GENENCOR INTERNATIONAL INC
Form 10-K
March 26, 2003

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(MARK ONE)

|X| ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2002

OR

| | TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM _____ TO_____

COMMISSION FILE NUMBER 000-31167
GENENCOR INTERNATIONAL, INC.
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE	16-1362385
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	(I.R.S. EMPLOYER IDENTIFICATION NUMBER)

925 PAGE MILL ROAD
PALO ALTO, CALIFORNIA 94304
(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES) (ZIP CODE)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE: (650) 846-7500

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE ACT:

COMMON STOCK, PAR VALUE $0.01
(TITLE OF CLASS)

INDICATE BY CHECK MARK WHETHER THE REGISTRANT (1) HAS FILED ALL REPORTS REQUIRED TO BE FILED BY SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934 DURING THE PRECEDING 12 MONTHS (OR FOR SUCH SHORTER PERIOD THAT THE REGISTRANT WAS REQUIRED TO FILE SUCH REPORT(S), AND (2) HAS BEEN SUBJECT TO SUCH FILING REQUIREMENTS FOR THE PAST 90 DAYS

YES |X| NO | |

INDICATE BY CHECK MARK IF DISCLOSURE OF DELINQUENT FILERS PURSUANT TO ITEM 405 OF REGULATION S-K IS NOT CONTAINED HEREIN, AND WILL NOT BE CONTAINED, TO THE

BEST OF REGISTRANT'S KNOWLEDGE, IN DEFINITIVE PROXY OR INFORMATION STATEMENTS INCORPORATED BY REFERENCE IN PART III OF THIS FORM 10-K OR ANY AMENDMENT TO THIS FORM 10-K.

| |

INDICATE BY CHECK MARK WHETHER THE REGISTRANT IS AN ACCELERATED FILER (AS DEFINED IN RULE 12B-2 OF THE EXCHANGE ACT).

YES |X| NO | |

THE AGGREGATE MARKET VALUE (BASED UPON THE CLOSING PRICE ON THE NASDAQ STOCK MARKET ON JUNE 30, 2002) OF THE 8,120,561 SHARES OF VOTING STOCK HELD BY NON-AFFILIATES AS OF JUNE 30, 2002 WAS APPROXIMATELY $79,500,292.

AS OF MARCH 14, 2003, THERE WERE 58,576,827 SHARES OF COMMON STOCK, PAR VALUE $0.01 PER SHARE, OUTSTANDING.

PORTIONS OF THE REGISTRANT'S DEFINITIVE PROXY STATEMENT TO BE ISSUED IN CONNECTION WITH THE ANNUAL MEETING OF STOCKHOLDERS OF THE REGISTRANT TO BE HELD ON MAY 29, 2003 HAVE BEEN INCORPORATED BY REFERENCE INTO PART III, ITEMS 10, 11, 12 AND 13 OF THIS REPORT.

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This Report contains forward-looking statements as defined by the Private Securities Litigation Reform Act of 1995. These include statements concerning plans, objectives, goals, strategies, future events or performance and all other statements which are other than statements of historical fact, including without limitation, statements containing the words "believes," "anticipates," "expects," "estimates," "projects," "will," "may," "might" and words of a similar nature. The forward-looking statements contained in this Report reflect the Company's current beliefs and expectations on the date of this Report. Actual results, performance or outcomes may differ materially from those expressed in the forward-looking statements. Some of the important factors which, in the view of the Company, could cause actual results to differ from those expressed in the forward-looking statements are discussed in Items 1, 7, and 7A of this Report. The Company disclaims any obligation to update any forward-looking statement to reflect facts or circumstances after the date hereof.

Unless otherwise specified, all references to the "Company", "we", "us", "our", and "ourselves" refer to Genencor International, Inc. or Genencor International, Inc. and its subsidiaries collectively, as appropriate in the context of the disclosure.

PART I.

ITEM 1. BUSINESS

OVERVIEW AND CERTAIN RECENT DEVELOPMENTS

We are a diversified biotechnology company that develops and delivers products and services for the industrial, consumer, and agri-processing markets, which we refer to as our bioproducts business. In addition, we are developing products for the health care market. Using an integrated set of technology platforms, including gene discovery and functional genomics, molecular evolution and design, and human immunology, we develop products that deliver innovative and sustainable solutions to many of the problems of everyday life.

Our strategy is to apply our proven and proprietary technologies and manufacturing capabilities to expand sales in our existing markets and to address new opportunities in bioproducts and health care. Our product formulations contain enzymes that are used in applications as diverse as removing stubborn stains from clothing, converting corn starch to the sweetener used in many soft drinks and certain foods, and enhancing the nutritional value of grains for animal feed. We currently manufacture and market these products through our global supply chain of 15 global distribution locations on four continents, which includes eight manufacturing facilities. In addition, we are developing a number of other products independently as well as through collaborations.

We have a strong commitment to research as an essential component of our product development effort. We focus our research and development activities in our technology platforms to discover, optimize, produce and deliver products to our target markets. An important part of our research and development effort is undertaken through third-party collaborations that contribute significant technology and other resources to the development and commercialization of products. We believe this aspect of our research and development effort will be important as we expand into health care and other new markets.

Our initiatives in 2002 concerning the bioproducts business included the acquisition in February of Enzyme Bio-Systems Ltd. (EBS) from Corn Products International, Inc., a leading agri-processor. We have since changed the name of

EBS to Genencor International Wisconsin, Inc. and incorporated its Beloit, Wisconsin manufacturing facility into our global supply chain. As part of this transaction, we also entered into a seven-year supply agreement for a majority of Corn Products International, Inc.'s North American enzyme requirements. As a result of the acquisition of the Beloit facility, as well as economic conditions in Latin America and the devaluation of the Argentine peso, we restructured our overall supply infrastructure in 2002 by ceasing operations at our Elkhart, Indiana plant (consisting of one manufacturing facility and two distribution locations) and downsized our Argentine facilities.

In 2002, we filed more patent applications than at any time in our history, submitting 85 new and continuation in part utility applications. Forty-one of the new filings are directed at technology in the bioproducts arena, 28 in the basic technology arena and 16 in the health care field. In addition, as evidence of the emphasis we place on the protection of our intellectual property, in 2002 we owned or controlled 40 newly granted patents from the U.S. Patent and Trademark Office and 15 from the European Patent Office.

Also on the bioproducts front, we successfully completed the first year of our two-year alliance with Dow Corning Corporation to create a new proprietary Silicon Biotechnology platform with the achievement of milestones and the establishment of the alliance's first business venture to pursue opportunities for biosensors in the fields of consumer in-home medical tests, drug discovery, biowarfare threat analysis, veterinary diagnostics, and environmental and home monitoring of air, water and food.

Most recently, we acquired the brewing and enzyme business of Rhodia Food UK Limited in December 2002 in an acquisition that included technology, product lines and personnel and will broaden our bioproducts portfolio and technical service capabilities in the food, feed and specialty enzyme market sectors. No facilities were included in this transaction.

During 2002, we also continued to pursue a health care strategy built upon our current capabilities in modifying, optimizing and manufacturing proteins. Our health care initiative currently focuses on protein therapeutics, which includes drug discovery, drug optimization, and immunotherapeutics, also known as therapeutic vaccines. Consistent with our health care strategy, we entered into a therapeutic vaccine collaboration with The Johns Hopkins University in January 2002. In February, we announced a collaboration with Seattle Genetics, Inc. relating to targeted enzyme prodrug therapy for treating cancer. These collaborations involved certain up front license fees paid by us as well as the potential for additional milestone payments. We also purchased a minority interest in the common stock of Seattle Genetics. We expect these collaborations to add technology and potential products to our therapeutics program.

We also began construction of a facility for the clinical-scale manufacture of human therapeutic proteins at the site of our manufacturing facility in Rochester, New York. The facility is designed to produce pharmaceutical grade materials for pre-clinical and clinical studies, and we expect facility start up and validation to occur in the first quarter of 2004.

The Company traces its history to 1982 when Genencor, Inc. was formed as a joint venture between Genentech, Inc. and Corning, Inc. In 1987, Eastman Kodak Company acquired a 25% interest in Genencor, Inc. The Company was incorporated in Delaware in 1989 and commenced operations in 1990 when Cultor Ltd. and Eastman Kodak formed a joint venture in the industrial biotechnology area and acquired Genencor, Inc. In 1993, Eastman Kodak transferred its 50% interest in

the Company to Eastman Chemical Company. In 1999, Danisco A/S acquired Cultor Ltd., which is now known as Danisco Finland OY. After the Company's initial public offering and continuing to the present, Eastman Chemical Company and its affiliates and Danisco and its affiliates each own in excess of 40% of our outstanding common stock.

OUR MARKETED PRODUCTS

In 2002, we realized $329.3 million in product revenues through the sale of approximately 250 products in more than 85 countries. We group our existing products into three general functional categories: enzymes that break down protein, enzymes that break down starch and enzymes that break down cellulose. These products are then marketed to the industrial, consumer and agri-processing markets through our direct sales organization and other distribution channels. Industrial and consumer market applications include fabric care, cleaning and textile processing, as well as the emerging market of personal care. The agri-processing market applications include classes of enzymes utilized in the grain processing, animal feed and specialties areas. Along with these applications, we are currently evaluating products acquired with the brewing and enzyme business of Rhodia Food UK Limited in December of 2002 to effectively incorporate them into our bioproducts portfolio.

INDUSTRIAL AND CONSUMER MARKETS

Cleaning Products

Our products include protein degrading enzymes, such as proteases, starch degrading enzymes, such as amylases, and cellulose degrading enzymes, such as cellulases. These enzymes are formulated in granular, liquid, tablet and gel forms. Commercially available products include:

- Purafect: A family of high alkaline protease enzymes used in laundry and dishwashing products to clean stains and soils containing proteins, such as blood, grass, milk, gravy and tomato sauce;

- Properase: A high alkaline protease enzyme available in a variety of formulations used in low temperature wash conditions to clean stains and soils, containing proteins, such as blood, grass, egg, milk, gravy and tomato sauce;

- Purastar: A series of amylase enzyme containing products used in laundry and dishwashing products to remove starch-based stains and soils such as chocolate, gravy, baby food, rice and pasta; and

- Puradax: A high alkaline cellulase enzyme product used in laundry products to provide fabric care such as removing fuzz and pills and providing color brightening.

Textile Products

Our products include cellulase, amylase and protease enzymes for applications such as denim finishing, biofinishing of cotton and cellulosics, and desizing and treatment of wool and silk. Additionally, we market catalase enzymes used to remove hydrogen peroxide during the textile dyeing process. These products are available in a variety of formulations, including liquid and granular forms, and at various concentrations useful under altered conditions, such as high or low temperature and high or low pH conditions. Commercially available products include:

- IndiAge: A family of cellulase products used for denim finishing and processing of high-performance cellulosic fibers, such as lyocell;

- Primafast: An acid cellulase used in the processing of high-performance cellulosic fibers, such as lyocell;

- Optisize: A family of amylase products for low or high temperature desizing processes;

- OxyGone Catalase: A family of catalase products used by fabric dyers to eliminate residual hydrogen peroxide in the dyeing process; and

- Protex: A family of protease products used in denim processing and the treatment of wool and silk.

