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EDEN BIOSCIENCE CORP  
Form 10-K  
March 29, 2001

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

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FORM 10-K  
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(MARK ONE)

ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2000

OR

TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM \_\_\_\_\_ TO \_\_\_\_\_ .

COMMISSION FILE NUMBER 0-31499

EDEN BIOSCIENCE CORPORATION  
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

WASHINGTON  
(STATE OR OTHER JURISDICTION OF  
INCORPORATION OR ORGANIZATION)

91-164960411816  
(IRS EMPLOYER  
IDENTIFICATION NO.)

11816 NORTH CREEK PARKWAY NORTH  
BOTHELL, WASHINGTON  
(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES)

98011-8205  
(ZIP CODE)

(425) 806-7300  
(REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE)

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:  
NONE

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:  
COMMON STOCK, PAR VALUE \$0.0025 PER SHARE  
(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 reports), and (2) has been subject to such

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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 of the common stock held by non-affiliates of the registrant, based on the closing sale price on March 22, 2001 as reported on The Nasdaq National Market, was \$245,053,595.

The number of shares of the registrant's common stock outstanding as of March 22, 2001 was 23,927,013.

## DOCUMENTS INCORPORATED BY REFERENCE

Portions of EDEN Bioscience Corporation's proxy statement for its 2001 Annual Meeting of Shareholders to be filed with the Commission pursuant to Regulation 14A not later than 120 days after December 31, 2000 is incorporated by reference in Part III of this Form 10-K.

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2

## EDEN BIOSCIENCE CORPORATION

### INDEX TO FORM 10-K

	PAGE
	----
PART I	
Item 1. Business.....	1
Item 2. Properties.....	23
Item 3. Legal Proceedings.....	24
Item 4. Submission of Matters to a Vote of Security Holders.....	24
PART II	
Item 5. Market for Registrant's Common Equity and Related Shareholder Matters.....	25
Item 6. Selected Financial Data.....	26
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.....	27
Item 7A. Quantitative and Qualitative Disclosures About Market Risk.....	30
Item 8. Financial Statements and Supplementary Data.....	31
Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.....	45
PART III	
Item 10. Directors and Executive Officers of Registrant.....	45
Item 11. Executive Compensation.....	45
Item 12. Security Ownership of Certain Beneficial Owners and Management.....	45
Item 13. Certain Relationships and Related Transactions.....	45
PART IV	
Item 14. Exhibits, Financial Statement Schedules, and Reports on Form	

## PART I

This Annual Report on Form 10-K and the documents incorporated herein by reference contain forward-looking statements. These statements relate to future events or our future financial performance. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expect," "plan," "intend," "anticipate," "believe," "estimate," "predict," "potential" or "continue," the negative of these terms or other terminology. These statements are only predictions. Actual events or results may differ materially. In evaluating these statements, you should specifically consider various factors, including the risks outlined in the "Factors That May Affect Our Business, Future Operating Results and Financial Condition" section included elsewhere in this report. These factors may cause our actual results to differ materially from any forward-looking statement. Except as required by law, we undertake no obligation to publicly release any revisions to these forward-looking statements that may be made to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

## ITEM 1. BUSINESS.

## OVERVIEW

We are a plant technology company focused on developing, manufacturing and marketing innovative natural products for agriculture. We have a fundamentally new, patented and proprietary technology that we believe will significantly improve plant protection and crop production worldwide. We believe our technology and our initial product, Messenger(R), allow us to offer superior alternatives to existing plant protection and crop yield enhancement products in terms of both performance and safety and, importantly, to avoid the substantial public resistance to many chemical pesticides and genetically modified plants. We are aware of no other product or technology currently being marketed, under development or described in scientific literature that generates the comprehensive set of beneficial results that Messenger produces on such a wide array of crops.

Our proprietary technology is based on a new class of nontoxic, naturally occurring proteins called harpins. Harpin proteins trigger a plant's natural defense systems to protect against disease and pests, and simultaneously activate certain plant growth systems, leading to increased biomass, photosynthesis, nutrient uptake and root development and, ultimately, to greater crop yield and quality.

Messenger received conditional EPA approval in April 2000, and we began sales of the product in August 2000. Utilizing our harpin and harpin-related technology, Messenger simultaneously activates the plant's natural defense and growth systems, providing broad protection against disease, reduced damage caused by pests and improved plant growth, crop yield and quality. Messenger is a water-soluble, granular powder that is topically applied either independently or in conjunction with traditional chemical pesticides. Once applied, Messenger degrades rapidly and leaves no detectable residue. Unlike traditional chemical pesticides, Messenger and other products we are developing have no direct killing effect on pests and pathogens, reducing the likelihood of pest resistance. In addition, unlike genetically modified plants, Messenger does not alter the plant's DNA.

