GENENCOR INTERNATIONAL INC
Form 10-K
March 28, 2001

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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, 2000

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.

[ ]

THE AGGREGATE MARKET VALUE (BASED UPON THE CLOSING PRICE ON THE NASDAQ STOCK MARKET ON MARCH 16, 2001) OF THE 8,020,391 SHARES OF VOTING STOCK HELD BY NON-AFFILIATES AS OF MARCH 16, 2001 WAS APPROXIMATELY $106,270,181.

AS OF MARCH 16, 2001, THERE WERE 59,909,436 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 3, 2001 HAVE BEEN INCORPORATED BY REFERENCE INTO PART III, ITEMS 10, 11, 12 AND 13 OF THIS REPORT.

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ITEM 1. BUSINESS

This Report contains forward-looking statements. 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 words such as "believes," "anticipates," "expects," "estimates," "projects," "will," "may," "might" and words of a similar nature. The forward-looking statements contained in this Report reflect management'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. The Company undertakes no obligation to publicly announce any revisions to these forward-looking statements to reflect facts or circumstances of which management becomes aware after the date hereof.

OVERVIEW AND CERTAIN RECENT DEVELOPMENTS

Genencor International, Inc. (the "Company") is a diversified biotechnology company that develops and delivers products and/or services to the industrial and consumer, agriculture and health care markets. 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 address new opportunities in the health care, agriculture, industrial and consumer markets. The Company currently sells over 250 product formulations containing enzymes used in applications as diverse as removing stubborn stains from clothing, converting starch to the sweetener in soft drinks and enhancing the nutritional value of grains and animal feed. The Company manufactures and markets these products through our global supply chain including eight manufacturing facilities with over three million liters of fermentation capacity on four continents and 14 global distribution locations. In addition, the Company is developing a number of other products through collaborations, including LowGen, a low allergenic protease being developed in collaboration with The Procter & Gamble Company for use in skin-care products, 1,3 propanediol, a critical component in a high-performance polyester, Sorona being developed in collaboration with E.I. du Pont de Nemours and Company, and vitamin C being developed in collaboration with Eastman Chemical Company.

The Company has a strong commitment to research as an essential component of its product development effort. The Company focuses its research and development activities in our technology platforms to discover, optimize, produce and deliver products to our target markets. An important part of the Company's research and development effort is undertaken through collaborations with third parties who are able to contribute significant technology and other resources to the development and commercialization of products. We believe this aspect of our research and development efforts will be important as we expand into new markets, such as health care.

Stock Split

On July 25, 2000 the Company effected a one-for-two reverse stock split of our common stock. Our stock began trading on a split-adjusted basis on July 28,

2000 when we concluded our initial public offering. All numbers relating to the number of shares and price per share of common stock give effect to the one-for-two reverse split of our common stock.

Initial Public Offering

In 2000, the Company completed its initial public offering of 8,050,000 shares of common stock at $18.00 per share, including 7,000,000 shares of common stock issued July 28, 2000 in the initial offering and 1,050,000 shares of common stock issued August 25, 2000 pursuant to the exercise of the underwriters' over-allotment option. The combined net proceeds raised by the Company from the initial offering and the over-allotment option were $132.7 million.

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We have been conducting research and marketing biotechnology derived products since 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 commenced 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., now known as Danisco Finland OY. After the Company's initial public offering, Eastman and its affiliates and Danisco and its affiliates each own approximately 42% of our outstanding common stock. Our 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 delaying or preventing a change in control favored by other stockholders.

The Company was incorporated in Delaware in 1989. The Company's principal executive offices are located at 925 Page Mill Road, Palo Alto, California 94304, and its telephone number at that address is (650) 846-7500.

PRODUCTS AND PRODUCT DEVELOPMENT

We currently market and sell over 250 products that are distributed to over 500 customers in over 80 countries. The continued success of our business, however, depends on our ability to continuously develop innovative products that meet our customers' needs in our target markets.

OUR MARKETED PRODUCTS

We group our marketed products into three general functional categories: enzymes that break down protein, starch or cellulose. These enzyme products are marketed for fabric care including cleaning and textile processing as well as the emerging market of personal care. Additionally we market these classes of enzymes in the grain processing and specialties areas of the agriculture market.

INDUSTRIAL AND CONSUMER MARKETS

Cleaning Products

The Company has been developing and commercializing enzymes for laundry

applications since the early 1980's. 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;

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

Textile Products

The Company has many years of experience developing, manufacturing and marketing enzyme products for the global textile industry. Our products include cellulase, amylase and protease enzymes for applications such as denim finishing, biofinishing of cotton and cellulosics, desizing and treatment of wool and silk, respectively. 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;

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

Personal Care Products

In 2000 we developed and commercialized our first product providing a skin-care benefit to consumers. We commercialized 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.

AGRICULTURE

Grain Processing Products

We have marketed our grain processing and specialties products to customers who process agricultural raw materials such as barley, corn, wheat and soybeans to produce animal feed, food and 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.

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 and Laminex: A full product line of protease, beta-gluconase, 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;

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

PRODUCTS IN DEVELOPMENT

We are developing products for the industrial and consumer, agriculture, and health care markets. While we have product development programs underway in each of our target markets, to date, we have not marketed any products for the health care market or portions of the agriculture market in which we do not currently compete and therefore have not realized any product revenues from these targeted markets. Our ability to develop products for these markets 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, research and development funding from our strategic partners, government grants and short-term and long-term borrowings. We currently have a number of products under development in our target markets including the following:

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INDUSTRIAL AND CONSUMER MARKETS

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 aqueous process will deliver the world's lowest cost ascorbic acid production process as it eliminates several steps from the traditional chemical synthesis.

In September 2000, together with our alliance partners, we successfully completed our five-year $30 million program supported by the Advanced Technology Program/National Institute of Standards and Technology (ATP/NIST) for the development of the ascorbic acid technology. The completed program included a matching funds five-year grant from ATP/NIST of over $15 million. We have continued to fund later stage scale up and development work internally with our partner in anticipation of commercialization. We expect to formulate our commercial plan in 2001.

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 in 2003. The benefits of Sorona include improved fit and comfort, softness of touch, dyeability, resilience and stretch recovery. This polyester has 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.

Repeat Sequence Protein Polymers. We completed 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.

Low allergenic proteases. 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. In conjunction with our strategic partner, The Procter & Gamble Company, we are developing a reduced allergenic protease for certain consumer skin-care applications.

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.

AGRICULTURE

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. We are building a significant technology lead in the development of advanced, low-cost cellulases and other related enzymes for the conversion of biomass into value added chemicals. We have been awarded a $17 million partial matching funds contract by the National Renewable Energy Laboratory/Department of Energy to continue our efforts in developing a low cost enzyme system for the economic conversion of biomass to ethanol. We have initiated a multifaceted program to achieve this goal.

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 worlds leading food ingredients companies, providing us up to $20 million in funding . An initial product candidate has been identified in anticipation of a project initiation in early 2001. Development activities for two additional product targets have been undertaken and a first stage project evaluation for additional novel bioingredients has been initiated with a projected second project start date in mid-year 2001.

Production of enzymes from transgenic plants. We are developing a transgenic plant system for the production of oxidase enzymes together with Prodigene, Inc. Oxidase enzymes, such as laccase, are used in a variety of applications including bleaching of stains on clothing and the processing of textile fabrics. We continue to develop our lead candidate and are initiating two additional programs.

