Plant biotechnology

UK company's delayed budding

THE other shoe has at last fallen. After more than two years of hesitation and enforced delay, the British Technology Group (BTG) announced this week the formation of a company to exploit agricultural applications of the expertise in plant biotechnology of the Agricultural Research Council (ARC). BTG was the prime mover three years ago in the formation of Celltech, with interests in medical applications of biotechnology, which has a right of first refusal on innovations arising in Medical Research Council research.

BTG's partners in the formation of the Agricultural Genetics Company Limited (AGC) are Ultramar, a company with financial and petroleum interests, and the British and European versions of the venture-capital company called Advent, established last year with a capital sum of £10 million provided by Monsanto, a US chemical manufacturer with strong agricultural interests.

At this stage, AGC's initial capital is a modest £700,000, subscribed by the three partners and the company's chief executive, Dr Roger Gilmour, who has been recruited from Griffith Laboratories, Chicago, to run the new company. Eventually it is intended that AGC should have a total capital of £15 million. Dr Gilmour declined to disclose his personal stake in AGC at the company's launch on Monday.

Details of the contract with ARC were also not disclosed, but AGC will have exclusive rights to exploit ARC-supported innovations in non-conventional plant breeding, microbial inoculants and biological control products. One envious investor, not among the initial shareholders, says that the first of these items is a kind of "catch-all". ARC will be recompensed by means of a royalty.

Acknowledging that lead times to bring entirely new biotechnology products to commercial exploitation are likely to be in the range of 5–10 years, AGC will at first act as a technology transfer company and will develop joint ventures with established companies, but it hopes that some products will reach the market in less than two years.

Dr Ralph Riley, secretary of ARC, emphasized this week that the council will continue to support research in the national interest, although it may also undertake AGC-commissioned research in its own institutes.

In answer to criticisms that British publicly-funded research results may, through cooperative agreements, be available to foreign companies before other British companies, Dr Riley said that steps have been taken to ensure that this will not happen. ARC-supported scientists will not be in any substantially different position, but scientific publications of commercial interest and external research consultancies will have to be individually

negotiated through AGC. Fears that overseas companies such as Monsanto, the largest single shareholder in Advent Technology plc and Advent Eurofund Ltd, would benefit unfairly from ARC-supported research could therefore be discounted. ARC scientists will earn royalties from AGC if their work is taken up.

Despite the conspicuous *caveats* about long lead times that can be expected, recent results — such as a recently published method of introducing a dominant selectable marker into transformed plant cells (*Nature* 304, 184; 1983) — give grounds for optimism. The British Technology Group is delighted with the interest now being shown in Celltech and hopes for similar success with AGC. AGC's first products are likely to include ideas developed by New Plant Products Limited, set up by the British Technology Group to support applied research while negotiations for AGC were in progress.

Tim Beardsley

Prutec looks overseas

In an echo of a dignified complaint by the merchant bank N.M. Rothschild, the British venture capital fund called Prutec, an offshoot of the Prudential Assurance Company, said this week that opportunities for investment in British biotechnology were fewer than it would have wished. The occasion was the announcement that the fund is to invest \$2.2 million in two United States companies, Applied Biotechnology and Biosearch

Prutec policy hitherto has been to invest in British companies or in the development of innovations that have not made necessary the formation of a company. Prutec's field of interest is catholic, but biotechnology has been the mainstay of its business in the past few years.

Applied Biotechnology, founded principally by people from the Massachusetts Institute of Technology and the Harvard Medical School, aims to concentrate on animal vaccines and on medical diagnostics.

Prutec's difficulty in finding British innovations in biotechnology is likely to carry some weight with the British Government, which has been brooding about the future of the British Technology Group (BTG) for the past 18 months. BTG is an informal amalgam of two publicly supported venture funds, the National Enterprise Board and the National Research Development Corporation. It seems already to have been agreed that BTG should lose its prescriptive right to refuse all innovations generated with public funds in Britain, but more recently there has been talk that the rise of venture capital organizations in Britain might make it possible to put BTG to sleep.

Hungarian biotechnology

Priority plan preempted

THE Hungarian Government — in particular, the ministries of industry, agriculture and health — is anxious to launch a priority programme in biotechnology. The initiative is not, however, well-timed. Industrial managers say that the initiative has come too late, while the scientists do not seem particularly keen to be made responsible for what they see primarily as applied technology.

Tentative proposals were made by the government last autumn, just when the scientific establishment was smarting from major budget cutbacks suddenly imposed during the summer vacation. Even those who admit that cuts were inevitable in the present economic situation resent the manner in which they were made. The across-the-board sweep reduced or even nullified the significance of much research in progress. It would have been far better, and more economical in the long run, some scientists felt, if they had been allowed at least to advise where economies should have been made.

Scientists — and in particular the Academy of Sciences — have responded in this mood to the news that the government wants them to take a leading role in the new "biotechnology" programme. Hungary already has some 16 such programmes. And what the politicians understand by "biotechnology" is difficult to determine — the first draft of the plan seems to have covered a wide range of topics from genetic engineering to animal feed concentrates.

Hungarian scientists are not elitists and many of them supplement their work in basic science by taking on contract research for industry and agriculture. Their objection to the proposed programme was that it was too unwieldy and incoherent and that, in many cases, the relevant theoretical work had already been done, so that the skills of top research scientists would be wasted if they were put in charge.

This misunderstanding has now been ironed out, and it is now informally agreed that the new biotechnology programme should contain not more than five or six projects and that the role of the scientists should be confined to research.

For industry, however, which will be concerned with the practical side of the programme, the choice has, to a large extent, already been made. Hungary's industrial research support system allows every enterprise the choice of ploughing back a fixed proportion of its profits into in-house research or else paying the same sum into a central research pool. In practice, most large concerns prefer to do their own research and several pharmaceutical and chemical enterprises are already well launched in biotechnology.

Vera Rich