

V. BIOTECHNOLOGY COMPANIES

INTRODUCTION

As stated previously, biotechnology is a manufacturing process, not an product, market or industry. Nevertheless, the business community will label a business as a "biotech company", if this business is founded upon the technology. The "biotechnology industry" is viewed by many to consist primarily of these development-stage and mid-size firms. However, everyone recognizes that traditional pharmaceutical, veterinary pharmaceutical, seed, and bioprocessing companies are utilizing biotechnology to develop new products. Should these companies be included under the umbrella of the "biotechnology industry" ? Further, there is a large market for scientific instruments, specialty chemicals/reagents, and bioprocessing equipment especially designed for biotechnology research and manufacturing. What about the bioprocessing industry, such as the corn wet millers who use engineered enzymes to produce high fructose corn syrup? For this report, we have defined the biotechnology industry as businesses that develop genetically engineered organisms or use biotechnology research to produce products. We have include businesses that manufacture products specifically for biotechnology research or manufacturing.

OVERVIEW

The North Central U.S. leads the world in the concentration of animal research organizations (federal laboratories and state universities) and food animal production. Therefore, it comes as no surprise that the region also has a high concentration veterinary product companies. Ninety eight percent of the region's 44 veterinary product companies are located in four states - Iowa, Colorado, Nebraska and Minnesota. These companies range in size from development stage companies to multi-national pharmaceutical companies (Table 5 and Appendix F). The region also is home to world-leading seed companies, such as Pioneer, North-rup King and ICI-Garst, and to six development stage microbial companies. Furthermore, several specialty chemical companies have located in the region to utilize the readily available biomass produced by the corn wet milling and meat processing plants located in the region.

Medical technology is another large industry in region. There are 37 biotherapeutic and pharmaceutical companies, and an additional 23 diagnostic companies. This concentration of medical biotechnology companies is served by numerous specialty chemical and equipment companies; and more than 25 contract research organizations (CROs). The medical biotechnology firms are concentrated in Colorado (30 companies) and Minnesota (22 companies). This cluster may be attributable to the large concentration of medical device companies, clinical research hospitals, CROs, and venture capitalist found in these states as well. As documented in previous sections, both Iowa and Nebraska have a strong medical research infrastructure in which to support a medical biotechnology industry.

The greatest concentration of biotechnology companies is located in the four states - Colorado, Iowa, Minnesota and Nebraska - in which are located the largest concentration of publically funded research. The remaining four states - Montana, North Dakota, South Dakota and Wyoming - recognize the economic potential of biotechnology, and have begun to develop programs at their universities to assist biotech entrepreneurs. Montana and North Dakota each have one development stage biotech company. Both companies have immunomodulator drugs in advanced clinical trials. Most of the medical biotechnology companies in the region are development stage companies with products in advanced clinical trials. Some of the diagnostic