Animal feed and nutrition. We are developing a number of key enzymes and production systems together with our strategic alliance partner, Danisco/Finn Feeds. Enhanced xylanase, phytase and other enzymes are being developed for use in animal feed to increase the nutritional value of animal feed or to minimize pollution in animal waste. A novel enzyme with improved properties for feed applications has been identified from one of our collaborations and is being evaluated.

In the area of new activities in the agriculture market, we have initiated discussions with major agricultural companies as well as the FDA to use our i-mune assay for the identification of potentially allergenic components of foods.

HEALTH CARE

In 2000 we made the strategic decision to expand our current technology and product focus into the high growth health care market. Since this is a recent initiative for the Company, our product pipeline is not as robust as in our industrial and consumer product markets. We intend to continue to invest in internal research programs, such as the human papilloma virus project discussed below, and to increase our development pipeline through a series of strategic investments and collaborations in the near future. We are evaluating opportunities in several areas including therapeutic vaccines, protease and protease inhibitor compounds and the development of second-generation protein therapeutics as alternatives to monoclonal antibodies.

Human papilloma virus. We are developing a compound with topical, anti-human papilloma virus activity. Human papilloma virus has been shown to contribute to increased incidence of cervical cancer. We have a project team working to isolate the molecule within one of our fermentation broths that is responsible for the observed anti-human papilloma virus activity. We have fractionated the initial fermentation broth and have identified fractions that contain antiviral activity as measured by our assay. We plan to continue our development of this molecule. We are using a proprietary high-throughput screening assay developed in collaboration with Xgene to facilitate our characterization of the active compound.

Therapeutic vaccines. We have identified therapeutic vaccines as a potentially important opportunity for the Company. Of particular interest is the development of candidates targeting the most serious oncogenic viruses including human papilloma virus, hepatitis C, hepatitis B, HIV and Epstein Barr virus. All of these viruses represent critical human pathogens which are poorly treated with available therapeutics. As therapeutic vaccines today represent a new class of drugs rather than an existing market, the business path forward is as yet undetermined. We believe that the Company has several key scientific contributions to make in this new field including our i-mune assay which we believe 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.

We believe our i-mune mouse may also play a key role in the development of therapeutic vaccines for oncogenic virus targets such as hepatitis C. The i-mune mouse may serve as a unique animal model of the virus helping to clarify viral protein and or epitopes involved in the pathogenesis of the disease as well as screening for active compounds against the disease.

We believe our molecular evolution and design technology platform that has been key in the Company's successful optimization and expression of protein products can be similarly deployed to optimize a vaccine construct.

Protease and Protease Inhibitors. We intend to use our current position as one of the world's leading protease companies to develop protease and protease inhibitors for the health care market. We intend to access genomic based data to identify potential novel protease drug targets. We expect to employ our molecular evolution and design platform including our molecular modeling capabilities to enable small molecule drug design. We believe our expertise in enzymology, protein expression, structural biology and design of peptide based protease inhibitors in conjunction with our large scale protein production capabilities are highly relevant to establishing both internal and collaborative efforts in this area.

Second-Generation Protein Therapeutics. In addition to small molecules we hope to develop novel second-generation protein therapeutics as alternatives to monoclonal antibodies. As part of our consumer products-based research we have developed technology that we believe will lead to the development of drugs having a binding activity similar to monoclonal antibodies, but with improved profiles with respect to half life, specificity and toxicity.

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 outside 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 will generate new product candidates in all of 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 including the role such proteins may play in 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. We have completed the sequencing of several genomes of industrially important organisms both internally and through a number of external collaborations with academic groups. We have applied this information to identify novel pathways for potential new products as well as to develop a better production host for an existing biochemicals project. We have enhanced our technical capability in the functional genomics and proteomics areas through additional key hires and capital expenditures. Using microarrayed fungal genomes and screening for protein structural elements, we have been able to identify possible future product targets in new families of proteins. Similarly, by using microarrays and transcriptional analysis we are identifying genes important to the improved production of products by our host cell systems.

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 use in industrial and consumer markets as well as second-generation biopharmaceuticals. Our high-throughput screening capabilities have been enhanced through the addition of equipment and personnel in our dedicated facility in Leiden, the Netherlands. These technologies are being applied to ongoing projects within the Company, for example, 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 genes by changing or mutating their DNA sequence to produce a variant protein with a modified function. This process is known as mutagenesis. We alter these 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.

Conventional mutagenesis is limited to modification of one or more genes of a single protein. If the desired biomaterial is a small molecule or chemical the simultaneous modification of a large number of different proteins may be required. Conventional techniques cannot create and evaluate such a large number of variants simultaneously. We have developed MutatorTechnology 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, agriculture and industrial and consumer markets. To address this limitation, we have developed our human immunology, or i-mune, platform. We are developing this platform, which includes an automated assay that predicts human immune response and a mouse line that incorporates genes supporting the human immune system, which we refer to as our transgenic mouse model. We believe that this

platform will also allow us to create models for defective immune systems associated with genetic autoimmune disorders and study disease progression.

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. We also believe that we can utilize this technology to develop therapeutic vaccines in which antigens are used to stimulate an immune response against established infections and cancer. We have shown that we can increase the allergenic potential of specific proteins and are investigating suitable business models for our therapeutic vaccine program.

i-mune mouse. We are also developing a series of transgenic mouse models including a mouse with a functional human immune system. Current transgenic mouse models either employ mice which are abnormal and do not live their full life span or do not develop normal immune systems when supplied with normal mouse or human immune cells. Our immune deficient mice cannot develop their own immune system but in all other respects are normal. To date we have developed a transgenic mouse carrying what we believe to be the critical human genes

necessary for development of a functional human immune system in immune deficient mice. Furthermore, we have shown that these mice express the transgenes in appropriate levels and tissue locations. We believe this transgenic mouse can be further developed to support human hematopoietic stem cell engraftment, resulting in a mouse model with a functional human immune system. We believe that successful completion of this model could be an important new system for the modeling of many human diseases.

In addition, we are developing a series of other transgenic mice expressing certain human genes. We have developed a transgenic mouse model containing the genetically linked DQ2 and DR3 genes. The DQ2:DR3 haplotype is commonly associated with a series of human automimmune diseases, including multiple sclerosis, myasthinia gravis, celiac disease and type 1 diabetes, for example, and we believe such transgenic mice can be used as models in these autoimmune diseases. We are pursuing academic and commercial partners for developing and applying these model systems.

We believe the human immunology platform will allow us to determine the allergenic potential of proteins, 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 will lead to products in all of 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: (a) 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; and (b) 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. In our 18 years of operations, 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.

Our relationship with Protein Polymer Technologies, Inc. has provided additional patented technology to this platform for expressing novel biomaterials such as repeat sequence protein polymers having unique functional characteristics.

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 vitamin C and 1,3 propanediol reaffirms our belief in the commercial viability of producing biomaterials that compete with existing petroleum based processes. This program integrates these 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. In 2000, we launched a new, differentiated granule formulation for our cleaning products. This formulation provides greater compatibility with our customer's formulation as well as enhanced performance.

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 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. As a result of the success of this relationship, we are now exploring product opportunities in the skin-care markets.

Our alliance with The Procter & Gamble Company is evidenced by three 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 areas to be agreed, particularly laundry and cleaning products. 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 or expiration of cooperative product development efforts.