Personal Care Products

We currently market a high-performance protease used in Dawn Special Care, a hand dish care product sold by The Procter & Gamble Company offering skin-softening benefits to consumers.

AGRI-PROCESSING MARKETS

Grain Processing Products

We market our grain processing products to customers who process agricultural raw materials such as barley, corn, wheat and soybeans to produce animal feed, food ingredients, industrial products, sweeteners and renewable fuels. Our grain processing products are used to make products as diverse as beer, sweeteners and fuel ethanol. Commercially available grain processing products include:

- Spezyme: A broad family of alpha amylase enzymes useful in high and low temperature liquefaction of starch;

- Optidex and Optimax: A series of glucoamylase and debranching enzymes and their blends used in the hydrolysis of starch to glucose;

- Gensweet: A family of isomerase enzymes in both soluble and immobilized form used in the production of high fructose corn syrup;

- Optimalt and Clarase: Maltogenic enzymes used in the production of maltose syrups;

- Distillase: A glucoamylase enzyme used in the hydrolysis of starch to glucose for the production of alcohol;

- Fermenzyme: A product line of glucoamylase and protease enzyme blends used in the production of alcohol; and

- G-Zyme: A line of alpha amylases and glucoamylases for starch processing to produce sweeteners, ethanol and other products.

Specialties Products

Our specialties products are used in the food industry for such purposes as to improve baking, to process proteins more efficiently and to preserve foods. Additionally, we sell products to improve animal feed and pet food, to treat animal hides in the leather industry, to recover silver residue in photographic film processing, and to improve pulp and paper processing.

Commercially available specialties products include:

- Multifect, Protex, Laminex and Multifresh: A full product line of protease, beta-glucanase, cellulase and xylanase enzymes used for such diverse applications as brewing, contact lens cleaning, the production of potable alcohol, waste processing, protein processing and pet food; and

- OxyGO and Fermcolase: A line of catalase and glucose oxidase enzymes used in industrial and food processing.

PRODUCTS IN DEVELOPMENT

The continued success of our business depends on our ability to develop innovative products that meet our customers' needs in our target markets. We are developing products for the industrial, consumer, and agri-processing markets as well as products for the health care market. While we have product development programs underway in each of our target markets, we have not yet marketed any products for the health care market. Our ability to develop products for our targeted markets, including health care, may be limited by our resources, our ability to develop and maintain strategic alliances, and the licensing and development of necessary technology. To date, we have financed operations and product development from the sale of products, the sale of stock, research and development funding from our strategic partners, government grants, and short-term and long-term borrowings.

Bioproducts

We currently have numerous product development programs ongoing in the target markets associated with our bioproducts effort.

Industrial and Consumer Markets

Silicon Biotechnology. The Company's alliance with the Dow Corning Corporation seeks to combine the organizations' expertise in their respective fields of biotechnology and silicon chemistry to create a new, proprietary Silicon Biotechnology platform. Dow Corning and Genencor plan to jointly commercialize products developed by the alliance. In its first year of a two-year agreement, the alliance filed important patent applications in three broad areas and established a business unit to pursue its biosensor market opportunities. Patent applications were filed in 2002 in three strategic areas that we expect to define the initial fields of alliance activity. The first is in biotransformations, where the tools of biotechnology are used to modify silicon to create new materials with unique attributes or to create new, more environmentally efficient processes for existing silicon-based materials. The second area covers delivery systems where silicon and biological materials are combined to deliver active ingredients for application in a wide spectrum of markets, i.e., cleaning, health care and personal care. The third area covers nano-scale systems for biosensing devices and performance materials. The alliance also established its first business venture to pursue opportunities for biosensors in the fields of consumer in-home medical tests, drug discovery, biowarfare threat analysis, veterinary diagnostics, and environmental and home monitoring of air, water and food. The business venture is expected to pursue commercialization opportunities alone and in partnership with market leaders in these target markets.

Personal Care. Using our i-biotech approach, we are developing a family of reduced allergenic enzymes and proteins for the personal care market, including

skin care, oral care and hair care.

Polymer Intermediates. The chemical industry currently manufactures a polyester intermediate, 1,3 propanediol, using a chemical process. Propanediol is a critical component of a high-performance polyester, Sorona, which E.I. du Pont de Nemours and Company has announced plans to commercialize. The potential benefits of Sorona include improved fit and comfort, softness of touch, dyeability, resilience and stretch recovery. This polyester has potential applications in textiles and engineering thermoplastics. It is anticipated that its most significant uses will be for making apparel, upholstery, home fashions and carpets. Together with our strategic partner, E.I. du Pont de Nemours and Company, we have developed a novel biological process for the production of 1,3 propanediol that we believe will be less expensive than the current chemical process. This process is currently in pilot scale testing.

Repeat Sequence Protein Polymers. We have an exclusive license agreement with Protein Polymer Technologies, Inc. for use of its proprietary protein polymer design and production technology to develop novel biomaterials for non-medical applications. We believe this technology and intellectual property combined with our expertise in gene expression and molecular evolution and design will lead to the development of biomaterials including high-performance fibers, electronic chips, optical switches and other materials.

Ascorbic Acid. Together with Eastman Chemical Company, we have announced our intent to commercialize an advanced process for the production of ascorbic acid, or vitamin C, from glucose. We believe our biotechnology-driven process will deliver the world's lowest cost ascorbic acid production process as it eliminates several steps from the traditional chemical synthesis.

Prion Infectivity. In August 2001, we announced an exclusive collaboration with the United Kingdom's Centre for Applied Microbiology & Research to develop technology to eliminate prions, the infectious agent thought to cause mad cow disease as well as the human form of that disease. The two-year collaboration is focused on developing an enzyme-based method for treating surgical equipment, rendered animal material and blood products to eliminate prion infectivity. Six proprietary proteases from Genencor's extensive protease library have been tested for in vitro efficacy. Two candidate enzymes from this group have been selected for further evaluation. The parties also intend to investigate developing an effective rapid detection test.

Other new products in development in this market include a new proprietary protease engineered for improved performance in dish care products, an oxidase enzyme used in the fabric care market, a novel enzyme acting on synthetic fibers and cloths for improved fabric care and manufacturing, a novel amylase which simplifies the starch conversion process, and a new enzyme targeting the feed, brewing and protein processing sectors.

Agri-processing

Biomass Conversion to Ethanol. The agricultural industry produces a vast amount of waste product known as biomass. Currently, the agricultural industry cannot economically convert biomass on a large scale to useful chemicals such as ethanol. In 2000, we were awarded a three-year $17.0 million partial matching funds contract by the National Renewable Energy Laboratory of the Department of Energy (NREL) to continue our efforts in developing a low cost enzyme system for the economic conversion of biomass to ethanol. In October of 2002, Genencor announced it has made significant progress toward our second year goal in the three-year program. Specifically, we are using our integrated technology platforms in an effort to deliver a 10-fold improvement in the economics of breaking down biomass into fermentable sugars.

Bioingredients for Use in the Food Industry. In October 2000, we entered a four-year minimum term research and development agreement with Danisco A/S, one of the world's leading food ingredients companies, providing us up to $20.0 million in funding. An initial product candidate is being developed. Activities relating to additional product targets are also underway.

Animal Feed and Nutrition. We are exploring a number of key enzymes and production systems for application in this market. Some of the enzymes being evaluated include enhanced xylanase, phytase and other enzymes for use in animal feed to increase the nutritional value of animal feed or to minimize pollution in animal waste. We have identified and are evaluating a proprietary enzyme with improved properties for feed applications from one of our collaborations.

Also in the agri-processing market, we have initiated discussions with major agricultural companies as well as the U.S. Food and Drug Administration (FDA) to use our i-mune assay for the identification of potentially allergenic components of foods.

Health Care

In 2001, we commenced implementation of our health care business strategy. Since this is a recent initiative for the Company, our product pipeline is not as mature as in the bioproducts area. We expect to continue investing in internal research programs, external collaborations and other strategic investments in order to increase our development pipeline. We are currently focusing our efforts in two major areas: immunology and protein therapeutics.

Immunology. One area of our development efforts in immunology is therapeutic vaccines, which we have identified as a potentially important market opportunity for us. Of particular interest is the development of candidates targeting the most serious oncogenic viruses. Our highest priority is the hepatitis B virus, a critical human pathogen that is poorly treated with available therapeutics. Significant progress has been made in this project, and a construct has been selected and manufactured for pre-clinical testing. The possibility of using a prime/heterologous boost strategy in conjunction with our deoxyribonucleic acid (DNA) hepatitis B vaccine construct is under evaluation and the outcome will determine whether an Investigational New Drug (IND) is filed in 2003 or 2004. As therapeutic vaccines today represent a new class of drugs rather than entries into an existing market, the business path forward has not yet been determined. We believe that the Company has several key scientific contributions to make in this new field, including our i-mune assay, which can play a central role in optimizing the elements of a vaccine construct to appropriately up-regulate the immune system and enhance a cytotoxic T lymphoctye (CTL) response. An important aspect of our business strategy has been to form strategic collaborations during the initial discovery phase before entering vaccine candidates into clinical trials. We have two such relationships that we believe will enhance our vaccine platform. First, we have formed a strategic alliance with Epimmune Inc., including an exclusive license to Epimmune's epitope and PADRE technologies and related intellectual property rights for vaccines to treat hepatitis B, hepatitis C and human papilloma virus, and the Company has taken an equity stake in Epimmune. In addition, we have entered into a collaboration with The Johns Hopkins University that includes a license to proprietary technologies related to antigen targeting and dendritic cell activation, including co-stimulatory genes.

Protein Therapeutics. The protein therapeutics market is growing significantly and is expected to represent as much as 50% of all new pharmaceuticals introduced by 2010. We have identified opportunities to use our molecular biology, immunology, protein engineering and manufacturing skills to

address key problems typically associated with protein therapeutics and to discover and develop new protein therapeutics.

The Company is leveraging its key capabilities and technologies in an important area of focus, protein drug discovery. In one program, we are using our expertise in exploiting natural and synthetic diversity to develop new methods for targeting therapeutics to cancer cells as opposed to healthy cells. For example, pursuant to our collaboration with Seattle Genetics, we are developing tumor-targeted enzymes that convert relatively non-toxic prodrugs into cytotoxic drugs; such an enzyme is concentrated specifically at the tumor site through either an antibody or a novel protein that targets a specific antigen expressed on the tumor cells. The catalytic activity of the enzyme then leads to a significantly increased concentration of the cytotoxic moiety and increased cell death at the tumor site. In a second research program, we are exploiting our deep knowledge of the structure and function of proteases and protease inhibitors - proteins critically involved in regulating activities of both normal and disease cells - for the development of new drugs for inflammatory diseases and other indications. Toward this goal, we are exploiting our expertise in protein expression, protein engineering and bioinformatics in an effort to discover natural molecules and create novel molecules that may be used as therapeutics.

