth rate and in efficiency of food conversion. The absence of any official summarising report was irrelevant since, through the great publicity which was attached to all Charolais proceedings, many farmers formed their own opinions, some rejecting the breed because they found the gloomy prognostications about calving difficulties were fulfilled (especially when the bulls were used on heifers), and others who found that the crosses grew at a rate which they had not hitherto experienced. The vote from the practical farmers was very clearly in favour and the first Charolais females were imported in 1966.

From then on events in Britain became very dependent on the North American scene. There came a demand from Canada and the USA for Charolais and Simmental cattle. British cattle breeders were not slow to apply for permission to import Simmental cattle and although this permission was forthcoming, it carried with it a requirement that experimental tests on suitability for beef production in Britain should be carried out. This requirement resulted in a series of trials in both Scotland and England using the
Simmantal from various countries and also the Limousin. This time both males and females were imported and many moved onto Canada with their progeny reaching the ultimate destination in the USA. Once it was seen how much impact the Simmental breed was making in North America, interest rapidly moved onto other breeds with which entrepreneurs sought to emulate the financial successes of the Simmental importers. There was thus a growing clamour for imports of cattle of new breeds and increasing ingenuity went into devising quarantine arrangements which would permit the earliest export possible of animals to the USA. Added to this was a demand for animals from New Zealand and for semen for Australia.

The rate of import was suddenly increased in 1971 when the Minister of Agriculture, perhaps recognising the trade for what it was, announced that the Government intended to liberalise its import policy for breeding stock and semen. An Import Panel was set up to review requests and make recommendations about the order of preference to be given to those proposals. 1972 saw the arrival of the Maine Anjou and the Blonde d'Aquitaine, then in 1973 the Meuse-Rhine-Issel, the Gelbvieh and the first Italian breed, the Chianina arrived. This last breed perhaps marked the high spot of the exotic boom with the allocation of permits to individual breeders being likened to a licence to print money. The succession of new breeds continued in the next two years with topping up imports for some breeds already established. Then in 1975 the allocation for Blonde d'Aquitaine and Maine Anjou cattle made by the Import Panel was not taken up by those breed societies. Although some new breeds did appear after that date the boom was over, and in 1976 the Import Panel was wound up since adequate quarantine space was now available for all imports. Prices for many new breeds collapsed as quickly as they had risen and many entrepreneurs found themselves in financial difficulties.

The ingredients of this collapse are perhaps three-fold: difficulties in the beef industry as a whole, an over-supply for what turned out after all to be a limited market, and finally the fact that many of the claims made for the breeds were not realised in practice or that they had major disadvantages not revealed in sales promotion. Since that time there have been relatively few imports of new breeds but many smaller imports augmenting numbers in those breeds already imported into Britain. One of the more significant introductions of recent times is the Belgian Blue, bringing with it the double muscling gene at a high frequency.

Dairy Cattle

British breeds of dairy cattle have been changing at a much slower rate than beef breeds and in a different way with the introduction of new genes into existing breeds rather than the establishment of new breeds. The most significant development has been the introduction of the Holstein from Canada with imports in 1947 and from 1965 onwards. Although a separate Canadian Holstein Herd Book has been established, the major influence has been through the introduction of Holstein genes into the British Friesian. Some early imports of Holstein genes into the Friesian were accomplished by individual breeders without too much furor but later imports have created great controversy, especially among those valuing the beefing qualities of the Friesian. As a consequence the rate of influx of Holstein genes into Britain has been much less than in many other countries (Cunningham 1982). The general hope seems to be that this influx will cease leaving the breed at some intermediate level, although my own prognosis would be that there would be a steady, if not accelerating, progression towards the Holstein.

Other minor breeds such as the Ayrshire have also had influxes of genes from North America and it seems likely that this trend will continue.
Sheep

The story here is very different from that with cattle. As far back as 1957, East Friesians were imported by Mr Oscar Colburn and used by him as an ingredient of the Colbred sheep. Other imports were made of the Isle de France and Oldenburg but these did not have any major impact on the British sheep industry.

The breed which did excite a great deal of interest when first introduced was the prolific Finnish Landrace imported by ABRO in 1962. Field experience rapidly showed that the breed came up to expectation in the level of prolificacy and that crosses were indeed more prolific than many British crosses, but at the same time the breed was found to have serious practical deficiencies and the decision of most ordinary farmers was that it was not a breed they would wish to use. In many circumstances the number of lambs produced was too many to cope with and in addition poor carcass quality by conventional standards made even crosses difficult to market. The role of the Finn has been in crosses with the Dorset Horn producing the Finn Dorset which has found good acceptance for early lamb production, combining prolificacy with year round breeding capabilities.