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 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. To date, the alliance has already met two key technical milestones and is meeting its intended commercialization timeline. In February 2001 this agreement was extended until December 31, 2001.

Eastman Chemical Company. Established in 1994, this alliance represents over a $30 million investment in the development of continuous biocatalytic processes for the production of a variety of chemicals using renewable resources. In 1995, the Advanced Technology Program/National Institute of Standards and Technology awarded our partnership a matching funds five-year grant of over $15 million. Together with our alliance partners, we successfully completed this program in September 2000. We have

continued to fund scale-up and development of the vitamin C process and with our partner, Eastman Chemical Company, have announced our intention to commercialize the first product from this alliance, vitamin C.

Prodigene, Inc. In 1997, we acquired rights to a portion of Prodigene, Inc.'s technology for the production of proteins in plants. We also fund research and development activities in fields of interest and have taken an equity position in Prodigene, Inc. Under the agreement, Prodigene, Inc. granted us exclusive licenses to commercialize products and processes developed during the term of the agreement that are in the agreement field, subject to compensation or a royalty to Prodigene, Inc. for commercialized products. This alliance is designed to develop unique transgenic plant production capabilities for proteins. We have recently added two additional proteins to the elected research program and will fund their development.

Xgene Corporation. In 1999, we began developing human skin models for pharmaceutical and personal care applications with Xgene Corporation. We have access to their proprietary human skin models and are developing in vitro-based assays for screening applications.

In September 2000 we expanded our research collaboration with Xgene Corporation. Under the terms of the expanded research agreement Xgene will complete development of an in vitro skin equivalent test useful for testing anti-human papilloma virus compounds. Additionally Xgene will develop a second in vitro assay useful for testing compounds for the treatment of human skin inflammation. We will fund Xgene's research activities over two years in exchange for exclusive rights to use the assays developed under the agreement.

Enchira. On May 17, 2000, we entered into a license agreement with Enchira acquiring an exclusive license to know-how and intellectual property relating to Enchira's "chimeragenesis" technology for our fields of interest. Under this agreement, we have committed license fees and milestone payments up to $1.4

million. Commercial terms such as royalties and commercialization milestones are contingent on the successful development and commercialization of products. Enchira's rights in its chimeragenesis technology have been challenged in an arbitration filed by Maxygen, Inc. In March 2001 the arbitrator found against Enchira; however, the arbitrator has not specified the remedy at this time.

In the event our rights to the Enchira technology are materially and adversely affected as a result of the final decision of the arbitrator, the license fees are refundable.

National Renewable Energy Laboratory/Department of Energy. In April of 2000 the National Renewal Energy Laboratory of the Department of Energy awarded the Company a $17 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. This project has been fully staffed and is underway.

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 up to $20 million in funding to the Company. 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 project plan put in place with anticipated initiation in early 2001. Further targets for additional joint projects have been identified and are undergoing evaluation with a target for a second project initiation in mid-year 2001.

RESEARCH EXPENSES

A major portion of our operating expenses to date has been related to the research and development of products. During 2000, 1999 and 1998, our total research and development expenses were $50.9 million, $44.0 million and $40.2 million, respectively. Of these expenses, an estimated $13.2 million, $15.8 million and $10.9 million, respectively, represent total expenses incurred in conjunction with research collaborations partially funded by various partners.

Our research and development efforts have been the primary source of our products. We intend to accelerate our investment in research and development as an essential component of our business strategy. As of December 31, 2000, we had 212 full time employees in technology, 76 of whom hold Ph.D. degrees, and 1 who holds an M.D. degree.

COMPETITION

We face significant competition in the industrial and consumer and agriculture markets in which we currently compete. As we develop products for our newly identified opportunities in the health care, agriculture and industrial and consumer markets, we face a host of new competitors, including, for example, biotechnology and pharmaceutical companies.

In the industrial and consumer market, 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 and consumer, agriculture and health care markets. There are many commercially available products for each of these markets and for the specific consumer problems we may attempt to address or for 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 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 also 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 or 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, 2000, our intellectual property portfolio included 3,400 worldwide owned and licensed patents and patent applications. Our intellectual property portfolio includes rights in technologies ranging from specific products to host production organisms and technology covering research tools such as high-throughput gene discovery, molecular evolution, immunological screens and metabolic pathway engineering.

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 we are not currently aware of.

RAW MATERIALS

All raw materials are commercially available products from a number of independent sources; greater than 65% 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, 30% are on semi-annual programs, and the remainder are on 60-90 day fixed pricing structures.

MANUFACTURING AND SUPPLY CAPABILITIES

We have a global supply chain consisting of eight manufacturing facilities with over three million liters of fermentation capacity on four continents and 14 distribution locations around the globe. 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 or registered trademarks of the Company and its subsidiaries: GENENCOR, GENENCOR INTERNATIONAL, LOWGEN, INDIAGE, PRIMAFAST, OPTISIZE, PURAFECT, PROPERASE, PURASTAR, PUARDAX, SPEZYME, OPTIDEX, DISTALLASE, OPTIMAX, FERMENZYME, GENSWEET, OPTIMALT, CLARASE, MULTIFECT, FERMCOLASE, LAMINEX, OXYGO, I-MUNE, I-BIOTECH, MUTATORTECHNOLOGY, DESIGNPATH, OXYGONE, PROTEX and ENZOGUARD. The following registered trademarks are owned by the indicated companies: SORONA (E.I. du Pont de Nemours and Company); DAWN SPECIAL CARE, TIDE and ARIEL (The Procter & Gamble Company).

MAJOR CUSTOMERS

Our five largest customers collectively accounted for approximately 58% of our 2000 revenues, with our largest customer, The Procter & Gamble Company, accounting for over 30% of such revenues. Our five largest customers are The Procter & Gamble Company, Unilever N.V., Benckiser N.V., Cargill Inc. and the FinnFeeds Division of Danisco A/S. Any one of these customers may reduce their level of business with us. Should our largest customer or any mix of our other large customers decide to reduce or terminate its business with us, our revenues and profitability would decline significantly.

GEOGRAPHICAL INFORMATION

The financial information concerning geographical areas set forth in footnote 14 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 Food and Drug Administration (FDA) regulates food, feed, cosmetic and pharmaceutical products based on their application. The FDA and the Environmental Protection Agency regulate non-drug biologically derived products. The U.S. Department of Agriculture regulates plant, plant pest and animal products. The Environmental Protection Agency 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 attempts to replace national regulatory procedures with a consistent European Union regulatory standard. Some national regulatory oversight remains although most countries generally accept either a United States or a European clearance together with associated data and information for a new biologically derived product.

Regulatory approval of our products in Asian countries having registration processes ranges from three months to three years. Some Asian countries 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 oversight 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 benefits. This data is submitted to the FDA in an Investigational New Drug Application (IND) to gain their approval to test the material in humans. If the FDA finds the IND to be acceptable, then and only then can clinical trials in humans begin to demonstrate the pharmaceutical is safe and effective for its intended use.