We are also exploring opportunities to leverage our expertise in protein expression and manufacturing for production of protein therapeutics. We believe that our history of process design and manufacturing will enable us to produce proteins at cost structures that are lower than the norm for the biopharmaceutical industry. We have made substantial progress in the construction of a clinical manufacturing facility designed to satisfy the U.S. Food and Drug Administration's current Good Manufacturing Practice (cGMP) regulations in order to meet the needs of our health care drug discovery portfolio and to provide strategic partnering opportunities. We are also leveraging our expertise in expression systems and process design to develop novel manufacturing methods for protein therapeutics including monoclonal antibodies.

Another area of activity is protein drug optimization, which addresses problems ranging from immunogenicity to pharmacokinetics. For example, by identifying epitopes in a protein that initiate an immune response using our proprietary i-mune assay, we can evaluate the immunogenic potential of a protein. Through protein engineering, these problematic epitopes can be modified, thereby reducing the risk of an adverse immune response prior to human testing. We are applying such approaches to internal protein therapeutic candidates and developing collaborations to apply these approaches to existing drugs and lead compounds in development by third parties. In 2002, for example, we signed an agreement with a pharmaceutical partner for Genencor to evaluate an existing proprietary molecule using the i-mune assay.

RESEARCH AND DEVELOPMENT

The Company has a strong commitment to research as an essential component of its product development effort. Technology developed in collaborations with third parties, as well as technologies licensed from third parties, are also sources of potential products.

We have developed several related technology platforms that we apply in an integrated approach we call i-biotech to the discovery, optimization, production and delivery of our products. Our technology platforms supported the development of current commercial products, and we believe that application of these

technology platforms may potentially generate new product candidates in our target markets. Our technology platforms include:

Gene Discovery and Functional Genomics

Gene discovery is a series of techniques used to identify diverse genes whose encoded proteins are capable of solving customer needs or treating a target disease. We identify genes in two ways, either on the basis of their sequence or on the basis of the function of their encoded protein products. With this information, we identify and develop potential products. Identifying genes of interest can start with the analysis of genes found in diverse culture collections, analysis of genes that are expressed under differentially defined conditions or direct analysis of the proteins expressed in a cell or culture. We apply all three approaches to gene discovery.

Our internal culture and gene collection allows us to access individual microorganisms, microbial consortia and genes representing a wide range of environmental niches. In combination with our extensive academic and governmental research collaborations, we can access biodiversity from environments ranging from Antarctic ice floes to the Soda Lakes of Kenya. As an example of our continuing interest in this area we have recently been selected as the sole industrial partner of a European Union (EU) funded program on microbial discovery. Included as non-industrial partners in the collaboration are the Chinese Academy of Sciences, University of Seville, Spain, University of Leicester, UK, and University of the Western Cape, RSA.

Analysis of gene expression via transcriptional profiling using microarrays allows us to identify genes that may be transiently or differentially expressed under different growth conditions. Using these approaches in combination with our bacterial and fungal genome databases, we have identified key genes that are important for protein expression or regulation of gene expression during fermentation and production. As part of our NREL funded program to convert biomass for fuel, we have employed fungal arrayed transcriptional analysis to identify novel genes expressed during high-level protein production in our Trichoderma fungal host system.

As a third approach to gene discovery, we use our state of the art fully integrated proteomics capability to isolate and identify proteins of interest. Our proprietary two-dimensional protein analysis systems allow us to identify proteins that are differentially expressed during cell culture growth cycles. Using automated handling systems and high-resolution mass spectrometer analysis, we can rapidly identify the proteins of interest against any proteins in either our proprietary or the publicly available genomic databases. By applying these same tools to our protein therapeutics area, we have been able to identify potential target proteins for controlling inflammatory responses.

Molecular Evolution and Design

Molecular evolution and design is the process or set of tools by which we accelerate the natural evolutionary process in order to engineer or optimize gene products for their intended use, including in industrial and consumer market applications as well as second-generation biopharmaceuticals. We continue to expand our high-throughput screening capabilities in Leiden, the Netherlands, by both capital investment and data management systems for automated data collection and analysis. Using integrated tools for assay development, library generation, and robotic sample handling, we can rapidly develop and screen diversity libraries for activities or gene expression. These technologies are being applied to ongoing projects within the Company, including, for

example, the Destigen targeted products for personal care, the Seattle Genetics collaboration for cancer therapeutics, and our biomass conversion to ethanol project.

In nature, evolution occurs at a very slow rate. We accelerate the evolutionary process to engineer and evolve, or optimize, the function of the protein we identify in the discovery process. We optimize a gene by changing or mutating its DNA sequence to produce a variant protein with a modified function. This process is known as mutagenesis. We alter proteins at a single site, at multiple sites or randomly over the entire length of the protein sequence. We employ several state-of-the-art chemical and enzymatic methods for mutating the DNA sequence of genes. We insert these altered genes into our proprietary host production organisms so that we can screen the variant proteins they produce for the identification of product leads.

Generally, we can evaluate the properties of variant proteins generated through single and multiple site mutation using high-throughput screening. When we randomly mutate living organisms over the entire length of the protein sequence, the number of protein variants becomes too large to be screened efficiently. We evaluate these variants using selection. In this approach, we make the survival of the host organism dependent upon its production of an improved protein variant. The organisms that produce improved protein variants survive. We then evaluate the surviving organisms using high throughput screens to determine which variant is best. We have applied these evolution techniques along with a proprietary screening method to develop a production host with improved efficiency of production for a commercial protease.

In the case where the desired product is a small molecule or a chemical produced by a metabolic pathway, optimization of the organism may require the simultaneous modification of a larger number of proteins in the pathway. Since conventional mutagenesis techniques target one, or at most a few genes, of an organism at one time, these techniques are not appropriate for creating and evaluating such a large number of variants simultaneously. We have developed Mutator Technology to address this shortcoming. Using this approach, we can simultaneously modify hundreds of genes in a host production organism and select the best host candidate in order to produce these desired small molecules or chemicals.

Human Immunology

The potential for human allergic response limits the application of some engineered enzymes in the health care, agri-processing and industrial and consumer markets. To address this limitation, we have developed our human immunology, or i-mune, platform. This platform centers on an assay that determines the human immune response to proteins.

i-mune assay. The human immune system is an extraordinary defense mechanism capable of rapidly responding to invading pathogens and other foreign molecules. We have developed a method to recreate the first steps of the human immune response in an automated assay format. We take a target protein and divide it into a series of small, easily synthesized pieces. Using our assay, we determine if the protein contains any pieces capable of causing an immune response. We then use the tools of our molecular evolution and design platform to modulate the response. We have shown that we can decrease the allergenic potential of specific proteases and have in vivo evidence that the in vitro assay accurately predicts human allergenic results.

Using this tool, we can determine allergenic risk and reduce it without human testing. Recently we have applied this technique to the evaluation of a known allergen in food, Brazil nut protein, and the Bacillus thuringensis (Bt) insecticidal proteins Cry1Aa and Cry3Ab. The i-mune assay correctly identified

Brazil nut 2S storage protein as a potential allergen while indicating that the Bt insecticidal proteins were of lower immune potential. This result is consistent with the published information regarding the relative immunogenicity of these three proteins.

We believe the human immunology platform will allow us to determine the allergenic potential of proteins, including those of therapeutic value, to recommend ways to reduce their allergenic potential and, using our molecular evolution and design platform, develop new materials with reduced allergenic response profiles without human testing. We believe these technology platforms may potentially lead to products in our target markets.

Biomaterial Production Systems

A key element of our i-biotech approach is the concurrent application of our biomaterial production systems platform with our other technology platforms. Biomaterial production systems consist of host production organisms that we have adapted to accept genes from other organisms, or foreign genes, and produce the proteins encoded by these foreign genes together with a proprietary process for growing our host production organisms, which we refer to as our proprietary fermentation processes. We grow, or ferment, our host production organisms under controlled conditions, allowing these organisms to grow, divide and efficiently produce optimized proteins. We have developed numerous host production organisms backed by patented technology and process know-how.

Each host production organism has a unique set of requirements that must be met before the organism can accept a foreign gene. For each host production organism, we have identified the key elements that must be added to a foreign gene to enable the host production organism to accept the gene and to produce the gene's product, the desired protein. To produce the desired product, we cultivate the host production organisms using our proprietary fermentation processes. Using a combination of advanced molecular biology and functional genomics tools, we have demonstrated that we can improve the productivity of existing production hosts as well as designing de novo host systems. In October 2002, we announced significant progress toward our second year goal in our Department of Energy funded NREL three-year program to develop an economically viable enzymatic process for converting biomass to ethanol. Specifically, we are using our integrated technology platforms in an effort to deliver a 10-fold improvement in the economics of breaking down biomass into fermentable sugars.

Metabolic Pathway Engineering

Metabolic pathway engineering is a process we use to modify our host production organisms to produce small molecules and chemicals, or biochemicals. Microorganisms make biochemicals through sequences of enzyme-catalyzed reactions, referred to as pathways. In order to produce these biochemicals, we often add new pathways or parts of pathways from a variety of organisms into our host production organisms.

Our approach to metabolic pathway engineering, referred to as DesignPath, is the integration of a variety of tools including genomics and functional genomics. We begin with known metabolic pathways of our host production organisms and then reconstruct the pathways based upon our analysis. Then we add new genes, identified through our gene discovery and functional genomics platform and optimized through our molecular evolution and design platform. Continued progress towards commercialization of ascorbic acid, the 1,3 propanediol research program with E. I. du Pont de Nemours and Company, and our accelerating collaboration with Dow Corning Corporation for the development of

silicon-based biotechnology reaffirms our belief in the commercial viability of producing biomaterials that compete with existing chemical processes. Additionally, we are applying these tools to develop more efficient production hosts by designing strains that have better carbon utilization and less by-product formation during the fermentation cycle. These programs integrate our discovery technologies into a powerful solution to improving expression levels of products and utilization of raw materials.

Formulation Delivery Systems

Once we have developed a desired biomaterial, we typically formulate it in a manner customized for the intended use of the customer. Our patented formulations range from stable liquids to multi-layer granular formulations, including our Enzoguard granular products, which have sophisticated properties such as delayed release and oxidation barriers. These formulations protect biomaterials against harsh chemical and environmental conditions. In addition, we have designed and developed highly efficient fluidized coating equipment and processes to make our formulated products.

STRATEGIC ALLIANCES

A key part of our strategy has been and will continue to be forming strategic alliances with industry leaders in our target markets. In forming commercial alliances, we seek partners that share our desire and commitment to grow, hold or have access to significant market share in the target market and are willing to fund or participate in research and development efforts. We also fund external alliances to access, apply and develop technologies that are strategic to our target markets. Some of our key strategic alliances are as follows:

The Procter & Gamble Company. Our alliance with The Procter & Gamble Company began with our predecessor company in 1984 and continues to the present. Through this relationship, we have conducted joint research and development leading to the commercialization of five engineered protease enzymes. This relationship has enabled the launch of major new brand initiatives involving their flagship detergent products Tide and Ariel.