The imported breed which has had most impact is the Texel from Holland. Following trials with this breed in the Irish Republic, ABRO imported some representatives from that source and was able to characterise the breed as one of exceptional leanness. Enthusiastic breeders who had seen the breed on the Continent were encouraged by these results and made further imports from France. The good results obtained in carcass competitions, coupled with a very enthusiastic group of breeders, created a situation in which demand far outstripped supply and created boom conditions for the breed for a period. The situation was different from that with cattle in that there was no strong export demand but the absence of sheep AI gave a more prolonged demand for rams. Those days are, however, past, largely I would suspect because, despite public demand for leaner meat, the marketing situation and subsidy system still require levels of fat cover which do not encourage leaner lamb production.

Since the Texel breed, other breeds such as the Charollais, Bleu de Maine, Averanchin and Vendeen have arrived in Britain, some sold at high prices but not in quite the boom conditions once enjoyed by the Texel.

Pigs

The pig story is different again. The most significant feature goes back further in the form of the import of Landrace pigs from Sweden in 1955 to meet a specialised bacon market which was at that time completely dominated by imports of Danish bacon. The imported breed grew in popularity and at the same time proved a powerful spur to the improvement of the native Large White. Since that time there have been experimental imports of various North American breeds such as the Hampshire, Lacombe and Durroc, and the Pietrain from Belgium. Although very insignificant as purebreds, some of these breeds have been used to contribute genes to several company sire lines and to a few dam lines. The Landrace breed has also received a continuing infusion of genes from Norway.

GENERAL CONSEQUENCES OF THE IMPORT PROGRAMME

As will be obvious from the descriptions which have been given, the greatest revolution has taken place in breeds of beef cattle. Although comparative breed trials carried out by the MLC (Southgate et at. 1982) show
that when evaluations are carried out to a standard subcutaneous fat end point, there is little difference in the efficiency of food conversion. It is clear that beef cattle feeders are nevertheless able to make more money from Continental crosses than from British breed crosses. Exactly what this amounts to in financial terms has not been estimated, but the premium of Charolais over Hereford crossbred calves of about £30 in the market place demonstrates the level of preference. Breed substitution then has taken place in beef cattle at a steady and discontinuing rate. With dairy cattle changes through the introduction of the Holstein have been slower, although there is the opportunity for much more rapid changes through artificial insemination.

In pigs the presence of two breeds of approximately equal merit in the large white and Landrace allows widespread commercial crossbreeding estimated by Mitchel et al. (1982) to be worth approximately £16 million per annum. Other imported breeds have contributed to various company sire lines now under test with the Meat and Livestock Commission.

In sheep, although the gene pool has been expanded, the breed make-up of national flocks has not seen big changes due to imports. One of the major changes which has taken place is with native breeds, with the Blue-faced Leicester replacing the Border Leicester as a crossing sire.

DIRECT LOSSES FROM IMPORTS

On the other side of the balance sheet there are certain undisputed losses to be debited to the import programme. In the first place the introduction of disease must be considered. Despite vigorous veterinary precautions, there is good evidence that enzootic bovine leucosis was imported from cattle in Canada (Scudamore 1984) and maedi visna in sheep from the continent of Europe (Watson 1984). Fortunately neither disease has proved to be very contagious. Although steps to eradicate these diseases have proved troublesome and costly to individuals, the total costs involved will not be great when viewed on an industry scale. New serotypes of other disease organisms have also been reported and may be associated with imports although the evidence is usually far from clear.

Another loss attributed to imports has been the confusion that the multiplicity of breeds and crosses has caused in the market place. An example of this is the discrimination against surplus male dairy calves thought to be Holstein rather than Friesian. Accurate classification of breed origin is not possible at birth yet many calves are discriminated against on suspicion of Holstein origins. Such confusions seem inevitable when breed substitution is in progress and the remarkable fact to me is that the farming community have indeed adapted so well to a variety of new breeds. For example, although the Limousin does not reliably colour mark its calves, this handicap in the market place has been overcome to the great benefit of that breed.

The original contention that imported breeds would undermine the confidence of overseas buyers in the purchase of British stock is nowadays seldom voiced. The total value of exports of farm livestock for breeding is not large but decreased. For example, in 1983 the value of cattle exports for breeding was only £2.6 million and proportionately less than that for pigs where the figure was £3.0 million. (Both are very trivial compared to the £99 million earned from racehorses.)
INDIRECT EFFECTS OF IMPORTS

Many of the benefits of imports can now be seen as indirect but in their way no less valuable. At the top of any list of such benefits must surely be the competition factor which has proved a strong stimulus for further improvement. The establishment of new breed societies has led to the rapid adoption of new improvement practices to benefit not only their own breeds but also accelerating their acceptance by native breeds. Such good intentions often face structural problems of the following kind. In an effort to be democratic, live animal imports were shared out among many would-be importers. The result was the creation of many extremely small herds and although herd sizes have grown over the years, the average size for many herds is still very low (see Table 1). This fact, coupled with a low usage of artificial insemination in beef herds, has presented a major structural difficulty in devising effective improvement plans. Central performance testing may be a partial way around the difficulties, although suspicion about the lasting effects for pre-test treatments causes anxiety. This fact, coupled with a decline in the use of central performance testing facilities, creates problems for the continuing improvement of these breeds. The promising feature, however, is the fact that some breeders are managing, sometimes by use of embryo transfer, to acquire herds of a size where worthwhile improvement plans become feasible.