These clinical trials are divided into three separate phases, which may overlap, can take many years, and are very expensive. The clinical trials are also subject to extensive regulation. 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 begin to assess efficacy. If the results of these first two phases are favorable, then Phase 3 studies are conducted in the target patient population with a large enough number of subjects to provide sufficient data to statistically establish safety and efficacy of the product. At the completion of Phase 3, the Company will submit a New Drug Application or a Biologics License Application, through which the FDA reviews the clinicals package and the facilities used to manufacture, fill, test and distribute the product. If the FDA judges all data, facilities and systems to be satisfactory and in compliance, they will approve the pharmaceutical for the indications supported by the clinical study. Any changes in manufacturing or additional claims after FDA approval is obtained require additional regulatory review and possibly additional clinical studies.

Licensing procedures in Europe are comparable to those in the United States, and for pharmaceuticals is done through a centralized procedure which 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 also are subject to federal, state, local and foreign 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 governmental 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 ensure full compliance 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.

Animal Welfare Act

The Animal Welfare Act governs the humane handling, care, treatment and transportation of some animals used in United States research activities. Mice, including the mice used in connection with our i-mune transgenic mouse model, 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, most notably personnel, facilities and statistical standards, cage size, feeding, watering and shipping conditions and environmental enrichment methods. Currently, we house no mice at our facilities. We believe that our housing facility vendors and external toxicology laboratories are in compliance with the Animal Welfare Act.

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.

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EMPLOYEES

As of December 31, 2000 we had 1,077 regular employees of our wholly owned entities, plus 456 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. In the United States, 33 of our employees are represented by a labor union. Several of our non-United States locations are also 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.

RISK FACTORS

IF WE FAIL TO DEVELOP PRODUCTS FOR THE HEALTH CARE AND AGRICULTURE MARKETS, 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 products to the health care market and segments of the agriculture market in which we do not compete. We have not produced any products for these markets. 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 agriculture 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 of ours 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.

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.

We intend to acquire 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 result in amortization expenses related to goodwill and other intangible assets and could negatively impact our profitability.

IF THE DEMAND FOR PROTEIN DEGRADING ENZYMES DECREASES, OUR REVENUES COULD SIGNIFICANTLY DECLINE.

Our largest selling family of products, protein degrading enzymes, or proteases, accounted for approximately 55% of our 2000 revenue. If the demand for proteases decreases or alternative proteases render our products noncompetitive, our revenues could significantly decline.

IF WE FAIL TO ATTRACT AND RETAIN QUALIFIED PERSONNEL, WE MAY NOT BE ABLE TO ACHIEVE OUR EXPANSION 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 expansion objectives.

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 geographic conditions including currency and other economic conditions such as economic crises in Brazil or Asia.

We also have incurred significant one-time 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.

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. The potential impact of unasserted claims of infringement, as may from time to time become known to the Company, are difficult to assess with certainty. In the event of an intellectual property dispute, we may become involved in litigation. Intellectual property litigation is 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 would 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.

ITEM 2. PROPERTIES

We lease or own 21 facilities throughout the world, including eight manufacturing facilities located in Cedar Rapids, Iowa; Rochester, New York; Elkhart, Indiana; Hanko and Jamsankoski, Finland; Brugge, Belgium; Jiangsu Province, China and Province De Cordoba, Argentina, and 13 other administrative offices around the world. We lease our principal offices located in 128,000, 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.

Information concerning each of our manufacturing facilities is as follows:

SITE	OWNERSHIP	SQUARE FOOTAGE
CEDAR RAPIDS Genencor International, Inc. Cedar Rapids, Iowa	Owned	80.0 acres; 135,
ELKHART Genencor International Indiana, Inc. Elkhart, Indiana	Owned	6.0 acres leased
HANKO Genencor International Ltd. Hanko, Finland	Owned	27.1 acres lease
BRUGGE Genencor International BVBA Brugge, Belgium	Owned	11.5 acres; 251,
JAMSANKOSKI Genencor International Ltd.	Owned	7.1 acres; 94,00

Jamsankoski, Finland		
ARROYITO Genencor International Argentina, S.A. Prv. De Cordoba, Argentina	Owned	7.4 acres; 99,00
RCDC Genencor International, Inc. Rochester, New York	Leased, 50 year term, expiring 2040, with right to purchase for $1.00	22.6 acres; 70,0
WUXI Genencor (Wuxi) Bio-Products Co., Ltd. Jiangsu Province, P.R. of China	Governmental land use rights to use land	8.3 acres; 361,0

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

The Company's common stock began trading on the Nasdaq Stock Market on July 28, 2000 under the symbol "GCOR." The following 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

The number of shares of our common stock outstanding as of March 16, 2001 was 59,909,436. As of such date there were approximately 6,300 stockholders of the company's common stock.

We paid cash dividends to our common stockholders of $10.0 million in both 1997 and 1998. We did not pay any dividends on the Company's common stock in 1999 or 2000. 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 in the foreseeable future.

On April 28, 2000, the Company allowed certain key employees to accelerate the exercise of 1,856,500 stock options granted under the Genencor International, Inc. Stock Option and Stock Appreciation Right 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 receivable from the employees. The vesting provisions of the restricted common stock agreements are the same as those of the stock options under the Plan. The shares purchased are held in escrow by the Company until the note has been fully paid. The notes receivable are due and payable over four years commencing January 27, 2002. Interest is charged on the notes at a fixed rate of 6.71%. The notes receivable contain a provision that allows the Company to purchase the restricted common stock under certain conditions. The total notes receivable for common stock is $18,008,050. The Company relied on the exemption provided by Section 4 (2) of the Securities Act of 1933 in connection with this transaction. There were no other unregistered sales of equity securities for the year ended December 31, 2000.

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, 2000 from our audited consolidated financial statements. Historical results are not indicative of the results to be expected in the future.

	2000	1999	1998	1997
	(Amounts in thousands, except share and per shar			
CONSOLIDATED STATEMENTS OF OPERATIONS				
Revenues:				
Product revenue	$ 300,978	$ 305,637	$ 279,492	$ 293,64
Fees and royalty revenues	15,252	10,965	9,619	16,69
Total revenues	316,230	316,602	289,111	310,34
Operating expenses:				
Cost of product sold	172,265	176,756	167,604	179,11
Research and development	50,858	43,955	40,205	37,30
Sales, marketing and business development	27,539	24,564	24,394	25,39

General and administrative.....	25,818	22,984	22,940	17,99
Amortization of intangible assets.....	10,478	10,032	9,554	9,05
Restructuring and related charges.....	--	7,500	--	-
Other (income)/expense.....	(2,391)	(845)	(342)	93
Total operating expenses.....	284,567	284,946	264,355	269,79
Operating income.....	31,663	31,656	24,756	40,54
Non operating (income)/expenses:				
Investment income.....	(16,577)	--	(990)	-
Interest expense.....	10,474	10,487	10,727	11,63
Interest income.....	(7,752)	(750)	(557)	(44
Other (income)/expense.....	--	--	(1,442)	1,10
Total non operating (income)/expenses.	(13,855)	9,737	7,738	12,28
Income before provision for income taxes and extraordinary item.....	45,518	21,919	17,018	28,25
Provision for income taxes.....	14,108	5,294	3,279	5,10
Net income before extraordinary item....	31,410	16,625	13,739	23,15
Extraordinary loss on early extinguishment of debt (Net of income tax benefit of $1,302)	--	--	--	-
Net income.....	$ 31,410	$ 16,625	$ 13,739	$ 23,15
Net income available to holders of common stock.....	$ 24,135	$ 9,350	$ 6,464	$ 15,87
Earnings per common share before extraordinary item:				
Basic.....	$ 0.44	$ 0.19	$ 0.13	$ 0.3
Diluted.....	$ 0.42	$ 0.19	$ 0.13	$ 0.3
Earnings per common share:				
Basic.....	$ 0.44	$ 0.19	$ 0.13	$ 0.3
Diluted.....	$ 0.42	$ 0.19	$ 0.13	$ 0.3
Weighted average common shares:				
Basic.....	54,504,333	50,000,000	50,000,000	50,000,00
Diluted.....	56,855,215	50,000,000	50,000,000	50,000,00
Dividends per common share.....	--	--	$ 0.20	$ 0.2