Our alliance with The Procter & Gamble Company is based upon four agreements. We are party to a research agreement and a technology transfer agreement, each dated June 30, 2000. These two agreements expire on June 30, 2003. Together, the agreements provide a framework for cooperation in numerous areas as mutually agreed, particularly laundry and cleaning products. We are currently engaged in negotiations regarding the possible extension or replacement of this framework. We are also party to a commercialization agreement, dated April 25, 2000, relating to the development of proteins with reduced allergic potential for skin-care products. This agreement provides for up to $15.0 million in milestone payments and royalties as well as product sales contingent on the successful development and commercialization of one or more products. This agreement remains in effect through execution of a supply agreement for such products or expiration of cooperative product development efforts. In November 2001, we announced the signing of a five-year worldwide supply contract with The Procter & Gamble Company to provide protease enzymes for laundry and dish detergents. The contract extends the companies' almost two decade long relationship and

further solidifies our position with respect to the innovation and commercialization of protease enzymes for liquid and dry formulation.

Epimmune Inc. In July 2001, we acquired a 10% equity stake in Epimmune Inc. We also entered into a 30-month collaboration with Epimmune focused on the development of therapeutic vaccines for oncogenic viruses, including research funding and milestone payments. Additionally, we exclusively licensed certain Epimmune technologies and related intellectual property rights on a worldwide basis for the development of vaccines to treat or prevent hepatitis C (HCV), hepatitis B (HBV) and human papilloma virus (HPV). In December 2001, we increased our equity stake in Epimmune and made our first milestone payment. In January 2002, the alliance announced the identification of an EpiGene clinical product candidate for the lead program in the collaboration, a therapeutic hepatitis B vaccine. This candidate has been optimized, and manufacturing for good laboratory practice (GLP) animal studies has been completed.

Dow Corning Corporation. In October 2001, we entered into an agreement with Dow Corning Corporation seeking to combine our expertise in biotechnology with Dow Corning's expertise in silicon chemistry. The program is attempting to develop unique materials combining the inorganic and biological worlds and address customer needs in markets we serve today as well as create opportunities in the nanotechnology, photonics and electronics markets. Initially, the companies intend to explore product opportunities in markets both companies serve and anticipate that the alliance will see some of its first successes through the introduction of new, biologically mediated silicon-based products for the life sciences, personal care, cleaning and fabric care markets. In the first year of our two-year alliance to create a new proprietary Silicon Biotechnology Platform, we achieved certain milestones and the alliance established its first business venture to pursue opportunities for biosensors in the fields of consumer in-home medical tests, drug discovery, biowarfare threat analysis, veterinary diagnostics, and environmental and home monitoring of air, water and food.

Seattle Genetics, Inc. In January 2002, we formed a strategic alliance with Seattle Genetics, Inc. to jointly discover and develop a class of cancer therapeutics based on tumor-targeted enzymes that activate prodrugs. Under terms of the alliance, the companies will each contribute proprietary technology, share preclinical and clinical development costs and have the right to jointly commercialize any resulting products. We have made an equity investment in Seattle Genetics and agreed to pay certain fees and milestone payments. Seattle Genetics has also agreed to make certain milestone payments to us. In July 2002, we made our first milestone payment to Seattle Genetics in accordance with the agreement.

E.I. du Pont de Nemours and Company. On September 1, 1995, we entered into a collaborative research and development agreement with E.I. du Pont de Nemours and Company to develop and commercialize biologically derived 1,3 propanediol, a key intermediate for the production of a high-performance polyester. The agreement provides for research funding and technical milestone payments up to $17.0 million over the term of the agreement as well as commercial terms, including royalties and commercial milestones, contingent on the success of the research program and commercialization of the product. Under the terms of this agreement, we have received research and development funding and milestone payments. In June 2002, we successfully completed the final phase of the collaboration achieving the milestones for yield and productivity of 1,3 propanediol. We are continuing to work with DuPont to enable commercialization of this biobased materials product. Upon commercialization by DuPont, we would earn royalties on product sales.

NREL. In April 2000, the National Renewable Energy Laboratory of the Department of Energy awarded us a $17.0 million partial matching funds contract to develop enabling enzyme systems essential for the enzymatic conversion of biomass to ethanol. A three-year contract, with yearly renewals subject to termination, was executed in June 2000. In 2001, we met our first technical milestone under this contract. In 2002, we met with continued progress towards

our target to deliver a 10-fold improvement in the economics of breaking down biomass into fermentable sugars.

Danisco A/S. In October 2000, we entered into a four-year minimum term research and development agreement with Danisco A/S, one of the world's leading food ingredients companies, providing us up to $20.0 million in funding. The collaboration is directed at the development and production of innovative biotechnology derived products for use in the food industry. The first joint project target has been identified and a joint project team has been initiated. Progress on our first joint project continues with improved performance of our candidate enzyme. A second funded research stage feasibility project was initiated in the third quarter of 2002.

The Johns Hopkins University. In January 2002, we announced the formation of a collaboration with The Johns Hopkins University for the research of therapeutic vaccines and other immunotherapies targeting cancers and oncogenic viruses. We work closely with and support ongoing research in the laboratories of Drs. Drew Pardol and T. C. Wu, who have conducted extensive preclinical animal studies on a number of advanced molecular vaccine constructs. As part of the alliance, we have received worldwide licenses to proprietary technologies related to antigen targeting and dendritic cell activation, including co-stimulatory genes.

RESEARCH EXPENSES

A major portion of our operating expenses has been related to the research and development of products. During 2002, 2001, and 2000, our total research and development expenses were $70.2 million, $60.1 million and $50.9 million, respectively. Of these expenses, an estimated $15.4 million, $11.4 million and $13.2 million, respectively, represent total expenses incurred in conjunction with research collaborations partially funded by our various partners.

Our research and development efforts have been the primary source of our products and represent an essential component of our business strategy. As of December 31, 2002, we had 246 employees involved full-time in our research and development efforts, 101 of whom hold Ph.D. degrees and one of whom holds an M.D. degree. A year earlier, we had 247 individuals employed full time in research and development, 94 of whom held Ph.D. degrees and one of whom held an M.D. degree.

COMPETITION

We face significant competition in the industrial, consumer and agri-processing markets in which we currently compete. As we develop products for the health care market and new segments of the agri-processing, industrial and consumer markets, we face a host of new competitors, including, for example, biotechnology and pharmaceutical companies.

In the industrial and consumer markets, some competitors may have a stronger market position and greater financial resources than we do. Specifically, in cleaning enzymes, Novozymes A/S, our largest competitor, has more product offerings and a greater market share than we do. In specialty enzymes, DSM N.V. and Novozymes A/S have greater market shares and more product offerings than we do.

Our products and development programs target the industrial, consumer, agri-processing and health care markets. There are many commercially available products for each of these markets and for the specific consumer problems and

the specific diseases we may attempt to address in product development. A large number of companies and institutions are spending considerable amounts of money and resources to develop products in our target markets.

Competition in our current and target markets is primarily driven by:

- The ability to establish and maintain long-term customer relationships in our target markets;

- Ability to develop, maintain and protect proprietary products and technologies;

- Technology advances that lead to better products;

- Product performance, price, features and reliability;

- Timing of product introductions;

- Manufacturing, sales and distribution capabilities;

- Technical support and service; and

- Breadth of product line.

Any product we make in the future will also likely compete with products offered by our competitors. If our competitors introduce data that show improved characteristics of their products, improve or increase their marketing efforts or lower the price of their products, sales of our products could decrease. We cannot be certain that any products we develop in the future will compare favorably to products offered by our competitors or that our existing or future products will compare favorably to any new products that are developed by our competitors. Our ability to be competitive also depends upon our ability to attract and retain qualified personnel, obtain patent protection and otherwise develop proprietary products or processes.

PROPRIETARY RIGHTS

We consider the protection of our proprietary technologies and products to be important to the success of our business. We rely on a combination of patents, licenses, trade secrets and trademarks to establish and protect our proprietary rights in our technologies and products. As of December 31, 2002, our worldwide intellectual property portfolio included 437 issued U.S. patents and 354 pending U.S. patent applications. Our intellectual property portfolio includes rights in technologies ranging from

specific enzyme and health care products to host production organisms and technology covering research tools such as high-throughput gene discovery, molecular evolution, immunological screens and metabolic pathway engineering.

Despite our existing portfolio we may not be able to obtain the patents or licenses to technologies that we will need to develop products for our target markets. Patents may be issued that would block our ability to obtain patents or to operate our business. Generally, patents issued in the United States have a term of 17 years from the date of issue for patents issued from applications submitted prior to June 8, 1995. Patents issued in the United States from applications submitted on or after June 8, 1995 have a term of 20 years from the date of filing of the application. Patents in most other countries have a term of 20 years from the date of filing the patent application. Patent applications

are usually not published until 18 months after they are filed. The publication of discoveries in scientific or patent literature tends to lag behind actual discoveries by at least several months. As a result, there may be patent applications or scientific discoveries of which we are not currently aware.

RAW MATERIALS

The raw materials that we use are commercially available products from a number of independent sources; greater than 65%, based on total raw material expenditures, have alternate sources of supply, with the remaining supply base being commercially available and interchangeable. Greater than 50% of all purchases are on one-year contracts, and the remainder are on either 30, 90, or 180 day fixed pricing structures.

MANUFACTURING AND SUPPLY CAPABILITIES

We have a global supply chain consisting of 15 distribution locations around the globe, which include eight manufacturing facilities on four continents. During 2002, we completed our planned closure of our Elkhart, Indiana facility as part of the restructuring announced in connection with the acquisition of EBS in February. Our supply organization has a proven capability to meet customer demands. This involves quality certification, such as ISO 9002, multi-site product qualification, delivery capabilities and special custom supply requirements. We produce materials in locations and with processes that allow us to minimize manufacturing and distribution costs, inventory and capital investment.

TRADEMARKS

The following are trademarks of the Company and its subsidiaries: GENENCOR, GENENCOR INTERNATIONAL, LOWGEN, INDIAGE, PRIMAFAST, OPTISIZE, PURAFECT, PROPERASE, PURASTAR, PURADAX, SPEZYME, G-ZYME, OPTIDEX, DISTALLASE, OPTIMAX, FERMENZYME, GENSWEET, OPTIMALT, CLARASE, MULTIFECT, MULTIFRESH, FERMCOLASE, LAMINEX, OXYGO, I-MUNE, I-BIOTECH, MUTATOR TECHNOLOGY, DESIGNPATH, DESTIGEN, OXYGONE, PROTEX and ENZOGUARD. SILICON BIOTECHNOLOGY is a trademark of the Company and the Dow Corning Corporation. The following trademarks are owned by the individual companies: SORONA (E. I. du Pont de Nemours and Company); DAWN SPECIAL CARE, TIDE and ARIEL (The Procter & Gamble Company); PADRE and EPIGENE (Epimmune Inc.).

MAJOR CUSTOMERS

Our five largest customers collectively accounted for approximately 51% of our 2002 product revenues, with our largest customer, The Procter & Gamble Company, accounting for over 35% of such revenues. Our five largest customers in 2002 were Benckiser N.V., Cargill, Incorporated, Danisco Animal Nutrition - the feed ingredients business unit of Danisco A/S, which was formerly known as Finnfeeds, The Procter & Gamble Company, and Unilever N.V.

GEOGRAPHICAL AND PRODUCT CLASS INFORMATION

The financial information concerning geographical areas and product class revenues set forth in footnote 13 of the financial statements contained in Item 8 is incorporated herein by reference.