Our near-term focus is the commercialization of Messenger for use on a wide

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variety of crops. We are currently concentrating our efforts in the United States on high-value crops, such as citrus, tomatoes, peppers, cucumbers, strawberries and other horticultural and specialty crops, from which we expect growers will derive the greatest economic benefit from Messenger. We plan to take advantage of the Messenger brand developed in the use on these high-value crops to penetrate traditional field crop markets, including cotton, wheat, rice, corn and soybean.

In conjunction with the commercialization of Messenger, we will continue to focus significant resources on research and development activities to develop and commercialize new products based on our harpin and harpin-related technology. We believe that many of the additional products and technologies currently under development will lead to significant business opportunities in the future. We were incorporated in the state of Washington in 1994.

1

4

### INDUSTRY OVERVIEW

In order to meet growing food demand and remain competitive in the global agricultural marketplace, growers are consistently challenged to increase productivity by improving crop yield and quality. Over the last several decades, growers have relied on the development of more effective farming practices and improved plant protection and yield enhancement methods and products to limit agricultural crop losses and to increase the yield and quality of their crops. In recent years, however, the rate at which growers have been able to further improve crop productivity has declined as improved farming practices have become more fully implemented, as land suitable for conversion to farming has become more scarce and as concerns about the environmental impact of farming have increased. Moreover, growers today face increasing scarcity of available resources, such as labor, water and land, and increasing restrictions on the use of traditional chemical pesticides. At the same time, the global demand for food and increased food quality continues to increase with population growth and generally rising standards of living.

In today's competitive agricultural environment, growers must maximize crop productivity by enhancing yield and minimizing crop losses. The Food and Agriculture Organization of the United Nations estimates annual crop losses from pests to be \$300 billion worldwide. In addition to basic agronomic practices such as crop rotation, cultivation or variety selection, growers generally have two alternatives to limit these economic losses and increase yields. The first approach is to use traditional chemical pesticides, and the second is to grow genetically modified plants that are engineered to resist disease and infestation or to tolerate applications of nonselective herbicides. Each of these approaches has come under increasing criticism from a variety of sources worldwide including environmental groups, government regulators, consumers and labor advocacy groups.

#### Traditional Chemical Pesticides

Growers use traditional chemical pesticides to kill insects, microorganisms and other pests. Although generally effective in killing targeted pests, traditional pesticides often have serious adverse side effects. Many of these chemicals are suspected carcinogens and many are acutely toxic. Pesticide applicators and field workers face significant risks from direct exposure to toxic chemical pesticides. In addition, use of chemical pesticides often suppresses beneficial insects and microorganisms that otherwise provide a degree of natural protection.

Over time, many pathogens and pests develop resistance to chemical pesticides. As pest resistance increases, and beneficial predators and parasites

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decline, growers often escalate the application of pesticides to maintain an acceptable level of disease and pest control. As a result, chemical pesticides or their byproducts may contaminate the soil, surface water and groundwater resources. In addition, chemical pesticides can enter the food chain, adversely affecting animal populations, and can be directly ingested by humans or by livestock intended for human consumption.

Over the past 50 years, increased use of pesticides, with their potential risks and problems, has heightened public awareness and concern over their environmental and health hazards. As a result, the U.S. government and various state and foreign governments have imposed increasingly stringent regulations on the manufacture and use of chemical pesticides.

Regulatory and public pressure is forcing manufacturers to remove many traditional chemical pesticides from the market. Over the last 15 years, numerous pesticide products have been removed from the marketplace or have been severely restricted in their allowable uses. Currently, many widely used pesticides are subject to extensive and costly re-registration requirements mandated by changes in federal pesticide laws. As a result of these regulatory constraints as well as other economic pressures, growers have increasingly sought new technologies to protect crops and maintain profit margins.

2

5

### Genetically Modified Plants

Scientific advances, coupled with the health and environmental problems associated with conventional chemical pesticides, led to the introduction of genetically modified plants in the early 1990s. These products can provide a variety of pesticidal and other benefits. Genetically modified plants have been developed to produce herbicide-tolerant, insect-resistant or virus-resistant crops. In addition, improved output traits, including those designed to create higher-quality animal feed, have been introduced into the market. For the 1999 growing season, 55% of all cotton fields, 57% of all soybean fields and 33% of all cornfields in the United States were planted with genetically modified seed varieties.

While genetically modified plants have been widely used, environmental groups, some scientists and consumers, especially in Europe, are raising questions regarding the potential adverse side effects, long-term risks and uncertainties associated with genetically modified plants. Some countries, primarily in the European Union, have established restrictions on the planting of certain genetically modified seeds or on the importation of grain produced from these seeds. Moreover, some countries, including Japan and certain members of the European Union, have imposed labeling requirements on genetically modified food products, and federal legislation requiring such labeling has been proposed in the United States. Several food-related companies have indicated that they will not use genetically modified crops in their products.