	DECEMBER 31,		
	2000	1999	1998

			(AMOUNTS IN THOUSAND	
CONSOLIDATED BALANCE SHEET DATA				
Cash and cash equivalents	$ 200,591	$ 39,331	$ 12,792	$
Working capital	248,236	82,414	84,871	
Total assets	642,932	499,300	496,478	
Total long-term debt and capital leases	150,215	146,080	158,000	
Total liabilities	238,706	246,239	243,515	
Redeemable preferred stock	155,200	147,925	140,650	
Total shareholders' equity	249,026	105,136	112,313	

A number of items impact the comparability of the selected consolidated financial data:

- In 2000, we completed an initial public offering of 8,050,000 shares of common stock at $18.00 per share, including 7,000,000 shares of common stock issued July 28, 2000 in the initial offering and 1,050,000 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 Company, Ltd. We accounted for this transaction by the purchase method of accounting.

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

- In 1996, we acquired from Solvay S.A. the outstanding shares of common stock of Solvay Enzymes Inc., Solvay Enzymes Verwaltungs GmbH, Solvay Enzimas S.A., and 50% of the outstanding shares of Kyowa Solzyme K.K. We accounted for this transaction by the purchase method of accounting.

- In 1996, we extinguished certain long-term debt.

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 the notes to those statements included elsewhere in this report. This discussion may contain forward-looking statements that involve certain risks and uncertainties. Our actual results could differ materially from those anticipated by forward-looking information due to many factors, including those identified below and elsewhere in this report.

OVERVIEW

We are engaged in the discovery, development, manufacturing and marketing of biotechnology products for the industrial and consumer, agriculture 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 from research funding 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, agriculture, 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 through our eight manufacturing facilities 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 and Argentina. In 2000 and 1999, we derived approximately 51% and 60% of our revenues from our foreign operations, respectively.

SUMMARY OF RESULTS

In 2000, net income available for common shareholders increased to $24.1 million, or $0.42 per diluted share, from $9.4 million, or $0.19 per diluted share in 1999. Net income in 2000 was favorably impacted by a gain from the sale of marketable equity securities. The after-tax impact to net income for this one-time gain was $10.2 million. Additionally, the 1999 period was impacted by a $7.5 million restructuring charge associated with our manufacturing facility in Belgium. The after-tax impact to net income for this was $6.2 million.

RESULTS OF OPERATIONS

Comparison of the Years Ended December 31, 2000 and 1999

Revenues. Total revenues in 2000 decreased $0.4 million to $316.2 million in 2000 from 1999, due to a decrease in product revenues.

Product Revenues. Product revenues in 2000 decreased $4.6 million, or 2%, to $301.0 million in 2000 from 1999. Without the impact of the stronger U.S. dollar against foreign currencies, primarily the Euro, product revenues in 2000 would have increased by approximately 3%, to $316.2 million. In 2000, unit volume/mix grew 6%, while average prices fell 2%. Volume increased primarily due to increased protease enzyme sales to a major customer and increased sales volume with our textile and grain processing customers.

Regionally, North American product revenues increased $13.2 million, or 10%, to $145.0 million driven primarily by sales to our cleaning customers, but European product revenues declined $22.8 million, or 18%, to $100.5 million due primarily to lower cleaning sales and the impact of currency exchange rates. Our product revenues in Latin America increased $3.4 million, or 20%, to $20.7 million in 2000 from 1999 due primarily to the increased sales to our largest Latin American customer. Product revenues in Asia increased $1.7 million, or 5%, to $34.9 million in 2000 from 1999 due mainly to growth in China, Indonesia, and Taiwan.

Fees and Royalty Revenues. Fees and royalty revenues increased $4.3 million, or 39%, to $15.3 million in 2000 from 1999. Funded research revenues in 2000 were $10.8 million and $10.7 million in 1999. Revenues generated by research funding result from collaborative agreements with various parties, including the U.S. Government, whereby we perform research activities and

receive revenues that partially reimburse us for expenses incurred. Under such agreements, we retain a proprietary interest in the products and technology developed. Our funded research revenue as it relates to U.S. Government collaborations increased $3.1 million to $5.2 million in 2000 from 1999 primarily due to funding provided by the National Renewable Energy Laboratory to develop an enzymatic process to convert biomass into bioethanol. Funded research revenues provided by customers decreased $3.0 million, or 35%, to $5.6 million in 2000 from 1999 primarily due to a $2.0 million milestone payment received in 1999 under one of our collaborative research and development agreements.

Royalties increased $4.3 million in 2000 from 1999 due primarily to the successful resolution of a patent infringement issue with a customer, for which one-time royalties of $3.5 million were received during the first quarter of 2000. These one-time royalties pertain to previous sales, using patented technology, made by the customer to third parties. The related intellectual property agreement provides for future royalties, of which $0.7 million were received during the remainder of 2000.

Operating Expenses

Cost of Product Sold. Cost of product sold decreased $4.5 million, or 3%, to $172.3 million in 2000 from 1999 even though our expanded sales volume/mix increased costs $4.6 million. This reduction in cost of product sold was driven primarily by reductions due to the impact of the stronger U.S. dollar against foreign currencies of $9.3 million, the sale of lower cost inventories of approximately $1.2 million, and a decrease in long-term incentive compensation expense of $1.4 million. These reductions were partially offset by increases in our distribution costs of $2.8 million.

Gross Profit and Margins from Product Sold. Gross profit from product sold in 2000 remained relatively constant, decreasing $0.2 million to $128.7 million in 2000 from 1999. This overall decrease was caused by significant product revenue related factors including a 6% increase in volume/mix being processed through our plants and an average price decline of 2%. These product revenue related factors were combined with a decrease in cost of product sold due to reductions in our manufacturing costs partially offset by increases in our distribution costs. This net increase in gross profit was partially offset by a $5.9 million decrease due to the

impact of the stronger U.S. dollar against foreign currencies, primarily the Euro. As a result of these factors, gross margin on product revenue increased to 42.8% in 2000 from 42.2% in 1999.

Research and Development. Research and development expenses primarily consist of the personnel related, consulting, and facilities costs incurred in connection with our research activities conducted in Palo Alto, California, and Leiden, the Netherlands. These expenses increased $6.9 million, or 16%, to $50.9 million in 2000 from 1999 as we increased our investment in technology and product development for new markets, hired additional internal staff, and established additional outside collaborations to support our health care and other initiatives. The increase in 2000 from 1999 was partially offset by a decrease in long and short-term incentive compensation expense of $0.9 million. As a part of total research and development expenses, estimated expenses related to research collaborations partially funded by customers decreased approximately $2.6 million, or 16%, to $13.2 million in 2000 from 1999.