REGULATORY ENVIRONMENT

Product Regulation - Current Products

Regulatory agencies regulate our products according to their intended use. The U.S. Food and Drug Administration (FDA) regulates food, feed, cosmetic and pharmaceutical products based on their application. The FDA and the U.S.

Environmental Protection Agency (EPA) regulate non-drug biologically derived products. The U.S. Department of Agriculture regulates plant, plant pest and animal products. The EPA regulates biologically derived chemicals not within the FDA's jurisdiction or the

jurisdiction of other regulatory agencies. Although the food and industrial regulatory process can vary significantly in time and expense from application to application, the timelines generally are shorter in duration than the drug regulatory process and range from three months to three years.

The European regulatory process for biologically derived products has undergone significant change in the recent past, as the European Union (EU) attempts to replace national regulatory procedures with a consistent EU regulatory standard. Some national regulatory oversight remains. Regulation of enzymes used as processing aids is currently through such national oversight; however, the EU Commission is presently discussing the idea of regulating all food use enzymes at the EU level.

Regulatory review of our products in Pacific Rim and Asian countries having approval or registration processes ranges from three months to two years. Currently, enzymes used in food require approval in Japan, Korea and Australia/New Zealand, and registrations in several other countries.. Certain Asian countries and some in Latin America rely on United States and European product registrations.

Product Regulation - Health Care

In the United States, all phases of the development and commercialization of pharmaceuticals are regulated primarily under federal law and subject to rigorous FDA review and approval processes. Before a pharmaceutical candidate can be tested in humans, it must be studied in laboratory experiments and in animals to provide data to support its potential safety and supplies must be produced under the FDA's current GMP regulations that satisfy for clinical trials. These data are submitted to the FDA in an IND for review and authorization to test the pharmaceutical product in humans. Only after the FDA finds the IND to be acceptable, can a company commence with clinical trials in humans designed to demonstrate that a pharmaceutical product is safe and effective for its intended use.

These clinical trials are subject to extensive regulations, are very expensive and usually take many years. These studies are divided into three separate phases. In Phase 1, studies are conducted with a relatively small number of healthy human subjects or patients to assess the safety of the product, dose tolerance, pharmacokinetics, metabolism, distribution and excretion. In Phase 2, the product is given to a limited target patient population to further assess safety and to begin to assess efficacy and dose safety. If the results of these first two phases are favorable, then Phase 3 studies are conducted in the target patient population with a number of subjects large enough to statistically establish safety and efficacy of the product. Concurrent to the clinical development, the company needs to also generate data on the manufacture and controls of the pharmaceutical product. Upon the successful completion of Phase 3 and demonstration of the ability to produce the product under cGMP conditions, a New Drug Application (NDA) or a Biologics License Application (BLA) is submitted to the FDA. The clinical and manufacturing information submitted with the application is reviewed by the FDA, which will approve the product for marketing if it judges that, pursuant to current regulations, the data contained in the application support the safety and efficacy claims and the manufacturing and controls data demonstrate the

quality, purity, safety and identity of the product. On average, it takes the FDA six to twelve months to review and approve a new drug or biologic application. Significant changes in manufacturing and controls of the product or additional labeling claims, pursued after approval for the initial application is obtained, will require submission of additional data to the FDA for review and approval.

Regulatory procedures for licensing drug products in Europe are comparable to those in the United States. Biologic products are reviewed through a centralized procedure that leads to a single license for the entire European Union. In addition, each product must receive individual pricing approvals before it can be marketed.

Environmental Regulation

We are subject to national, state, and local environmental laws and regulations, including those governing the handling and disposal of hazardous wastes and other environmental matters. Our research, development and manufacturing activities involve the controlled use of hazardous materials, including chemical, radioactive and biological materials. Although we believe that our safety procedures for handling and disposing of these materials comply with applicable regulations, we cannot completely eliminate the risk of accidental contamination or injury from these materials. In the event of an accident, we could be held liable for resulting damages. We do not expect that compliance with the environmental regulations to which we are subject will have a material effect on our capital expenditures, earnings or competitive position.

Genetically Modified Microorganisms

Genetically modified microorganisms and products derived from these organisms are regulated in many countries around the world. In the United States, we voluntarily comply with the National Institutes of Health Guidelines for Research Involving Recombinant DNA Molecules at all of our facilities. We also comply with the EPA's regulation of intergeneric microorganisms under the Toxic Substances Control Act. We design our production organisms and processes to comply with regulatory principles

and practices in both manufacturing and commercial venues regardless of the location. By using production organisms that are classified as Good Industrial Large Scale Practice or Biosafety Class I organisms, we are able to maximize environmental safety while minimizing regulatory concerns. Through this strategy, we have been successful in gaining regulatory clearance to use our genetically modified microorganisms in our factories in the United States, Belgium and Finland and in our research facilities in the United States and the Netherlands.

Compliance

To be able to commercialize our products around the world, we need to ensure that they are safe and suitable for their intended use and meet applicable regulatory requirements. Their manufacture also must comply with all existing regulations at our manufacturing sites. In order to meet this need, we have an experienced internal regulatory and safety department that is involved in projects from the earliest stage.

Animal Welfare Act

The Animal Welfare Act governs the humane handling, care, treatment and

transportation of certain animals used in research activities in the United States. Mice are currently not subject to regulation under the Animal Welfare Act. However, the U.S. Department of Agriculture, which enforces the Animal Welfare Act, is presently considering changing the regulations issued under the Animal Welfare Act to include mice within its coverage. The Animal Welfare Act imposes a wide variety of specific regulations on producers and users of animal subjects, including specifications for the safe handling, care, treatment and transport of animals covered. Currently, we house no animals at our facilities. We believe that our housing facility vendors and external toxicology laboratories are in compliance with the Animal Welfare Act.

EMPLOYEES

As of December 31, 2002, we had 1,098 employees in Genencor International, Inc. and its wholly owned entities, plus 155 active employees in our joint venture in Wuxi, China. We plan to expand our research and development and business operations and hire additional staff as we expand our technology and market opportunities and establish new strategic alliances and customer relationships. We continue to search for qualified individuals with interdisciplinary training and flexibility to address the various aspects and applications of our technologies. With the closure of our Elkhart, Indiana facility, none of our United States employees were represented by a labor union as of December 31, 2002. Employees at several of our foreign locations, however, are covered by collective labor agreements, including employees in Argentina, Belgium, Finland, France, Germany and the Netherlands. We strive to maintain strong working relationships with all the employee representatives.

Website Access To Reports

Through our Internet website, we make available free of charge our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we electronically file such material with, or furnish it to, the U.S. Securities and Exchange Commission. Our website address is www.genencor.com. By including our website address in this Annual Report on Form 10-K, we do not intend to include or incorporate by reference the information on our website into this Annual Report on Form 10-K, and under no circumstances shall such information be deemed to be included in or incorporated by reference into this Annual Report on Form 10-K.

RISK FACTORS

If any of the following risks actually occur, they could harm our business, financial condition, and/or results of operations.

IF WE FAIL TO DEVELOP PRODUCTS FOR THE HEALTH CARE AND BIOPRODUCTS MARKETS WE ARE TARGETING, THEN WE MAY NEVER ACHIEVE A RETURN ON OUR RESEARCH AND DEVELOPMENT EXPENDITURES OR REALIZE PRODUCT REVENUES FROM THESE MARKETS.

A key element of our business strategy is to utilize our technologies for the development and delivery of new products to the health care market and new segments of the bioproducts market. We intend to significantly increase our investment in research and development to develop products for these markets. The successful development of products is highly uncertain and is dependent on numerous factors, many of which are beyond our control, and may include the following:

- The product may be ineffective or have undesirable side effects in preliminary and commercial testing or, specifically in the health care area, in preclinical and clinical trials;

- The product may fail to receive necessary governmental and regulatory approvals, or the government may delay regulatory approvals significantly;

- The product may not be economically viable because of manufacturing costs or other factors;

- The product may not gain acceptance in the marketplace; or

- The proprietary rights of others or competing products or technologies for the same application may preclude us from commercializing the product.

Due to these factors we may never achieve a return on our research and development expenditures or realize product revenues from the health care and new bioproducts markets that we are targeting.

IF WE FAIL TO ENTER INTO STRATEGIC ALLIANCES WITH PARTNERS IN OUR TARGET MARKETS OR INDEPENDENTLY RAISE ADDITIONAL CAPITAL, WE WILL NOT HAVE THE RESOURCES NECESSARY TO CAPITALIZE ON ALL OF THE MARKET OPPORTUNITIES AVAILABLE TO US.

We do not currently possess the resources necessary to independently develop and commercialize products for all of the market opportunities that may result from our technologies. We intend to form strategic alliances with industry leaders in our target markets to gain access to funding for research and development, expertise in areas we lack and distribution channels. We may fail to enter into the necessary strategic alliances or fail to commercialize the products anticipated from the alliances. Our alliances could be harmed if:

- We fail to meet our agreed upon research and development objectives;

- We disagree with our strategic partners over material terms of the alliances, such as intellectual property or manufacturing rights; or

- Our strategic partners become competitors or enter into agreements with our competitors.

New strategic alliances that we enter into, if any, may conflict with the business objectives of our current strategic partners and negatively impact existing relationships. In addition, to capitalize on the market opportunities we have identified, we may need to seek additional capital, either through private or public offerings of debt or equity securities. Due to market and other conditions beyond our control, we may not be able to raise additional capital on acceptable terms or conditions, if at all.

IF THE DEMAND FOR PROTEIN DEGRADING ENZYMES DECREASES OR IF MAJOR CUSTOMERS REDUCE OR TERMINATE BUSINESS WITH US, OUR REVENUES COULD SIGNIFICANTLY DECLINE.

Our largest selling family of products, protein degrading enzymes, or proteases, accounted for approximately 52% of our 2002 revenue. If the demand for proteases decreases or alternative proteases render our products noncompetitive, our revenues could significantly decline.

In addition, our five largest customers collectively accounted for over 51% of our 2002 product revenues, with our largest customer, The Procter & Gamble Company, accounting for over 35% of such revenues. Our five largest customers in 2002 were Benckiser N.V., Cargill, Incorporated, Danisco Animal Nutrition - the feed ingredients business unit of Danisco A/S which was formerly known as Finnfeeds, The Procter & Gamble Company, and Unilever N.V. Any one of these customers may reduce their level of business with us. Should any of our

largest customers decide to reduce or terminate business with us, our revenues and profitability could decline significantly.

We have arrangements of various durations with our major customers and are routinely involved in discussions regarding the status of these relationships. These discussions may lead to extensions or new commercial arrangements, or may be unsuccessful. Our customer relationships involve uncertainty by virtue of economic conditions, customer needs, competitive pressures, our production capabilities and other factors. Consequently, our customer base will change over time as will the nature of our relationships with individual customers, including major customers. For example, we currently expect that our business with Corn Products International, Inc., combined with decreased volume with Unilever N.V., may cause Corn Products to qualify as one of our five largest customers.

WE INTEND TO ACQUIRE BUSINESSES, TECHNOLOGIES AND PRODUCTS, BUT WE MAY FAIL TO REALIZE THE ANTICIPATED BENEFITS OF SUCH ACQUISITIONS AND WE MAY INCUR COSTS THAT COULD SIGNIFICANTLY NEGATIVELY IMPACT OUR PROFITABILITY.

