INTERNATIONAL COMPETITORS ANALYZED

OTA DRAFT SPOTS NEGLECTED MARKETS, WEIGHS POLICY OPTIONS

WASHINGTON, D.C.—The Office of Technology Assessment's report on commercialization of biotechnology, scheduled for release in late October, will probably charge that U.S. corporations have failed to fully exploit biotechnology's potential for manufacturing a range of specialty chemicals.

A final draft of the report, now circulating to reviewers, claims that international markets for enzymes, vitamins, amino acids, and other high-value chemicals present "one of the largest opportunities for the application of biotechnology." The market for amino acids, cited as $1.2 billion in 1982, is one area in which Japanese competitors have achieved far greater success than U.S. corporations. With regard to specialty chemicals, the draft explains that "there is little activity in this field (in the U.S.), probably because the traditional producers of specialty chemicals are not generally familiar with the life sciences."

The report, prepared for the U.S. Congress, is the first comprehensive government analysis of the competitive position of the U.S. in biotechnology. The study notes attempts by Japan, France, and other countries to develop industrial biotechnology promotion policies and analyzes options if the U.S. government decides to follow suit. Indicating that the National Science Foundation lacks expertise in promoting industrial efforts and the Department of Commerce lacks scientific manpower for evaluating biotechnology, the draft suggests that interdepartmental coordination could evolve to assist U.S. biotechnology if the government sought to formulate a policy. This option is offered at a time when leaders in U.S. government and industry are seriously considering the establishment of national industrial trade policies such as those suggested by the Reagan administration. The draft points out that "an effective formal government policy may not be of overwhelming importance when placed in the context of other competitive factors."

The draft of the report summarizes the efforts of the major international competitors of the U.S. for world markets, especially Japan, the United Kingdom, and West Germany. It points out that Japan, France, and the U.K. have exempted some firms from antitrust laws to help promote industrial development that serves the national interest, and that Japan has promoted four large joint ventures in biotechnology. In the U.S., joint ventures are effective methods of conducting business in biotechnology product areas. However, "if it becomes in the interest of the United States for larger pharmaceutical and chemical companies to undertake joint ventures, as it is in Japan, antitrust laws would definitely be a barrier."

The text extensively treats technology transfer and related policy options. It claims that the U.S. is "transferring more technology outside of its national border than are other countries" because of joint venture development by specialty firms. The report contrasts French and Japanese policies in this area; both governments regularly review potential transnational ventures in light of the national interest. The OTA draft concludes that the transfer of biological technology across national borders is not a cause for immediate concern to the U.S., but it may pose problems in the future.

Technology transfer, according to the draft of the report, is also affected by the status of export control laws. In this area, the study declares a need for change and foresees developments within the coming year. It states that the current U.S. export controls are the strictest of the countries competing in biotechnology, and includes controls on many microorganisms that could potentially be used to produce valuable substances. These relatively stringent laws both aid and stifle competition; they result in comparatively longer time for access to foreign markets, but they also help restrict the transfer of technology to other countries. The draft concludes that U.S. laws may need clarification as products proceed because of uncertainty of future data and product restrictions. Since current U.S. export control laws expire in 1983, some of these changes may be imminent.

The draft of the report analyzes 12 areas that must be examined in determining the competitive position of U.S. biotechnology programs when compared with other countries: formal government policies; public perceptions; health and safety regulations; availability of financial resources; tax incentives; government funding of research; availability of personnel; university/industrial relations; intellectual property law; antitrust law; international technology transfer; and trade policy. This exhaustive effort should provide the information base for the U.S. Congress to determine how it will work, if at all, to exploit biotechnology for national economic development.

—Christopher G. Edwards

GENETIC ENGINEERING BACKED

EXPERTS URGE CHANGES IN U.S. AG RESEARCH POLICY

WASHINGTON, D.C.—It's time for changes in U.S. argicultural research, and new plant genetic engineering techniques can play a major role in those changes, experts told a convocation on agricultural research opportunities with genetic engineering, recently held at the National Academy of Sciences. The meeting took place against a background of growing controversy over the U.S. Department of Agriculture. In the last few years several blue-ribbon groups have upbraided the agency, portraying it as a vast bureaucracy riddled with internal dissension that distributes research money via the political pork barrel rather than for scientific quality.

It has also been condemned for resisting new approaches to agricultural research, especially genetic engineering. A competitive peer-reviewed grants program set up in 1978 will distribute about $16 million to agricultural researchers this year (some of it to explore the new techniques), compared with the $150 million in automatic funding that goes to the land-grant colleges. But the competitive grants program has recently undergone a management shakeup and is believed to be in jeopardy.

The Washington meeting is the latest in a series intended to inform people concerned with agricultural research about genetic engineering's potential and a few of its pitfalls. Cosponsored by the National Research Council's Board on Agriculture and The Council for Research Planning in Biological Sciences, Inc., the meeting drew a mixed group of almost 500, about a third each from industry, government, and universities.

They came to hear luminaries such as Rep. George Brown (D-Calif.), chairman of the House Subcommittee on Department Operations, Research and Foreign Agriculture,