Sales, Marketing and Business Development. Sales, marketing and business development expenses primarily consist of the personnel related and marketing costs incurred by our global sales force. These expenses increased $2.9 million, or 12%, to $27.5 million in 2000 from 1999, primarily due to increases in consulting and outside services of $1.7 million, salaries and benefits of $0.3 million, long-term incentive compensation of $0.1 million, and in the provision for doubtful accounts at our Chinese affiliate of $0.6 million.

General and Administrative. General and administrative expenses include the costs of our corporate executive, finance, information technology, legal, human resources, and communications functions. In total, these expenses increased $2.8 million, or 12%, to $25.8 million in 2000 from 1999 due primarily to increased third party services of $1.1 million, increased salaries and benefits of $0.9 million, and increased costs related to new office space in Rochester, New York of approximately $0.5 million. These increases were partially offset by decreased long and short-term incentive compensation expense of approximately $0.6 million.

Amortization of Intangible Assets. We amortize our intangible assets, consisting of patents, licenses, technology and goodwill, on a straight-line basis over their estimated useful lives. Amortization expense increased $0.5 million, or 5%, to $10.5 million in 2000 from 1999 due primarily to amortization of goodwill resulting from the acquisition of an 80% interest in Genencor (Wuxi) Bio-Products Company, Ltd.

Restructuring and Related Charges. During 1999, we engaged in a plan to restructure our facility in Belgium. As a result of this plan, restructuring and related charges of $7.5 million were recorded in our 1999 operating expenses.

Other Expense and Income. Other expense and income relates primarily to foreign currency exchange gains and losses on transactions denominated in other than the functional currency of the entity in which the transaction occurred. Other income increased by $1.6 million to $2.4 million in 2000 from 1999 due mainly to an increase in foreign currency transaction gains.

Deferred Compensation. We measure deferred compensation for options granted to employees as the difference between the grant price and the estimated fair value of our common stock on the date we granted the options. In connection with the grant of stock options to employees during 2000, we recorded deferred compensation expense of approximately $7.1 million. We recorded this amount as a component of shareholders' equity and will amortize it as a charge to operations over the vesting period of the options. In total, amortization of deferred compensation expense in 2000 was $1.6 million. These amounts were reported in our statement of operations as follows (in millions):

Cost of product sold	$ 0.1
Research and development	0.3
Sales, marketing and business development	0.6
General and administrative	0.6
Total amortization of deferred compensation expense	$ 1.6

Non Operating Expense and Income

Investment Income. Investment income represents gains from the sale of marketable equity securities. During 2000, we realized a $16.6 million gain on the sale of marketable equity securities.

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Interest Income. Interest income increased $7.0 million to $7.8 million in 2000 from 1999 due mainly to earnings on proceeds from our initial public offering as well as earnings from increased cash investments resulting from the sale of marketable equity securities.

Income Taxes. Several factors affected our effective income tax rate in 2000, including the statutory income tax rate in foreign jurisdictions, amortization of intangible assets and other items which are not deductible for tax purposes, and research and experimentation tax credits. The effective income tax rate for 2000 was 31.0% compared with 24.2% in 1999. The 2000 effective rate includes the effect of the $16.6 million pre-tax income resulting from the sale of marketable equity securities in the United States, as well as $6.4 million of interest income in the United States, both of which were tax effected at a marginal rate of 38.6%. The 2000 effective rate also reflects a reevaluation of our ability to utilize certain deferred tax assets, which resulted in the release of approximately $0.6 million in valuation allowances to net income. We are subject to a tax ruling in the Netherlands that reduces the local effective income tax rate from 35.0% to 17.5%. This ruling will expire at the end of 2005. More information regarding our income tax position can be found in the notes to our consolidated financial statements.

Comparison of the Years Ended December 31, 1999 and 1998

Revenues. Total revenues for 1999 increased $27.5 million, or 10%, to $316.6 million from 1998, primarily due to an increase in product revenues.

Product Revenues. Product revenues in 1999 increased $26.1 million, or 9%, to $305.6 million from 1998. Without the impact of the stronger U.S. dollar against the Euro in 1999 versus 1998, product revenues in 1999 would have further increased by 2%, to $310.2 million. In 1999, unit volume grew by 13%, while price fell 2%. Volume increased primarily due to increased protease enzyme sales of approximately $20.0 million to a major customer and the successful launch by a customer of a new enzyme-based dishwasher-cleaning product of approximately $11.0 million. In both 1999 and 1998, our two largest customers accounted for 39% of our product revenues.

For 1999 and 1998, The Procter & Gamble Company, Unilever N.V., and Benckiser N.V. were our three largest customers.

Regionally, our 1999 product revenues in Europe showed a $14.0 million, or 13%, increase to $123.3 million from 1998 due primarily to the increased protease sales to our largest customer, while our revenues in Asia benefited from increased market penetration of $6.4 million and the acquisition of an ownership interest in Genencor (Wuxi) Bio-Products, which reported $6.8 million in product revenues in 1999. In total, product revenues in Asia increased $13.2 million, or 66%, to $33.2 million from 1998. North America also showed an increase of $5.2 million, or 4%, to $131.8 million driven by our grain processing sales, but Latin America product revenues declined by $6.3 million, or 27%, to $17.3 million due to the economic crisis in Brazil.

The strengthening of the U.S. dollar caused a reduction in our product revenues of $5.0 million in 1999 from 1998. However, because we incur most of the costs associated with our Euro revenues in Euros, we minimize the impact on net income.

Fees and Royalty Revenues. Overall, funded research revenues increased $1.6

million, or 18%, to $10.7 million in 1999 from 1998. Our funded research revenue as it relates to U.S. Government collaborations decreased $0.4 million, or 16%, to $2.1 million from in 1999 from 1998 primarily due to a decrease in funding provided by the Advanced Technology Program of the National Institute of Standards and Technology to develop low allergenicity enzyme products. Funded research revenues provided by customers increased $2.0 million, or 30%, to $8.6 million in 1999 from 1998 primarily due to reaching the second of three milestone targets under one of our collaborative programs.

Operating Expenses

Cost of Product Sold. Cost of product sold increased $9.2 million, or 5%, to $176.8 million in 1999 from 1998 based on increased product volume of $13.3 million and costs associated with the establishment of new warehouse facilities in Singapore of $0.5 million, partially offset by favorable impacts of cost reduction efforts of $1.3 million and a decrease in long-term incentive compensation expense of $2.1 million.

Gross Profit and Margins from Product Sold. Gross profit from product sold increased $17.0 million, or 15%, to $128.9 million in 1999 from 1998. This increase was caused by significant product revenue-related factors including a 13% increase in unit volume and a price decline of 2%. These product revenue-related factors were combined with an increase of 5% in cost of product sold due to

increased unit volume and costs associated with the establishment of new warehouse facilities in Singapore. These increases were partially offset by favorable impacts of cost reduction efforts and a decrease in long-term incentive compensation expense.

As a result of these factors, gross margin on product revenue increased to 42.2% in 1999 from 40.0% in 1998.

Research and Development. These expenses increased $3.8 million, or 9%, to $44.0 million in 1999 from 1998 as we increased our investment in technology platforms and enzyme discovery for new markets. The increase in 1999 from 1998 was substantially offset by a decrease in long-term incentive compensation expense. As a part of total research and development expenses, estimated expenses related to research collaborations partially funded by customers increased by $5.0 million, or 46%, to $15.8 million in 1999 from 1998.