In the future, we may acquire other businesses, technologies and products that we believe are a strategic fit with our business. If we undertake any transaction of this sort, we may not be able to successfully integrate any businesses, products, technologies or

personnel that we might acquire without a significant expenditure of operating, financial and management resources, if at all. Further, we may fail to realize the anticipated benefits of any acquisition. Future acquisitions could dilute our stockholders' interest in us and could cause us to incur substantial debt, expose us to contingent liabilities and could negatively impact our profitability.

IF WE FAIL TO SECURE ADEQUATE INTELLECTUAL PROPERTY PROTECTION OR BECOME INVOLVED IN AN INTELLECTUAL PROPERTY DISPUTE, IT COULD SIGNIFICANTLY HARM OUR FINANCIAL RESULTS AND ABILITY TO COMPETE.

The patent positions of biotechnology companies, including our patent positions, can be highly uncertain and involve complex legal and factual questions, and, therefore, enforceability is uncertain. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that we protect our technologies with valid and enforceable patents or as trade secrets. We rely in part on trade secret protection for our confidential and proprietary information by entering into confidentiality agreements and non-disclosure policies with our employees and consultants. Nonetheless, confidential and proprietary information may be disclosed, and others may independently develop substantially equivalent information and techniques or otherwise gain access to our trade secrets.

We file patent applications in the United States and in foreign countries as part of our strategy to protect our proprietary products and technologies. The loss of significant patents or the failure of patents to issue from pending patent applications that we consider significant could impair our operations. In addition, third parties could successfully challenge, invalidate or circumvent our issued patents or patents licensed to us so that our patent rights would not create an effective competitive barrier. Further, we may not obtain the patents or licenses to technologies that we will need to develop products for our target markets. The laws of some foreign countries may also not protect our intellectual property rights to the same extent as United States law.

Extensive litigation regarding patents and other intellectual property rights is common in the biotechnology industry. In the ordinary course of business, we periodically receive notices of potential infringement of patents held by others and patent applications that may mature to patents held by others. The impact of such claims of potential infringement, as may from time to time become known to us, are difficult to assess. In the event of an intellectual property dispute, we may become involved in litigation. Intellectual property litigation can be expensive and may divert management's time and resources away from our operations. The outcome of any such litigation is inherently uncertain. Even if we are successful, the litigation can be costly in terms of dollars spent and diversion of management time.

If a third party successfully claims an intellectual property right to technology we use, it may force us to discontinue an important product or product line, alter our products and processes, pay license fees, pay damages for past infringement or cease certain activities. Under these circumstances, we may attempt to obtain a license to this intellectual property; however, we may not be able to do so on commercially reasonable terms, or at all. In addition, regardless of the validity of such a claim, its mere existence may affect the willingness of one or more customers to use or continue to use our products and, thereby, materially impact us.

Those companies with which we have entered or may enter into strategic alliances encounter similar risks and uncertainties with respect to their intellectual property. To the extent that any such alliance companies suffer a loss or impairment of their respective technologies, we may suffer a corresponding loss or impairment that may materially and adversely affect our investments.

FOREIGN CURRENCY FLUCTUATIONS AND ECONOMIC AND POLITICAL CONDITIONS IN FOREIGN COUNTRIES COULD CAUSE OUR REVENUES AND PROFITS TO DECLINE.

In 2002, we derived approximately 50% of our product revenues from our foreign operations. Our foreign operations generate sales and incur expenses in local currency. As a result, we are exposed to market risk related to unpredictable interest rates and foreign currency exchange rate fluctuations. We recognize foreign currency gains or losses arising from our operations in the period incurred. As a result, currency fluctuations between the U.S. dollar and the currencies in which we do business could cause our revenues and profits to decline.

Product revenues denominated in Euros account for approximately 34% of total product revenues, and the fluctuations in the currency exchange rate against the U.S. dollar can have a significant impact on our reported product revenues.

We expect to continue to operate in foreign countries and that our international sales will continue to account for a significant percentage of our revenues. As such, we are subject to certain risks arising from our international business operations that could be costly in terms of dollars spent, the diversion of management's time, and revenues and profits, including:

- Difficulties and costs associated with staffing and managing foreign operations;

- Unexpected changes in regulatory requirements;

- Difficulties of compliance with a wide variety of foreign laws and

regulations;

- Changes in our international distribution network and direct sales forces;

- Political trade restrictions and exchange controls;

- Political, social, or economic unrest including armed conflict and acts of terrorism;

- Labor disputes including work stoppages, strikes and embargoes;

- Inadequate and unreliable services and infrastructure;

- Import or export licensing or permit requirements; and

- Greater risk on credit terms and long accounts receivable collection cycles in some foreign countries.

IF THE OWNERSHIP OF OUR COMMON STOCK CONTINUES TO BE HIGHLY CONCENTRATED, IT MAY PREVENT OTHER STOCKHOLDERS FROM INFLUENCING SIGNIFICANT CORPORATE DECISIONS AND MAY RESULT IN CONFLICTS OF INTEREST THAT COULD CAUSE OUR STOCK PRICE TO DECLINE.

After our initial public offering and continuing to the present, Eastman Chemical Company and Danisco A/S and their affiliates, referred to as our majority stockholders, each own in excess of 40% our outstanding common stock. The majority stockholders will therefore have the ability, acting together, to control fundamental corporate transactions requiring stockholder approval, including the election of a majority of our directors, approval of merger transactions involving us and the sale of all or substantially all of our assets or other business combination transactions. The concentration of ownership of our common stock may have the effect of either delaying or preventing a change to our control favored by our other stockholders or accelerating or approving a change to our control opposed by our other stockholders. In addition, the majority stockholders' control over our management could create conflicts of interest between the majority stockholders and us with respect to the allocation of corporate opportunities and between the majority stockholders and other stockholders.

IF EXISTING STOCKHOLDERS SELL LARGE NUMBERS OF SHARES OF OUR COMMON STOCK, OUR STOCK PRICE COULD DECLINE.

The market price of our common stock could decline as a result of sales by our existing stockholders or holders of stock options of a large number of shares of our common stock in the public market or the perception that these sales could occur. Our two majority stockholders, for example, hold over 80% of our common stock, and all of these shares are subject to registration rights. In addition, we issued stock options to our officers, directors and employees pursuant to our 2002 Omnibus Incentive Plan, approved by our stockholders in May 2002, and its predecessor plan.

OUR STOCK PRICE HAS BEEN, AND MAY CONTINUE TO BE, PARTICULARLY VOLATILE.

The stock market from time to time, has experienced significant price and volume fluctuations that are unrelated to the operating performance of companies. The market prices for securities of biotechnology companies, including ours, have been highly volatile in the period since our initial public offering in July 2000 and may continue to be highly volatile in the future. Our stock may be affected by this type of market volatility, as well as by our own performance. The following factors, among other risk factors, may have a significant effect on the market price of our common stock:

- Developments in our relationships with current or future strategic

partners;

- Conditions or trends in the biotechnology industry;

- Announcements of technological innovations or new products by us or our competitors;

- Announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;

- Developments in patent or other intellectual proprietary rights or announcements relating to these matters;

- Investor concern regarding the public acceptance of the safety of biotechnology products or announcements relating to these matters;

- Litigation or governmental proceedings or announcements relating to these matters;

- Economic and other external factors or other disaster or crisis;

- Future royalties from product sales, if any, by our licensees;

- Sales of our common stock or other securities in the open market; and

- Period-to-period fluctuations in our operating results.

WE EXPECT THAT OUR QUARTERLY RESULTS OF OPERATIONS WILL FLUCTUATE, AND THIS FLUCTUATION COULD CAUSE OUR STOCK PRICE TO DECLINE, CAUSING INVESTOR LOSSES.

A large portion of our expenses, including expenses for facilities, equipment and personnel, are relatively fixed. Accordingly, if product revenue declines or does not grow as we anticipate or non-product revenue declines due to the expiration or termination of strategic alliance agreements or the failure to obtain new agreements or grants, we may not be able to correspondingly reduce our operating expenses in any particular quarter. Our quarterly revenue and operating results have fluctuated in the past and are likely to do so in the future. If our operating results in some quarters fail to meet the expectations of stock market analysts and investors, our stock price would likely decline. Some of the factors that could cause our revenue and operating results to fluctuate include:

- The ability and willingness of strategic partners to commercialize products derived from our technology or containing our products on expected timelines;

- Our ability to successfully commercialize products developed independently and the rate of adoption of such products;

- Fluctuations in consumer demand for products containing our technologies or products, such as back to school sales of blue jeans and other denim products, resulting in an increase in the use of textile processing enzymes, and fluctuations in laundry detergent use due to promotional campaigns run by consumer products companies; and

- Fluctuations in geographic conditions including currency and other economic conditions such as economic crises in Latin America or Asia and increased energy and related transportation costs.

We also have incurred significant infrequently occurring charges within given quarters, such as those incurred in conjunction with restructuring activities, and recognized investment income from sales of available-for-sale marketable securities.

CONCERNS ABOUT GENETICALLY ENGINEERED PRODUCTS COULD RESULT IN OUR INABILITY TO COMMERCIALIZE PRODUCTS.

We produce a significant amount of our products from genetically modified microorganisms. We cannot predict public attitudes and acceptance of existing or future products made from genetically modified microorganisms. As a result, if we are not able to overcome the ethical, legal and social concerns relating to safety and environmental hazards of genetic engineering, the general public may not accept our products and this may prevent us from commercializing products dependent on our technologies or inventions. In addition, public attitudes may influence laws and regulations governing the ownership or use of genetic material, which could result in greater government regulation of genetic research and bioengineered products.

IF WE ARE SUBJECT TO A COSTLY PRODUCT LIABILITY DAMAGE CLAIM OR AWARD, OUR PROFITS COULD DECLINE.

We may be held liable if any product we develop, or any product that a third party makes with the use or incorporation of any of our products, causes injury or is found otherwise unsuitable during product testing, manufacturing, marketing or sale. Our current product liability insurance may not cover our potential liabilities. Inability to obtain sufficient insurance coverage in the future at an acceptable cost or otherwise to protect against potential liability claims could prevent or inhibit the commercialization of products developed by us or our strategic partners. If a third party sues us for any injury caused by our products, our liability could exceed our insurance coverage amounts and total assets and our profits could decline.

IF WE ARE SUBJECT TO COSTLY ENVIRONMENTAL LIABILITY DUE TO THE USE OF HAZARDOUS MATERIALS IN OUR BUSINESS, OUR PROFITS COULD DECLINE.

Our research and development processes involve the controlled use of hazardous materials, including chemical, radioactive and biological materials. Our operations also generate potentially hazardous waste. We cannot eliminate entirely the risk of contamination or the discharge of hazardous materials and any resultant injury from these materials. Federal, state, local and foreign laws and regulations govern the use, manufacture, storage, handling and disposal of these materials. Third parties may sue us for any injury or contamination that results from our use or the third party's use of these materials. Any accident could partially or completely shut down our research and manufacturing facilities and operations. In addition, if we are required to comply with any additional applicable environmental laws and regulations, we may incur additional costs, and any such current or future environmental regulations may impair our research, development or production efforts.

