British leader in biotechnology faces cash crisis

FOUR MONTHS after announcing a discovery of worldwide importance, one of Britain's most promising biotechnology companies, Speywood Laboratories, is in serious financial difficulties. Its backers, which include the government's British Technology Group, have told the firm to cut back on research and make a profit by next year or face closure. The dispute raises a central question: are Britain's financiers sufficiently visionary to decide the strategy for Britain's new generation of hi-tech companies?

Speywood has a world lead in developing a blood-clotting protein that could change the lives of thousands of haemophiliacs. Last November David Heath, Speywood's founder, announced that research, funded by the company at London's Royal Free Hospital and under the direction of Dr Edward Tuddenham, had isolated the elusive blood protein, factor VIII, that clots blood. Now the company needs an additional £1 million, which its backers the British Technology Group and Prutec, the venture capital fund set up by the Prudential Assurance company, say they will give-but only at the expense of an ambitious programme of research.

A deal signed with the American biotechnology firm, Genentech, for the mass-production of the protein opened up the prospect of supplying a massive world market for haemophiliacs. The agreement divided up that market, estimated at £200 million a year, between them. But Speywood's position as a fully-equal partner in this venture is now at risk, because Heath, and his company's backers could not agree on a long-term strategy for the company. At stake, say some British biotechnologists, is Britain's lead in blood-protein genetic engineering technology, which could pass to competitors in the United States and Japan.

Also, it costs Britain each year £3 million to import enough human blood, mainly from the United States, for factor VIII extraction and this blood carries with it the

Stephanie Yanchinski GRO-C TON UT UISCASC.

Heath wants to use the promise of riches from the blood products to maintain his large-scale funding of research in British universities and to expand into massproduction of the products of that research the job which Genentech wants to do for factor VIII).

But BTG and Prutec, which each invested £2 million in Speywood last year, want the company to concentrate on technology it already possesses-developing its techniques for purifying pigs' blood. Manu-facturing factor VIII, says Don Seymour, Speywood's new managing director, should be done under product licence with Genentech. Prutec chief executive, Derek Allam told *New Scientist*: "Although we saw Speywood as combining manu-facturing on the one hand and R&D on the other, they got the balance wrong." He says that Speywood did not carry through the business plan presented to get the money.

"The basis we went in on was as a company which had a product to sell, not as a company which funds R&D."

BTG spokesman says that the "business nose of the company" should be the polyelectrolyte method of purifying pigs' blood, which has been perfected by the company. He went on "the basic business, should have been established first. The genetic engineering programme was not there one year ago". In an effort to sharpen the "business nose", Heath has been shunted sideways, to become deputy chairman, while Don Seymour, a businessman, has been installed at the head of the company with the intention of making it profitable by 1984.

Seymour is now scrutinising all the university projects funded by Speywood. He says that many will be dropped-at least until the "core" business is put on a sound footing. When profits start accumulating, money will go back into R&D. It will probably go on extending the purification technology to human blood.

The crisis at Speywood is linked to the rowing uncertainty about the future of the British Technology Group. This year the Treasury slashed the group's core budget in half, with the aim of making it selffinancing. But BTG denies that this means that it must drop risky ventures.

Nevertheless, with BTG required by ministers to look to short-term profit-ability, sources of ready funds for British biotechnology have all but dried up. Prutec, a venture capital fund set up 18 months ago by Prudential Assurance, with £20 million to spend on high-technology projects, has yet to invest in any British biotechnology company, other than Speywood. Allam admits that US firms look more attractive because "the concentrations of scientists are greater"

Other investors have taken a similar line. At Rothschild, for instance, they defend a decision not to invest in British biotechnology by saying that there are no good commercial ideas in Britain.

Genes at work

UNIVERSITIES and biotechnology companies in the US are considering a new plan to speed the transfer to industry of genetic engineering techniques developed in university laboratories. The proposal calls for the creation of a new non-profit body, the University Licensing

Association for Biotechnology (ULAB), which would market biotechnology techniques patented by universities.

The biotechnology companies would then directly buy a licence for a particular technique rather than negotiating with rindividual universities. These universities would reap fees from the licensing. Their income would depend on how often their patented technique was used. ULAB would take a cut from the licensing to cover running costs.

Universities plan to speed sale of biotechnology The idea has been floated by Stanford University and the University of California, which together hold the patent on the Stanford procedure for gene-splicing, developed by Herbert Boyer and Stanley Cohen. Niels Reimers, director of Stan-ford's office of technology licensing, told New Scientist that there was substantial support for the idea from both universities and industry, though the establishment of the corporation would require considerable effort and commitment

ULAB patents, Reimers stressed would not involve the "entire gene-cloning process", but rather specific biological tools or techniques used by industrial scientists. It was necessary, he said, to inject some order into what was becoming an increasingly complicated problem-how to give industry quick access to the growing number of biotechnology techniques being developed by universities while ensuring that the university contribution was acknowledged and rewarded. At least 200 separate patents applications

from universities existed for the biotechnology tools that industry wanted to use. In some cases, a company may need a dozen licences from a dozen universities for any particular genetically-engineered product.

Many scientists also favoured the idea of pooling biotechnology patents because it would reduce the possibility of secrecy and the delay of publication. Reimers said: "In university laboratories there has been a growing concern that desire for proprietary know-how or rights may stifle the open communication of scientists, particularly between scientists who have involvement with different companies'

Industry has already put some money into the idea. Seven companies contributed \$3000 each to finance a feasibility study by a student from the Stanford Graduate School of Business.

The student, Mark Edwards, visited 20 companies and talked to university scientists and administrators. His report is being used as the basic plan for ULAB.

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