Sales, Marketing and Business Development. Total expenses remained relatively constant in 1999 from 1998.

General and Administrative. In total, these expenses were consistent from 1998 to 1999. Increases, due primarily to strategic consulting fees of $1.0 million and Year 2000 system compliance consulting fees of $0.2 million, were offset by decreased long-term incentive compensation expense.

Amortization of Intangible Assets. Amortization expense increased $0.5 million, or 5%, to $10.0 million in 1999 from 1998 due to amortization of the intangible assets resulting from the acquisition of Genencor (Wuxi) Bio-Products Company, Ltd.

Restructuring and Related Charges. During 1999, we engaged in a plan to restructure our facility in Belgium. As a result of this plan, restructuring and

related charges of $7.5 million were recorded in our 1999 operating expenses.

Other Expense and Income. Other expense and income relates primarily to foreign currency exchange gains and losses on transactions denominated in other than the functional currency of the entity in which the transaction occurred. Other income increased by $0.5 million to $0.8 million in 1999 from 1998 due mainly to an increase in foreign currency transaction gains.

Non Operating Expense and Income

Investment Income. Investment income represents gains from the sale of marketable equity securities. During 1998 we realized a $1 million gain on the sale of an equity investment.

Other Expense and Income. Other non operating income, net of other expenses, decreased $1.4 million in 1999 from 1998 due to the non-recurring nature of certain items recognized in 1998. These non-recurring events related to the settlement of patent infringement litigation of $1.0 million, and to a lesser extent, the sale of assets related to divested product lines of $0.4 million.

Income Taxes. Several factors affected our effective income tax rate in 1999, including the statutory income tax rate in foreign jurisdictions, amortization of intangible assets which is not deductible for tax purposes, and research and experimental tax credits. The effective income tax rate for 1999 was 24.2% compared with 19.3% in 1998. The 1998 effective rate includes the effect of the utilization of research and experimental tax credits totaling $2.5 million. We are subject to a tax ruling in the Netherlands that reduces the local effective income tax rate from 35.0% to 17.5%. This ruling will expire at the end of 2005. More information regarding our income tax position can be found in the notes to our consolidated financial statements.

RESTRUCTURING ACTIVITIES

In July 1999, we implemented a plan to restructure our manufacturing facility in Belgium. Two primary factors drove our decision: developments leading to a production overcapacity in the enzyme market and operating costs of the Belgian plant were considerably higher than in any of our other plants. There were 58 positions eliminated as a result of this restructuring, with staggered termination dates of July 1999 through January 2001. We immediately notified all affected employees of the restructuring plan. As of December 31, 2000, 57 employees had terminated their employment with us. As a result of this plan, we recorded restructuring and related charges of $7.5 million, or $6.2 million after taxes, in 1999. These charges relate primarily to employee severance and related social costs of $4.9 million, a curtailment loss of $0.8 million under a related defined benefit pension arrangement, and $1.8 million for manufacturing equipment that we deemed impaired as it would no longer be utilized after the restructuring. We determined the impairment charge based on remaining book value as we believe there is no market in which to sell the specific assets. At December 31, 2000 and 1999, we had a remaining severance liability related to this restructuring of $1.9 million and $2.9 million, respectively. As of March 31, 2000, we had completed our activities under this plan and no adjustments were made to the original plan.

In May 1999, we acquired an 80% ownership interest in Genencor (Wuxi)

Bio-Products Company, Ltd. located in Wuxi, China, for a total cash purchase price of $9.9 million. We accounted for the acquisition under the purchase method. Therefore, we allocated the purchase price to the acquired assets and liabilities based upon management estimates of fair value. We are amortizing goodwill of $7.5 million on a straight-line method over ten years. As we intend to significantly improve the efficiency of the facility, which will continue to operate as a manufacturing site in the region, we recorded a provision to restructure the entity of $3.2 million with an offset included in goodwill. The provision further includes estimated employee-related costs of $2.2 million, demolishing costs of $0.3 million for pre-existing structures on the site that we do not intend to use, and costs to effect the restructuring of $0.1 million. The provision further includes a reserve for incurred but unrecorded liabilities of the acquired entity of $0.6 million. As of December 31, 2000, there was approximately $0.5 million charged to this restructuring provision for employee-related costs. At December 31, 2000 and 1999, we had a remaining liability related to this restructuring of $2.7 million and $3.2 million, respectively. We will reallocate to goodwill any reduction in the anticipated cost to restructure the facility.

LIQUIDITY AND CAPITAL RESOURCES

Our funding needs consist primarily of capital expenditures, research and development activities, sales and marketing expenses, and general corporate purposes. We have financed our operations primarily through cash from the sale of products, the sale of common stock, research and development funding from partners, government grants, and short-term and long-term borrowings.

During the third quarter of 2000, we completed an initial public offering of 8,050,000 shares of common stock at $18.00 per share. This included 7,000,000 shares of common stock issued July 28, 2000 in the initial offering and 1,050,000 shares of common stock issued August 25, 2000 pursuant to the underwriters' exercise of the over-allotment option. The combined net proceeds from the initial offering and the over-allotment option exercise were approximately $132.7 million. We anticipate using the net proceeds from the offering for research and development activities, capital expenditures, financing possible acquisitions, working capital and other general corporate purposes.

We believe that our current cash and cash equivalent balances plus funds to be provided from our current year operating activities will satisfy our funding needs over the next twelve months. We believe that the proceeds from our initial public offering in July 2000, including those received from the underwriters' exercise of their over-allotment option in August 2000, plus funds to be provided from our operating activities will adequately fund our anticipated long-term needs thereafter. Factors that could negatively impact our cash position include, but are not limited to, future levels of product, fees and royalty revenues, expense levels, capital expenditures, acquisitions, and foreign currency exchange rate fluctuations.

As of December 31, 2000, cash and cash equivalents totaled $200.6 million, including $132.7 million of net proceeds from our initial public offering, which we invested in short-term instruments including commercial paper, U.S. treasury bills, institutional money market funds and bank deposits.

Cash provided by operations was $47.3 million in 2000, $58.2 million in 1999, and $46.1 million in 1998. The decrease of $10.9 million in 2000 from 1999, and the increase of $12.1 million in 1999 from 1998 were generated principally by operating earnings, net of non-cash items such as depreciation and amortization, and changes in operating assets and liabilities.

Cash used by investing activities was $9.0 million in 2000, $20.1 million in 1999, and $21.2 million in 1998. Spending in each of these years was driven

by capital expenditures, which totaled $25.6 million in 2000 compared with $21.3 million in 1999 and $22.9 million in 1998. A significant portion of this spending included process improvement projects at our manufacturing and research and development facilities and information technology enhancements. Capital projects in process at December 31, 2000 relate primarily to further manufacturing process improvements and information technology system enhancements.

Cash used by investing activities decreased by $11.1 million in 2000 from 1999. This was driven primarily by proceeds from the sale of marketable securities in 2000 offset by one-time events that occurred during 1999, such as completion of a sale/leaseback transaction, the acquisition of Genencor (Wuxi) Bio-Products, and an equity investment of $1.5 million in Prodigene, Inc.