TABLE 1

<table>
<thead>
<tr>
<th>Breed</th>
<th>Number of Cows in Herd</th>
<th>Average Cows per herd</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-10</td>
<td>11-20</td>
</tr>
<tr>
<td>Aberdeen Angus</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>Charolais</td>
<td>267</td>
<td>71</td>
</tr>
<tr>
<td>Hereford</td>
<td>36</td>
<td>37</td>
</tr>
<tr>
<td>Limousin</td>
<td>115</td>
<td>33</td>
</tr>
<tr>
<td>Lincoln Red</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Simmental</td>
<td>178</td>
<td>49</td>
</tr>
<tr>
<td>South Devon</td>
<td>11</td>
<td>14</td>
</tr>
</tbody>
</table>

Source: Allen and Steane (1985)

Along with the competitive element there is a changed attitude to breed comparisons and a more widespread acceptance of the idea that knowledge of an animal's breed can indeed be a useful guide to its breeding value. The willingness to accept such information is perhaps not yet accompanied by a corresponding readiness to pay for it. Nevertheless one senses that the publicity material of promoters is now looked on with more scepticism and an occasional demand for comparative figures.

Recommendations by official bodies on breeds for import are seen with hindsight to be fallible. For example, in Britain the double muscling gene was for many years purposely excluded (apparently quite successfully) because of fears of dystocia. The possibility of using this gene in heterozygous form, without major calving difficulties, and with benefits to meat...
production is now well documented (see King and Menissier 1982) but it has taken the initiative of an English butcher, Mr T Ashton, to import the Belgian Blue with this gene and to promote its use.

However careful the prior evaluation, the importing process will lead to many disappointments and some unexpected surprises. Thus although the Finnish Landrace fully came up to the level of prolificacy reported from Finland, it has failed to produce any major impact in Britain except for specialised use in early lambing flocks in crosses with the Dorset Horn. From France there is a not dissimilar example in the prolific breeds of Chinese pig which both as purebreds and crossbreds females exceeded Western breeds in their litter sizes. Nevertheless these breeds were so disadvantaged in growth, feed efficiency and carcass traits as to outweigh the advantages of prolificacy under French market conditions (Legault et al. 1982). The moral is perhaps to regard with suspicion breeds whose claim to fame rests on a single trait, without corresponding all round performance.

Alongside the disappointments there are unexpected discoveries. For example, the East Friesian breed was primarily imported to Britain as a breed to contribute genes for high milk production. It has been found to have a high level of prolificacy and its crosses prove to have not only high milk yield and prolificacy, but also good maternal care compared to other crossbreds (Mann et al. 1984).

Finally there are benefits of a non-genetic nature which do reflect on breeding programmes. The stimulus of the demand for new breeds of cattle did a great deal to advance the technology of embryo transfer from something which was scientifically feasible into a reliable methodology. The fact that this technique can now be employed routinely to create further genetic improvements might well prove to be one of the major long term benefits of the 'exotic boom'.

FUTURE IMPORTS

The success of past imports inevitably means that further importations will be attempted in the future. For example, the possibility of obtaining Holstein dairy cattle directly from the USA, and not only via Canada, will certainly interest dairy cattle breeders. On the beef cattle side, most of the major breeds in the world are now represented in Britain but a few more such as the doubled muscled Piedmont from Italy may yet arrive. In pigs the arrival of more samples of the Duroc breed seem likely.

A second generation of imports is also likely to take place. These would be animals or semen or ova from carefully chosen improvement programmes where conditions have allowed faster genetic progress to be made than in Britain. With the passage of time new synthetic populations where the emphasis has been on performance traits will become attractive as sources of new genetic material (or further new breeds!). I therefore see imports as a continuing activity with a changed emphasis. Now that many more international connections have been built up, transfers are likely to take place with a greater degree of planning and less uncertainty about the eventual outcome.

CONCLUDING REMARKS

Import activities in recent decades have given animal breeding in Britain not only new genotypes but a general stimulus to competitive breed improvement. For the continued well being of the livestock industry, I hope
that veterinary authorities around the world will sustain the movement towards more liberal import policies where potential genetical gains are weighed against realistic assessment of disease hazards. With improved tests for disease, which should be another benefit of developments in molecular biology, we might perhaps look forward to the time when farm livestock might move around the world with some of the freedom apparently already enjoyed by racehorses.

REFERENCES