IF WE FAIL TO ATTRACT AND RETAIN QUALIFIED PERSONNEL, WE MAY NOT BE ABLE TO ACHIEVE OUR STATED CORPORATE OBJECTIVES.

Our ability to manage our anticipated growth, if realized, effectively depends on our ability to attract and retain highly qualified executive officers and technology and business personnel. In particular, our product development programs depend on our ability to attract and retain highly skilled researchers.

Competition for such individuals is intense. If we fail to attract and retain qualified individuals, we will not be able to achieve our stated corporate objectives.

ITEM 2. PROPERTIES

We lease or own 25 facilities throughout the world. Our eight global manufacturing facilities which are located in Cedar Rapids, Iowa; Rochester, New York; Beloit, Wisconsin; Hanko and Jamsankoski, Finland; Brugge, Belgium; Jiangsu Province, China and Province De Cordoba, Argentina, provide the base for our 15 global distribution centers. Our ten remaining facilities are administrative and sales offices. We lease our principal offices located in 154,000, 43,944, and 29,000 square feet of space in Palo Alto, California, Rochester, New York, and Leiden, the Netherlands, respectively. The leases for these facilities expire in 2017, 2009 and 2019, respectively. We believe our facilities are in good operating condition and all real property owned or leased are adequate for all present and near term uses.

Information concerning each of our manufacturing facilities is as follows:

SITE	OWNERSHIP	SQUARE FOOT
CEDAR RAPIDS Genencor International, Inc. Cedar Rapids, Iowa	Owned	135,000 sq.
HANKO Genencor International Ltd. Hanko, Finland	Owned	178,000 sq.
BRUGGE Genencor International BVBA Brugge, Belgium	Owned	251,000 sq.
JAMSANKOSKI Genencor International Ltd. Jamsankoski, Finland	Owned	94,000 sq.
ARROYITO Genencor International Argentina, S.A. Prv. De Cordoba, Argentina	Owned	96,000 sq.
ROCHESTER CENTER FOR DEVELOPMENT AND COMMERCIALIZATION Genencor International, Inc. Rochester, New York	Leased, 50 year term, expiring 2040, with right to purchase for $1.00	70,000 sq.
WUXI Genencor (Wuxi) Bio-Products Co., Ltd. Jiangsu Province, P.R. of China	Governmental land use rights to use land	361,000 sq.
BELOIT Genencor International Wisconsin, Inc. Beloit, Wisconsin	Owned	128,500 sq.

ITEM 3. LEGAL PROCEEDINGS

As of the date of this Report, we are not engaged in any legal proceeding that we expect to have a material adverse effect on our financial condition.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None

PART II.

ITEM 5. MARKET FOR THE REGISTRANT'S COMMON STOCK AND RELATED STOCKHOLDER MATTERS

Our common stock began trading on the Nasdaq Stock Market on July 28, 2000 under the symbol "GCOR." The following table sets forth the high and low sale prices per share of common stock, as reported on the Nasdaq Stock Market, during the periods indicated.

	Price	
	High	Low
Year ended December 31, 2000:		
Third Quarter (commencing July 28)	$36.63	$18.00
Fourth Quarter	$30.00	$12.00
Year ended December 31, 2001:		
First Quarter	$20.37	$ 8.00
Second Quarter	$17.90	$ 6.75
Third Quarter	$17.99	$ 8.60
Fourth Quarter	$18.10	$ 9.34
Year ended December 31, 2002:		
First Quarter	$16.34	$ 9.54
Second Quarter	$12.10	$ 8.30
Third Quarter	$12.43	$ 6.74
Fourth Quarter	$12.40	$ 7.88

The number of shares of our common stock outstanding as of March 14, 2003 was 58,576,827. As of such date there were approximately 6,900 holders of our common stock. Our two largest stockholders, Eastman Chemical Company and Danisco A/S, owned 50,000,000 shares.

We paid cash dividends to our common stockholders of $10.0 million in 1998. We did not pay any dividends on our common stock in 1999, 2000, 2001 or 2002. We currently expect to retain our future earnings, if any, for use in the operation and expansion of our business and do not anticipate paying cash

dividends to our common stockholders in the foreseeable future.

On April 28, 2000, we allowed our executive officers to accelerate the exercise of 1,856,500 stock options granted under the Genencor International, Inc. Stock Option and Stock Appreciation Right Plan (SOAR Plan) and purchase restricted shares of common stock at a price of $9.70 per share. The restricted shares were purchased through the use of notes from the officers that totaled $18.0 million. The vesting provisions included in the restricted common stock agreements were the same as those of the original stock options granted to the officers under the SOAR Plan.

On November 30, 2001, we allowed our executive officers to surrender 349,910 vested, restricted shares to us at a value of $16.09 per share, to pay principal and interest due on the notes on January 27, 2002 by each respective officer. The surrendered shares were recorded as treasury shares. The remaining principal balance of the notes receivable for restricted common stock at December 31, 2001 was $14.6 million.

On August 21, 2002, in order to eliminate all stock-related loans, our executive officers surrendered approximately 1.4 million restricted shares to us at a value of $10.77 per share, to make full payment of the outstanding principal of $14.6 million and accrued interest of $0.6 million on their obligations under notes issued in connection with their purchase of restricted common stock at $9.70 per share in April 2000. Also included in the value of the surrendered shares was a cash payment to cover an estimated $0.2 million of net capital gain tax incurred by the executive officers. We are holding the surrendered shares as treasury shares.

See Item 12 below for the Equity Compensation Plan Information table.

ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with our consolidated financial statements, the notes to our consolidated financial statements, and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this report. We derived the statement of operations and balance sheet data for the five-year period ended December 31, 2002 from our audited consolidated financial statements. Historical results are not necessarily indicative of future results.

	2002	2001	2000
	(AMOUNTS IN THOUSANDS, EXCEPT		
CONSOLIDATED STATEMENTS OF OPERATIONS			
Revenues:			
Product revenue	$ 329,337	$ 311,110	$ 300,978
Fees and royalty revenues	20,741	14,908	15,252
Total revenues	350,078	326,018	316,230
Operating expenses:			
Cost of products sold	186,383	172,986	172,265
Research and development	70,190	60,103	50,858
Sales, marketing and business development	33,027	28,845	27,539
General and administrative	34,635	29,913	25,818
Amortization of intangible assets	5,563	9,966	10,478

Restructuring and related charges	16,427	--	--
Other (income)/expense	(3,409)	(507)	(2,391)
Total operating expenses	342,816	301,306	284,567
Operating income	7,262	24,712	31,663
Non operating expenses/(income):			
Investment expense/(income)	1,500	--	(16,577)
Interest expense	8,587	10,433	10,474
Interest income	(5,207)	(10,069)	(7,752)
Other (income)/expense	--	--	--
Total non operating expenses/(income)	4,880	364	(13,855)
Income before income taxes	2,382	24,348	45,518
(Benefit from)/provision for income taxes	(3,415)	6,574	14,108
Net income	$ 5,797	$ 17,774	$ 31,410
Net (loss applicable)/income available to holders of common stock	$ (1,478)	$ 10,499	$ 24,135
(Loss)/earnings per common share:			
Basic	$ (0.02)	$ 0.18	$ 0.44
Diluted	$ (0.02)	$ 0.17	$ 0.42
Weighted average common shares:			
Basic	59,257	59,888	54,504
Diluted	59,575	61,069	56,855
Dividends per common share	--	--	--

	DECEMBER 31		
	2002	2001	2000
			(AMOUNTS IN TH
CONSOLIDATED BALANCE SHEET DATA			
Cash and cash equivalents	$169,001	$215,023	$200,591
Working capital	203,043	233,511	248,236
Total assets	654,922	648,998	642,932
Total long-term debt and capital leases	90,887	117,735	150,215
Total liabilities	216,915	240,767	238,706
Redeemable preferred stock	169,750	162,475	155,200
Total stockholders' equity	268,257	245,756	249,026

A number of items impact the comparability of the selected consolidated

financial data:

- In 2002, we implemented a plan to restructure our supply infrastructure which included our manufacturing facilities in Elkhart, Indiana and Argentina which resulted in restructuring and related charges of $16.4 million.

- In 2002, we acquired Genencor International Wisconsin, Inc. formerly known as Enzyme Bio-Systems Ltd. (EBS) for $35.8 million. We also acquired the brewing and enzyme business of Rhodia Food UK Limited for $8.9 million.

- In 2002, our executive officers surrendered 1.4 million restricted shares with a value $10.77 per share to eliminate all stock- related loans.

- In 2002, our first annual installment of $28.0 million on long-term debt was paid on March 30.

- In 2001, $28.0 million of long-term debt which was due March 30, 2002 was reclassified to current maturities of long-term debt.

- In 2000, we completed an initial public offering of 8.05 million shares of common stock at a price of $18.00 per share, including 7.0 million shares of common stock issued July 28, 2000 in the initial offering and 1.05 million shares of common stock issued August 25, 2000 pursuant to the exercise of the underwriters' over-allotment option. The combined net proceeds raised from the initial offering and the over-allotment option were $132.7 million.

- In 2000, we realized a gain on the sale of marketable equity securities of $16.6 million, $10.2 million tax-effected, and recognized back royalties in connection with a settlement of patent infringement claims of $3.5 million, $2.1 million tax-effected.

- In 1999, we acquired an 80% ownership interest in Genencor (Wuxi) Bio-Products Co. Ltd. We accounted for this transaction by the purchase method of accounting. As of December 31, 2002, we increased our ownership interest to 85% through contributions of cash and technology.

- In 1999, we implemented a plan to restructure our manufacturing facility in Belgium.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of our financial condition and results of operations should be read in conjunction with the consolidated financial statements and notes to those statements included in Item 8 of this report.

OVERVIEW

We are a diversified biotechnology company that develops and delivers products and services to the industrial, consumer, agri-processing and health care markets. Our current revenues result primarily from the sale of enzyme products to the cleaning, grain processing and textile industries, with the remainder of our revenues from research funding, fees and royalties. We intend to apply our proven and proprietary technologies and manufacturing capabilities

to expand sales in our existing markets and address new opportunities in the health care, agri-processing, industrial, and consumer markets. We have formed, and plan to continue to form, strategic alliances with market leaders to collaborate with us to develop and launch products.

We manufacture our products at our eight manufacturing facilities which are located in the United States, Finland, Belgium, China and Argentina. We conduct our sales and marketing activities through our direct sales organizations in the United States, the Netherlands, Singapore, Japan, China and Argentina and through distributors in selected markets and geographies. In 2002, 2001, and 2000 we derived approximately 50% of our revenues from our foreign operations.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America. In preparation of those financial statements, we apply various accounting policies. We also make estimates and assumptions that affect the reported amounts of assets, liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Although our accounting policies and certain estimates and assumptions are disclosed within the notes to our consolidated financial statements, the following is a discussion of the accounting policies, estimates and assumptions we believe are most critical.