During 1998, we constructed a new technology and regional operations center in Leiden, the Netherlands. We included the cost of this project in our cash paid for purchases of property, plant and equipment under cash flows for investing activities in our 1998 consolidated financial statements. In 1999, we sold this facility to ABN AMRO Onroerend Goed Lease en Financieringen B.V. for $4.2 million and leased it back for a period of 20 years.

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To expand our industrial enzyme manufacturing and distribution presence in Asia, we invested $9.9 million to acquire an 80% interest in a joint venture in Wuxi, China, in 1999.

Cash provided by financing activities of $123.7 million during 2000 resulted primarily from the initial public offering of our common stock, partially offset by the payment of a long-term note to Gist-Brocades (G-b) related to the 1995 acquisition of the G-b industrial enzyme business. Cash used by financing activities was $9.7 million in 1999 and $23.0 million in 1998, driven primarily by payments against our outstanding borrowings on our revolving credit facilities, which were fully repaid as of December 31, 1999, and dividends of $10.0 million paid to our common shareholders in 1998. No dividends were paid to common shareholders during 2000 and 1999. We currently intend to retain future earnings to finance the expansion of our business. Any future determination to pay cash dividends will be at the discretion of our board of directors and will depend upon our financial condition, results of operations, capital requirements, general business conditions and other factors that the board of directors may deem relevant, including covenants in our debt instruments that may limit our ability to declare and pay cash dividends on our capital stock. Covenants in our senior note agreement restrict the payment of dividends or other distributions in cash or other property to the extent the payment puts us in default of these covenants. Such covenants include, but are not limited to, maintaining a debt to total capitalization of no greater than 55% and a maximum ratio of debt to EBITDA of 3.5:1.

At December 31, 2000 we had a $30 million line of credit with a commercial bank, which was available for general corporate purposes. At December 31, 2000 there were no borrowings under the agreement. Subsequent to December 31, 2000, we entered into a $48 million revolving credit agreement with a syndicate of banks, which is available for general corporate purposes. The facility grants us $32 million of three year committed borrowings and $16 million of one year committed borrowings, which may be renewed each year. The combined facility carries a facility fee of 0.28% on the amount of unborrowed principal and contains various financial covenants including a debt to total capitalization

requirement.

Our long-term debt consists primarily of $140.0 million in senior notes issued in 1996 to certain institutional investors. These notes bear interest at 6.82% and are payable in annual installments of $28.0 million commencing in March 2002. We are currently in compliance with all of the financial covenants included in the senior note agreement. For more information, please refer to the notes to our consolidated financial statements.

NEW ACCOUNTING STANDARD

In June 1998, the Financial Accounting Standards Board issued SFAS 133, "Accounting for Derivative Instruments and Hedging Activities." SFAS 133, as amended, requires all derivatives to be recognized as assets or liabilities on the balance sheet and measured at fair value. Changes in the fair value of derivatives should be recognized in either net income or other comprehensive income, depending on the designated purpose of the derivative. This statement is effective for us on January 1, 2001. As of December 31, 2000, we had no derivatives and, based on our current risk management strategies, we believe implementation of this statement will not have a material effect on the consolidated financial statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign currency risk and interest rate risk are the primary sources of our market risk. Foreign operations, mainly denominated in Euros, account for approximately 51% of our 2000 revenues. We believe that we mitigate this risk by locating our manufacturing facilities so that the costs are denominated in the same currency as our product revenues. We manage the foreign currency exposures that remain through the use of foreign currency forward contracts and currency options. We do not use these instruments for speculative purposes.

As of December 31, 2000, cash and cash equivalents totaled $200.6 million. Of this amount, $37.8 million was denominated in Euros. The remainder or $162.8 million was primarily denominated in U.S. Dollars. Short-term debt outstanding at December 31, 2000 was not significant. To the extent U.S. Dollar and Euro interest rates fluctuate either up or down, the return on the cash investments will also fluctuate. To the extent such Euro cash investments remain outstanding, we will be subject to the risks of future foreign exchange fluctuations and its impact on the translation of these cash investments into U.S. Dollars.

Our subsidiary based in the Netherlands, which adopted the Euro as its functional currency, has average annual U.S. Dollar and Japanese Yen denominated revenues of approximately $40.0 million and $4.0 million, respectively. We use forward currency contracts and option contracts to hedge these anticipated revenues. At December 31, 2000, there were no forward contracts or option contracts outstanding.

Interest Rates

Our interest income is sensitive to changes in the general level of short-term interest rates primarily in the United States and Europe. In this regard, changes in the U.S. dollar and Euro currency rates effect the interest earned on our cash equivalents, short-term investments, and long-term investments.

Foreign currency Exposure

We conduct business throughout the world. We derived approximately 51% of our 2000 revenues and approximately 67% of our 2000 operating income from foreign operations. Economic conditions in countries where we conduct business and changing foreign currency exchange rates affect our financial position and results of operations. We are exposed to changes in exchange rates in Europe, Latin America, and Asia. The Euro presents our most significant foreign currency exposure risk. Changes in foreign currency exchange rates, especially the strengthening of the U.S. dollar, may have an adverse effect on our financial position and results of operations as they are expressed in U.S. dollars.

Management monitors foreign currency exposures and may in the ordinary course of business enter into foreign currency forward contracts or options contracts related to specific foreign currency transactions or anticipated cash flows. These contracts generally cover periods of nine months or less and are not material. We do not hedge the translation of financial statements of consolidated subsidiaries that maintain their local books and records in foreign currencies.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Shareholders of
Genencor International, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of changes in shareholders' equity, and of cash flows present fairly, in all material respects, the financial position of Genencor International, Inc. and its subsidiaries at December 31, 2000 and 1999, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2000 in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP
January 30, 2001

Rochester, New York

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GENENCOR INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(AMOUNTS IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

	DECEMBE 2000
ASSETS	
Current assets:	
Cash and cash equivalents	$ 200,591
Trade accounts receivable (less allowance for doubtful accounts of $2,574 in 2000 and $1,814 in 1999)	46,913
Inventories	46,938
Prepaid expenses and other current assets	16,299
Deferred income taxes	1,544
Total current assets	312,285
Property, plant and equipment, net	216,983
Investments and other assets	41,947
Intangible assets, net	64,049
Deferred income taxes	7,668
Total assets	$ 642,932
LIABILITIES, REDEEMABLE PREFERRED STOCK AND SHAREHOLDERS' EQUITY	
Current liabilities:	
Notes payable	$ 4,689
Current maturities of long-term debt	--
Accounts payable and accrued expenses	47,217
Interest payable on long-term debt	2,387
Accrued employee benefits	9,417
Deferred income taxes	339
Total current liabilities	64,049
Long-term debt	144,360
Capital lease obligation	5,855
Deferred income taxes	12,754
Other long-term liabilities	10,897
Minority interest	791
Total liabilities	238,706
Commitments and contingencies	--
Redeemable preferred stock:	
71/2% cumulative series A preferred stock, without par value, authorized 1,000 shares, 970 shares issued and outstanding	155,200

Shareholders' equity:	
Common stock, par value $0.01 per share, 200,000,000 shares authorized, 59,906,500 and 50,000,000 shares issued and outstanding at December 31, 2000 and 1999, respectively	599
Additional paid-in capital	344,092
Deferred stock-based compensation	(5,560)
Notes receivable for common stock	(18,008)
Accumulated deficit	(23,965)
Accumulated other comprehensive loss	(48,132)
Total shareholders' equity	249,026