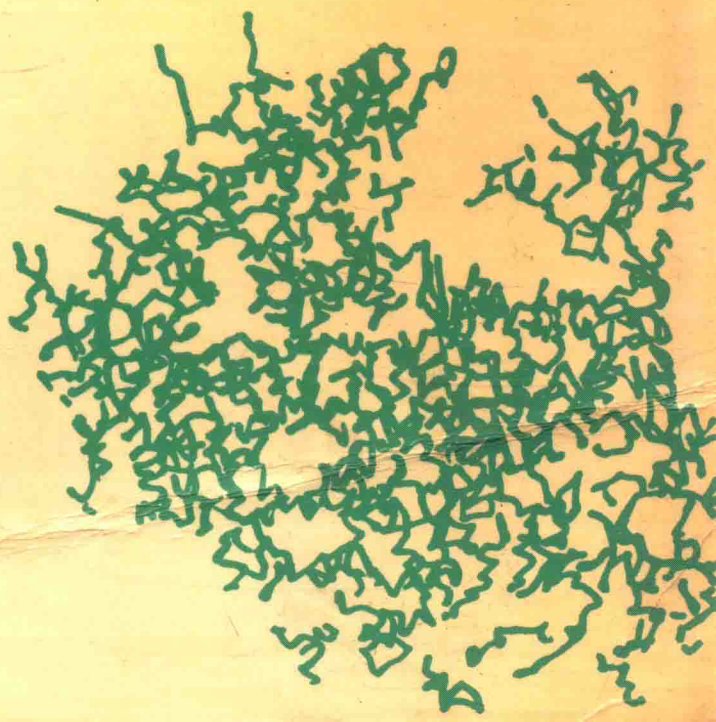
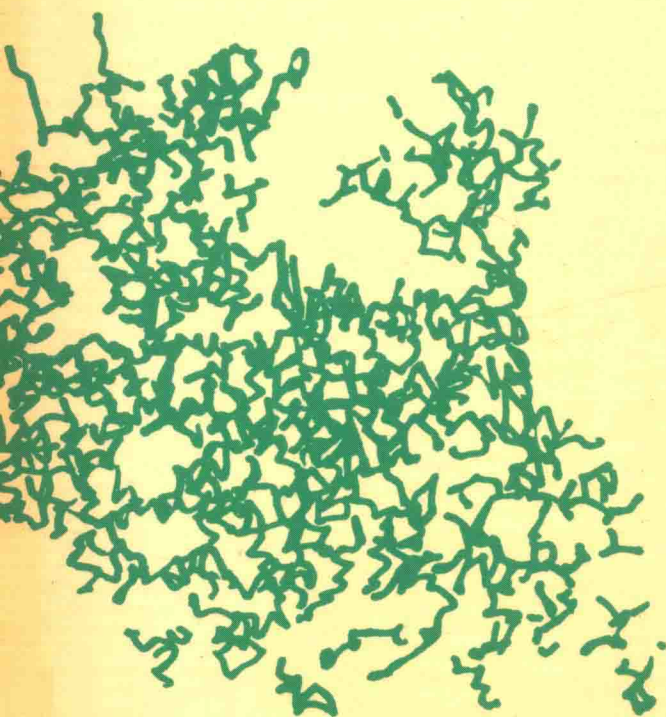


Proceedings of Biotech 88 held in London, May 1988

# World Biotech Report 1988



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# Introduction

Biotechnology is now established. Throughout the world the techniques pioneered over the last few years are being put into practice, bringing new products and benefits to a wide range of industries and applications.

The World Biotech Report concentrates on the latest and most significant developments. It surveys the industry examining commercial strategies for success, the role of government, regulatory and managerial issues. Following on from this are reports on several areas of technology where development has been particularly impressive. These include: the commercialisation of a new generation of thrombolytics such as tissue plasminogen activator (TPA); new techniques in bioprocessing; biodiversity and its importance for biotransformations; novel analytical systems including immunodiagnosics, DNA probes, biosensors, DNA sequencing and sensing and control in industrial processes.

The World Biotech Report brings the entire field of biotechnology together into a single volume. Written by the world's leading experts from Europe and the USA, this book brings a sense of perspective to the many recent developments in the field. The overview provided will be particularly helpful to all those involved in the industrial and commercial applications of biotechnology.

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\* To incorporate the most recent material available, these papers have been included out of sequence.

## **UK Biotech 88 : Industry in Evolution?**

**Amanda Shingleton  
Manager, Business Services Group  
Arthur Young  
UK**

Arthur Young and the Association of British Biotechnology have carried out a survey, "UK Biotech 88 : Industry in Evolution?", of the UK biotech industry. Some of the findings on the stage of development reached, the importance of strategic alliances and the current and future competitive edges of the responding companies are presented.

*Amanda Shingleton is a manager in Arthur Young. She has spent the last 5 years specialising in providing financial and strategic advice to growing high technology companies. More recently this has particularly been with biotech companies.*

In 1987, Arthur Young and the Association for the Advancement of British Biotechnology carried out a survey of UK biotechnology companies and specialist biotech divisions of larger conglomerates. This survey titled "UK Biotech 88: Industry in Evolution?" sought to understand the stage of development reached by the UK industry and its reaction to some of the strategic and commercial issues facing it.

The report is based on data supplied by 48 independent companies. Unfortunately only 30 responses were received from specialist biotech divisions and, when analysed by market sector, the sample sizes were too small to be sure that the trends would be a fair reflection of divisional activities. Thus the report only refers to these divisions where very clear overall trends were evident.

The results were reported by market sector. An analysis of the same data by company size would not be meaningful as 73 per cent of responding companies employed less than 50 people.

Some of the more interesting findings were as follows:

#### Company Activities

- o Two thirds of the responding companies were active in more than one sector. The pharmaceutical and animal agriculture sectors appear most active, with 40 per cent of those in the pharmaceutical sector also being active in the animal agriculture sector.

#### Stage of Development

As useful technologies and processes evolve, products move from the research and development stage, to production and finally, once initial production difficulties have been solved, to large scale marketing and selling activities. With the extended timescales involved in the development and testing of new drugs or the breeding of new plants and animals, the survey sought to measure the levels of activity at each of these three stages.



- o Research and development is clearly critical to the biotechnology industry. An eighth of the responding companies carried out no R&D but these were predominantly in the equipment supply sector. Of the remainder who were active, almost all were developing their own products with a high proportion also carrying out R&D on a contract or collaborative basis with third parties. This probably reflects the financing strategy often adopted by biotech companies, whereby they need to generate income from contract or collaborative work to sustain their own research and development activities.

The pharmaceutical sector was particularly active in all three types of R&D activity but, significantly, 85 per cent of these companies were spending almost half of their research and development activities on their own internal projects.

- o As products are successfully developed, the ability to manufacture products for samples and clinical or other regulatory trials followed by large volume production becomes more important. 73 per cent of the survey respondents carry out manufacturing on their own behalf and not surprisingly, the equipment supply sector was very active, as was the pharmaceutical sector. Approximately half of the companies involved in manufacture, supplemented their income by using their facilities for contract production although on average this represented less than a third of their manufacturing activity.
- o Two thirds of the responding companies said that they were involved in some form of marketing and selling activities. Surprisingly 71 per cent of these were involved in direct selling to customers, in addition to any activity they may have through distributors or via licencing arrangements. The most common reason given for this was due to the nature and location of customers. This may reflect the relatively low volumes of product ready for the market which are therefore being sold locally or may be due to products currently being sold to a relatively small number of technically able customers.