GERMAN BIOTECH

YES, VIRGINIA, THERE IS BIOTECHNOLOGY IN FRG

LONDON—"Readers of this report will probably not really be interested in the production of sauerkraut..." sagely concludes an otherwise comprehensive new report on biotechnology in West Germany*. While the RauCon report praises F.R.G.'s level of support for biotechnology, it expresses considerable concern on the regulatory situation in that country.

In no European country has there been stronger opposition to gene technology—and Hoechst AG (Frankfurt) has received the brunt of it. The company has been involved in a stop-go battle to produce recombinant human insulin since 1985. Its original permits had been suspended in the face of public objections, only to be reinstated once again.

Whether or not this specific battle is over, the war goes on. With the F.R.G. parliament due to come out with new regulations on gene tech-

nology in early 1989, there is some concern that it will follow the restrictive approach recommended in last year's Enquete Kommission report—such as requiring fermentation plants to incorporate exceptional measures to prevent accidental release of recombinant microbes, or placing a five-year moratorium on deliberate releases. Measures such as these would greatly complicate the European Commission's attempts to create a common set of regulations for members of the European Community. They would also deter the growth of West Germany's present biotechnology industry.

In response to those who believe that the F.R.G. biotechnology industry is already most noticeable by its absence, the RauCon report calls this a case of "misunderstanding and confusion." The problem is that biotechnology has not been classified as a

separate economic branch; instead it is viewed as "a highly integrated production method."

Nonetheless, a number of companies and research institutes are actively pursuing biotechnology. Ten of the 35 largest companies have a major interest in using "new" biotechnology to produce chemicals or pharmaceuticals. These two sectors account for 80 percent of the DM 860 million estimated to have been spent by F.R.G. industry at home and abroad in 1987. Aside from the industrial giants, there are some 20 biotech-based start-ups with turnovers of less than DM 10 million, but very few companies of intermediate size.

The report estimates that government spending on biotechnology R&D in 1987 was DM 222M, divided among the usual mix of grants, institutional support, and industrial funding.

Institutional support is focused on "gene centers," two of the major national research centers, and a number of state initiatives. While the report unfortunately fails to explain the precise purpose of these institutional varieties, it does provide the facts—of which the most interesting concern the four gene centers, soon to be joined by one in Hamburg. All were established in the past five years, and all operate on annual budgets of DM 8–16 million, largely from state and federal funds (although Schering AG, Berlin, has been a major contributor to its local center).

The report claims that the well known Gesellschaft für Biotechnologische Forschung GmbH (GBF) at Braunschweig is the largest institution of its kind and a world leader in applied biotechnology. GBF has restructured, and it is expanding its expertise in cell culture technology and protein engineering. Environmental, waste, and enzyme biotechnology are the main preoccupations of the Institute for Biotechnology at the Kernforschungsanlage in Jülich.

There are synergistic interactions between biotech institutes in Stuttgart and in the region bounded by Hannover, Göttingen, and Braunschweig. Conversely, Heidelberg's potential, with its strong concentration of molecular biology research, is compromised by the absence of even pilot-scale bioreactors in the region.

—Peter Newmark

*Biotechnology in the Federal Republic of Germany, RauCon GmbH, Dielheim, FRG, 1988.