Principles of Consolidation

Our consolidated financial statements include the accounts of all majority-owned subsidiaries. Investments in affiliates in which we have the ability to exercise significant influence, but not control, are accounted for by the equity method, which means that our investment in those entities is adjusted at each balance sheet date to reflect capital contributions made, dividends received and our respective share of such affiliate's earnings or losses. All other investments in affiliates, which are not material to our financial statements, are carried at cost. In the normal course of business, we engage in transactions among our affiliated entities. These intercompany transactions are eliminated in our consolidated financial statements. All of our investments are in operating or corporate holding companies, some of which may qualify under the definition of variable interest entities as defined in Financial Accounting Standards Board Interpretation No. 46 "Consolidation of Variable Interest Entities." While we have no material investments in variable interest entities, all such investments have been appropriately reflected in the consolidated financial statements or otherwise disclosed in the notes thereto.

Revenue Recognition

Our revenue recognition policies comply with the guidance contained in the provisions of SEC Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements." Our revenues consist of product revenues and fees and royalty revenues. Fees and royalty revenues consist primarily of funded research, technology and license fees and royalties. Our revenues are heavily influenced by business with our major customers. Please refer to the discussion of major customers included in Item 1 of this report.

Product Revenue

Revenue from product sales is recognized upon shipment to customers. We group our existing products into three general categories: enzymes that break down protein, enzymes that break down starch and enzymes that break down cellulose.

Funded Research

Research funding revenues result from collaborative agreements with various parties, including the U.S. Government, whereby we perform research activities and receive revenues that partially reimburse expenses incurred. Under such agreements we retain a proprietary interest in the products and technology developed. These expense reimbursements primarily consist of direct expense sharing arrangements and milestone payments. Revenues related to expense sharing arrangements are recorded as the underlying expenses are incurred. Milestone payments are contingent upon successful completion of research activities and are recognized upon satisfaction of those contingencies. Upfront research funding payments are recognized as revenues on a straight-line basis over the term of the underlying research agreement. Our funded research revenues are fully dependent upon our progress on the underlying collaborative research projects and can vary from period to period.

Technology and License Fees

Fees from the sale of technology are recognized upon completion of the required technology transfer and substantial satisfaction of any performance related responsibilities. License fees are recognized on a straight-line basis over the term defined in the license agreement. In the event there is no defined term, such as with permanent licenses, license fees are recognized upon substantial satisfaction of any performance related responsibilities. Our technology and license fees can vary from period to period as a result of the number and timing of such transactions.

Royalty Revenue

Royalty revenue is recognized in accordance with the underlying contract terms.

Research and Development

We expense research and development costs as incurred. Research and development expenses include, but are not limited to, expenses for services rendered related to our funded research activities. Accordingly, in the event our funded research revenues fluctuate from period to period, the related research and development expenses may also fluctuate.

Investments In Equity Securities

We hold minority interests in equity securities of certain publicly traded and privately held companies having operations or technology within our strategic area of focus. While we are selective in making such investments, once we have obtained the securities, we are at risk for fluctuations in their fair market value. If these securities experience declines in value which we consider to be other-than-temporary, we will record an impairment charge to the extent of that decline in value. Poor operating results experienced by these entities or adverse changes in market conditions in the future may cause losses or an inability to recover our carrying value of these investments. In 2002, we recorded an investment loss of $1.5 million as a result of such circumstances.

Long-Lived Assets

Our long-lived assets consist primarily of property, plant and equipment, goodwill, and other intangible assets. Other intangible assets primarily include patents, licenses, technology, and customer lists. Investments in long-lived assets are initially recorded at acquisition cost. We recognize depreciation on all property, plant and equipment, except land, using the straight-line method over the estimated useful lives of the assets, which range from 3-40 years. We also amortize our other intangible assets, except technology, on a straight-line basis over estimated lives of 4-20 years. Land, goodwill and technology are considered to have indefinite useful lives and are therefore not subject to depreciation or amortization. At least annually, we evaluate whether the remaining useful lives of our depreciable and amortizable assets are appropriate. Changes in these useful lives can result in either increases or decreases in the amount of depreciation and amortization expense recorded in our statement of operations, reflecting shorter or longer lives, respectively.

In addition, we regularly assess all of our long-lived assets for impairment when events or circumstances indicate their carrying amounts may not be recoverable. This is accomplished by comparing the expected undiscounted future cash flows of the assets with the respective carrying amount as of the date of assessment. Should aggregate future cash flows be less than the carrying value, a write-down would be required, measured as the difference between the carrying value and the fair value of the asset. Fair value is estimated either through independent valuation or as the present value of expected discounted future cash flows. If the expected undiscounted future cash flows exceed the respective carrying amount as of the date of assessment, no impairment is recognized.

Our judgments related to the expected useful lives of long-lived assets and the ability of the Company to realize undiscounted cash flows in excess of the carrying amounts of such assets are affected by factors such as the ongoing maintenance and improvements of the assets, changes in economic conditions and changes in operating performance. While we believe the long-lived asset amounts recorded in our balance sheet are properly stated as of December 31, 2002, as we make future assessments of the ongoing expected cash flows and carrying amounts of our long-lived assets, these factors could cause us to realize material impairment charges. During 2002, we recognized an impairment charge of $9.5 million for certain assets in connection with our restructuring activities. Please refer to the discussion under the subheading "Restructuring Activities" included later in this section.

Defined Benefit Pension and Post-Retirement Plans

As part of our overall employee benefits program, we have defined benefit pension plans and a defined benefit postretirement plan. The assets, liabilities and related expense of these plans are determined on an actuarial basis and are affected by the estimated market-related value of plan assets, estimates of the expected return on plan assets, discount rates, rates of increase of health care costs, rates of future compensation increases and other assumptions inherent in these valuations. Our actuarial consultants also use subjective factors such as withdrawal and mortality rates. The actuarial assumptions used may differ materially from actual results due to changing market and economic conditions, higher or lower withdrawal rates or longer or shorter life spans of participants. We annually review the assumptions underlying the actuarial calculations and makes changes to these assumptions as necessary.

Stock-Based Compensation

The Genencor International, Inc. 2002 Omnibus Incentive Plan (the OI Plan)

became effective on May 30, 2002 upon approval by the stockholders at our Annual Meeting of Stockholders. Employees, outside directors, consultants, advisors and independent contractors retained by the Company are eligible to participate in the OI Plan. The Plan allows for the grant, at not less than 100% of the estimated market value as of the date of grant, of non-qualified and incentive stock options to purchase the Company's common stock and stock appreciation rights (SARs), based on the underlying value of the Company's common stock. The OI Plan also allows for the grant of restricted and unrestricted stock awards, performance shares (stock or stock-based awards contingent upon attaining performance objectives) or performance units (units valued by reference to chosen criteria). Under the terms of the OI Plan, the Company has the ability to grant awards representing up to 6.8 million shares of common stock. In addition, any shares remaining, or shares that become available under the predecessor plan will be available for grant of awards under the OI Plan. Generally, stock options and SARs vest and become exercisable, and the restrictions, if any, on stock awards shall expire, ratably over a three-year period and expire 10 years from their grant date.

We use the intrinsic value method to account for stock-based employee compensation in accordance with Accounting Principles Board (APB) Opinion No. 25 " Accounting for Stock Issued to Employees" and have no current plans to convert to the fair value method. Under the intrinsic value method, no compensation expense is recorded for grants of stock-based awards when the grants have an exercise price equal to the fair market value of our common stock at the date of grant. Should the exercise price be below the fair market value on the date of grant, we record this difference as a component of stockholders' equity and amortize it as a charge to operations over the vesting period of the stock-based award. For more information regarding our stock-based awards, including pro forma disclosures of compensation expense had we employed the fair value method under SFAS No. 123 "Accounting for Stock-Based Compensation," please refer to Note 11 - Employee Benefit Plans included within Item 8 of this report.

Income Taxes

The (benefit from)/provision for income taxes included within our statement of operations is based upon pretax financial accounting income/(loss) and is calculated using the liability method. Deferred tax assets and liabilities are determined based on differences between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. Significant estimates are required in determining our (benefit from)/provision for income taxes. Various internal and external factors may have favorable or unfavorable effects on our future consolidated effective tax rate. These factors include, but are not limited to, changes in tax laws, regulations and/or rates, changing interpretations of existing laws or regulations, future acquisitions or mergers, future levels of research and development spending, future levels of capital expenditures, and changes in overall levels of pretax earnings. Furthermore, we operate within multiple taxing jurisdictions and are subject to audit by regulatory authorities in these jurisdictions. These tax audits can involve complex issues, which may require an extended period of time to resolve. We believe that we have appropriately calculated our (benefit from)/provision for income taxes in light of these uncertainties.

SUMMARY OF RESULTS

In 2002, we reported a net loss applicable to common stockholders of $1.5 million, or a loss of $0.02 per diluted share, compared to net income available to common stockholders of $10.5 million, or $0.17 per diluted share for 2001.

During the year ended December 31, 2002, we recorded restructuring and related charges of $16.4 million, or $10.3 million on an after-tax basis. Before these charges, we would have reported net income available to common stockholders of $8.9 million, or $0.15 per diluted share for the year ended December 31, 2002.

RESULTS OF OPERATIONS

Comparison of the Years Ended December 31, 2002 and 2001

Revenues. Total revenues for the year ended December 31, 2002 increased $24.1 million, or 7%, to $350.1 million from the year ended December 31, 2001, due to an increase in product revenues and fees and royalty revenues.

Product Revenues. Product revenues for the year ended December 31, 2002 increased $18.2 million, or 6%, to $329.3 million from the year ended December 31, 2001. Without the impact of foreign currency translation, primarily the Euro and the Argentine Peso against the U.S. Dollar, product revenues in 2002 would have increased to $330.7 million. In 2002, unit volume/mix grew 8%, while average prices fell 2%. Volume/mix increased primarily due to increased textile sales and increased sales volume to our grain processing markets, including fuel ethanol.

Regionally, North American product revenues for the year ended December 31, 2002 increased $9.3 million, or 6%, to $156.7 million from the year ended December 31, 2001, driven primarily by increased sales to our grain processing markets, partially offset by decreased sales to a major customer. Product revenues in Europe, Africa and the Middle East for the year ended December 31, 2002 increased $9.6 million, or 9%, to $118.1 million from the year ended December 31, 2001, driven primarily by increased sales to a major customer and increased sales to our grain processing markets, partially offset by decreased sales to our cleaning and fabric care markets. Our product revenues for the year ended December 31, 2002 in Latin America declined $6.1 million, or 32%, to $12.9 million from the year ended December 31, 2001, due primarily to decreased sales to our cleaning and fabric care markets, partially offset by increased sales to a major customer and increased sales to our grain processing markets. Product revenues in the Asia Pacific region for the year ended December 31, 2002 increased $5.4 million, or 15%, to $41.6 million from the year ended December 31, 2001, driven primarily by increased sales to our grain processing markets and increased sales to our textile markets.

Fees and Royalty Revenues. Fees and royalty revenues increased $5.8 million, or 39%, to $20.7 million for the year ended December 31, 2002 from the year ended December 31, 2001.

Funded research revenues for the year ended December 31, 2002 increased $7.3 million, or 60%, to $19.5 million from the year ended December 31, 2001. Revenues generated by research funding result from collaborative agreements with various