### Market Opportunity for New Plant Protection and Yield Enhancement Products

Based on data collected by the Food and Agricultural Organization of the United Nations, in 2000, over 118 million acres of horticultural and specialty crops were harvested worldwide, including nearly 17 million acres of tomatoes, peppers, cucumbers and strawberries and approximately 16 million acres of citrus. In addition, in 2000, approximately 2.0 billion acres of row crops were harvested worldwide, with corn, wheat, cotton and rice accounting for approximately 1.3 billion acres. Based on data from Allan Woodburn Associates, worldwide expenditures on agricultural chemicals to protect these and other crops in 2000 were approximately \$29 billion. We believe growers worldwide are seeking new plant protection and yield enhancement products to replace or reduce

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the need for traditional agricultural chemicals, and that allow them to manage plant disease and improve crop yield and quality without modifying a plant's DNA.

### THE EDEN SOLUTION AND ADVANTAGES

Utilizing our harpin and harpin-related technology, we are developing products that activate a plant's natural defense and growth systems without altering the plant's DNA. We believe our harpin and harpin-related technology provides the following advantages over current plant protection and yield enhancement products:

- Simultaneous activation of natural plant systems to:
  - Protect against a broad array of viral, fungal and bacterial diseases. Our technology has demonstrated an ability to activate a plant's natural defense systems against a broad spectrum of viral, fungal and bacterial diseases, including some diseases for which there is currently no effective treatment. We believe that our harpin-based products will reduce or eliminate the need for certain traditional chemical pesticides.
  - Reduce damage caused by a variety of pests. Our technology has shown an ability to reduce crop infestation and damage caused by certain harmful insects and other pests. Unlike chemical pesticides, however, our technology has no direct killing effect and, therefore, we believe that beneficial insects and microorganisms will not be adversely affected by our products.
  - Improve plant growth, crop yield and quality. We have demonstrated an ability to improve plant growth as evidenced by one or more of the following: increased biomass, photosynthesis, nutrient uptake and root development. The improved plant growth observed in our Messenger field trials leads to increased plant quality and generally increased yields of 10% to 20% over current agronomic practices using traditional chemicals.

3

6

- Effectiveness across a wide array of crops. Our technology has proven effective in activating natural plant defense and growth systems in over 40 crops, including high-value crops such as citrus, tomatoes, peppers, cucumbers and strawberries; traditional field crops such as cotton, wheat, rice, corn and soybean; and ornamental crops such as rose.
- Improved food safety. Our technology allows us to use small amounts of harpin protein, our active ingredient. Generally, only two to four grams of harpin protein are required to treat one acre. Once applied, harpin protein degrades rapidly and leaves no detectable residue. As a result, we believe harpin-based products will improve food safety compared to food harvested from crops treated with traditional chemical pesticides.
- Reduced risk of environmental damage and increased worker safety. Based on independent toxicology studies, in-house laboratory tests and extensive field testing, we believe harpin protein has little, if any, impact on the environment. As a result, we believe harpin-based products have significant advantages over traditional chemical pesticides in terms of worker safety and environmental damage.
- Reduced likelihood of pest resistance. Over time, the direct killing function associated with chemical pesticides sometimes results in pest

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and pathogen resistance. Because the mode of action of our technology has no direct killing effect, we believe it is less likely that pests and pathogens will develop resistance to our products.

### OUR BUSINESS STRATEGY

Our objective is to utilize our proprietary technology to develop and market products that enhance plant protection and crop yield. We plan to achieve this goal by implementing the following key strategies:

- Commercialize Messenger and future products based on our proprietary technology worldwide. We have initiated marketing activities designed to promote the distribution and sale of our first product, Messenger, and made our first commercial sales of the product in August 2000. We plan to commercialize Messenger and future products worldwide beginning in the United States and expanding to foreign countries as we obtain regulatory approvals. We intend to distribute these products through established agri-chemical distributors and retailers in order to leverage their existing sales forces and grower relations. We intend to continue to expand our team of field development specialists to maintain close relationships with growers and educate industry leaders and distributors.
  - Promote the benefits of Messenger and our harpin and harpin-related technology. We intend to use our existing and growing body of field trial results to promote the use of Messenger and the benefits of our proprietary technology. We plan to build market awareness through a wide range of programs, materials and events, including conference and trade show appearances and the dissemination of sales literature and promotional materials.
  - Continue to develop Messenger product extensions and new products that utilize natural plant defense and growth systems. We will continue to focus significant resources on research and development activities to develop and commercialize new products based on our harpin and harpin-related technology platform. These efforts will include Messenger product line extensions, such as crop, disease and pest specific products. In addition, we have identified and are currently performing efficacy studies on new harpin proteins that may be significantly more potent and may be effective against other classes of disease or induce additional growth pathways.
  - Control and protect our technology. We own or have obtained exclusive worldwide rights to patents and patent applications that cover Messenger and its use and other related technologies. We have not granted any geographic, crop or technology rights, other than for experimental and limited field trials, to these patents and patent applications. We plan to aggressively protect our control of these technologies by enforcing our current patents and filing additional patent applications in many countries worldwide. Where appropriate, we will continue to file patent applications jointly with Cornell University or other institutions.
- 4
- 7
- Maintain control over product manufacturing. In order to control the quality and supply of our products and help maintain our proprietary position, we intend to retain control over the manufacturing of our products. We expect to expand our manufacturing capabilities as necessary to meet market demand. We have established comprehensive and detailed quality control and assurance systems to ensure that we sell the highest quality product. We will only use independent manufacturing arrangements when we can assure ourselves that we can maintain our quality standards.

