

In their work at the North Carolina Biotechnology Center, in 1991 Schwartz and Dibner conducted a survey of 750 U.S. biotechnology firms in order to measure international relationships in the biotechnology field. They received replies from top managers at more than 200 of these firms, identifying more than 1,000 past and current strategic alliances (an average of 8 per firm *[sic]*) that involved biotechnology products or technology transfer. The breakdown was as follows:

STRATEGIC ALLIANCES REPORTED TO SCHWARTZ & DIBNER - 1991

<u>Reported Alliances</u>	<u>% of Respondents</u>
With larger U.S. partner	38%
With European partner	29
With other U.S. biotech firms	21
With Japanese partner	13

Apparently none of the reported alliances were with Canadian partners. According to the authors, the sheer number of agreements validated the widespread attention garnered by strategic alliances. They observed interestingly that many of the alliances appeared to be within the biotechnology industry, rather than across industry lines. Downstream alliances such as marketing or licensing agreements (as compared with upstream alliances such as research contracts) increased from 51 percent to 66 percent.

The key reasons cited for seeking alliances with European or Japanese partners were market access, income and technology. The U.S. firms believed that their European and Japanese partners were seeking alliances with them with the same objectives, but in reverse order. The majority of the U.S. partners felt that their objectives were being met and vice versa.

Strategic alliances in the biotechnology field are enhanced by the use of Collaborative Research and Development Agreements (CRADA) made possible by the federal Technology Transfer Act of 1986, that was designed to keep U.S. technology competitive. It is likely that the Clinton administration will continue the impetus developed by the previous Reagan and Bush administrations in this field.