European biotechnology

Surplus food into feedstock

OUT of the political and economic gloom over the Athens summit earlier this week, where European Prime Ministers were attempting to thrash out a solution to the European Community's burgeoning "budget problem", officials were hoping for a little "green light" for biotechnology. The heads of government at Athens had before them a small but surprisingly punchy document outlining why Europe needs a 200 million European Currency Unit (roughly $200 million) five-year programme in biotechnology research and development.

According to one official of the European Commission, research commissioner Etienne Davignon had to "bang heads together" to get agreement on the document, which crosses the interests of many previously isolated Brussels directorates. Notable among them is the agriculture directorate, the elephant which manages the Common Agricultural Policy (CAP) and spends 60 per cent of the EEC's funds accumulating agricultural surpluses; this directorate has admitted, for the first time, that biotechnology might have something to say about the development of new or better crops, the use and pricing of surpluses and the best management of land for biotechnological industry as well as food. This alone was a Brussels revolution, said the official. Moreover it could help to defuse conflict over the apparently inequitable distribution of the CAP funds.

At Athens, the European Commission was not seeking immediate commitment to spend — just a nod that would indicate that their study of a possible large-scale biotechnology programme could go ahead. Beyond that, the plans would be to make a firm programme proposal for decision by a council of European ministers sometime between January and June, during the six months period of French presidency of the council. France is interested in creating a "scientific and technological space" in Europe, and would help the programme through, Commission officials believe.

According to the Commission document, "the Community is being outspent by the United States by a factor of 2:1 in public sector research, and more in industry; and 'outplanned' by Japan, which has for more than ten years been elaborating a coherently planned approach to developments in the life sciences and their industrial and medical applications. . ."

It quotes a US report prepared for the Office of Science and Technology Policy of the White House which said of Western Europe that the biggest obstacles to growth in the world biotechnology market were "the lack of qualified scientists and engineers (particularly in process and purification technologies), inadequate industry/university cooperation, and belated and insufficient research and development funding by industry and government".

The Commission ascribes European weakness to fragmentation of efforts into groups and programmes too small for the problems tackled, scarcity of qualified staff and — at the Community level — regulatory, trade and other barriers to European cooperation. Biotechnology also needs extensive support from data banks, collections of organisms, technical facilities and patent counselling, and development requires "clear regulatory regimes at all stages from laboratory development and testing through marketing to post-market monitoring".

The Commission's programme would cover research and training, the concentration of national and other biotechnology policies, and acceptable ways of using agricultural outputs for industrial use (which is primarily a matter of reducing the support price for certain amounts of surplus). Research and training would be divided into "horizontal" activities — meaning pre-competitive basic research, and "specific actions" aimed at Community problems such as health care.

Of these programme elements, research, development and training would cost most (106 million ECU). Informal soundings of governments had yielded a positive response to Commission ideas, said an official on Monday, but strong reservations over the cost of the research, development and training element.

Robert Walgate

French computers

Double-deal at Orsay

EVEN if French academic computing power is behind that of the United Kingdom and West Germany (see *Nature* **304**, 298; 1983), things may be looking up. After two years of often bitter negotiations, the biggest scientific campus in France — the Université de Paris Sud at Orsay — has at last been granted a new computer. Or, to be exact, two new computers.

This is the essence of a compromise now reached which leaves the university, government and the French computer company Bull all moderately happy. The university gets the American machine it wants and a Bull as well, but it must offer its expertise to the French company through a joint two-year research programme.

The two-year problem at the Orsay computer centre, Paris Sud Informatique (PSI), was that the existing machine (a Sperry Univac) was both old and saturated by the demand. The natural replacement was a new Univac, but the Mitterrand administration was committed to the development of French industry. Buy Bull, said the administration.

Bull (which markets French-built Honeywells) has no experience of scientific computing, said PSI — and anyway none of the extensive PSI software would run on a Bull: to buy Bull would have set many Orsay research programmes back by years. The result was two years of deadlock, punctuated by demonstrations and threats of resignation.

The happy conclusion, however, gives PSI its Univac (an 8-million instructions per second (8 Mips) 1100/91) *and* a 3 Mips Bull DPS 8/70 with the MULTICS multiplexing and time-sharing system developed for Honeywell at the Massachusetts Institute of Technology. The bill is FF 60 million (£5 million) to be divided between the ministries of education and research and industry. In return, Orsay must deliver 42 man-months of research and development, matched by 21 man-months from Bull, aimed at helping Bull develop expertise at scientific computing.

But the agreement "will be a failure" if it stops after just two years, said the president of the PSI users' committee on Monday. "We have a lot of scientists at Orsay who make very heavy demands on computing", said M. Graner, "and we want to help Bull into this market." Initially the work would involve mostly matters of software and networking, but there are rumours of Bull developing a big, all-French scientific computer. According to a Bull spokesman in Paris, there is indeed a plan to build a big vectorial machine — like a Cray — for the French military, and this could have uses in certain sciences requiring parallel computation. According to M. Granet, Orsay could become "a platform" for trying out any new French machine.

Meanwhile, PSI awaits its new machines, and in 1986 a promised upgrade of the DPS 8/70 to a 9 Mips DPS 88. It also expects to link the machines with the Cray-1 now installed at the nearby Ecole Polytechnique, initially using coaxial cables running at 2 Mbits per second and — perhaps within two years — fibre optics running at 34 Mbits per second.

And back at the ministry of research and industry, there is relief that the Orsay affair is over, and hope that a general protocol for computer purchase by universities, research councils and so on will be ready before the end of this year. The object of the protocol would be to establish a framework agreement — in particular involving research assistance to Bull, which has previously had few links with universities — which would avoid the kind of detailed institution-by-institution wrangling experienced at Orsay. It may not be officially published, a ministry spokesman said.

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