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### CORE TECHNOLOGY PLATFORM

The active ingredient in our initial product, Messenger, is one of a class of environmentally safe, nontoxic proteins called harpins, which were discovered by Dr. Zhongmin Wei, our Vice President of Research, and his colleagues while at Cornell University. Science magazine recognized the importance of the harpin discovery and published the related study as its cover story in July 1992. The USDA also recognized the discovery, describing it as a "scientific breakthrough" in understanding how plants respond to pathogens.

Plants have powerful natural defense mechanisms. Plants generally resist pathogens, or restrict their proliferation, by causing localized necrosis, or death of tissues, to a small zone surrounding the site of infection. This resistance by the plant is called the hypersensitive response. In addition to the localized hypersensitive response, plants respond to infection by activating defenses in parts of the plant that were not infected by the original pathogen, increasing resistance to further or secondary infections by the same and other pathogens. The activation and maintenance of defense systems in the uninfected regions of a plant are referred to as systemic acquired resistance. Systemic acquired resistance confers long-lasting systemic disease resistance against a broad spectrum of pathogens.

Researchers have studied these natural defense mechanisms for over 30 years seeking to understand how plants recognize an infection and what activates their defense systems. Dr. Wei and his colleagues were able to isolate and characterize the harpin protein, a previously undescribed class of proteins associated with activating these responses. They established that when certain bacterial infections occur, the bacteria secrete a harpin protein, which, in turn, signals the plant to generate a defense against the infection. Dr. Wei later discovered that direct topical application of trace amounts of harpin to the surface of the plant leaf or seed signals the plant to activate multiple pest-resistant and growth-enhancing responses without visible hypersensitive response.

5

8

### HOW HARPIN WORKS

[Description of "How Harpin Works" Chart (p.29)]

[GRAPHIC -- Depiction of how harpin works. Under the "Topical Application" heading, a harpin protein is depicted bonding to a plant receptor, initiating an ion-exchange. Under the "Simultaneous Plant Reactions" heading, the ion-exchange is depicted causing a signal amplification, resulting in the following responses in the plant: (1) systemic acquired resistance pathway activation, (2) jasmonic acid/ethylene pathway activation and (3) increased photosynthesis and nutrient uptake. Under the "Benefits" heading, the effects of such plant responses are disease resistance, pest resistance and improved plant growth.]

As shown above, the harpin protein serves to initiate several key plant reactions that generally result in improved disease and pest resistance and plant growth. Once a harpin protein is applied to a plant and binds to a plant receptor, production of hydrogen peroxide, an important mechanism of plant defense, is induced in plant cells and a series of ion exchanges are stimulated in the cell membrane. Then, a series of reactions occur that result in the following benefits:

- Disease resistance and pest resistance. The systemic acquired resistance pathway is broadly classified as encoding pathogenesis-related proteins, which play an active role in disease resistance. In addition, our



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researchers have demonstrated that harpin proteins induce the jasmonic acid/ethylene dependent pathway that plays an important role in disease and pest defense.

- Improved plant growth, crop yield and quality. Activation of a plant's growth systems has been noted even in the absence of disease. Activation of plant growth and related pathways results in increased photosynthesis and nutrient uptake. Harpin-treated plants generally show increased biomass, root development, earlier flowering and fruit maturation, as well as increased crop yield and quality.

The first harpin was isolated from *Erwinia amylovora*, a pathogenic bacterium that causes fire blight in apple, pear and other rosaceous plants. Since then, EDEN and Cornell University, as well as other research institutions, have isolated several harpin or harpin-like proteins from other major groups of plant pathogenic bacteria.

### MESSENGER -- OUR INITIAL PRODUCT

Utilizing our proprietary harpin and harpin-related technology, we have developed our first product, Messenger, which activates natural plant defense and growth systems without altering the plant's DNA or having a direct killing effect on targeted pests or pathogens. Messenger received conditional approval from the EPA in April 2000, and we have initiated marketing activities to promote the distribution and sale of Messenger in the United States. We are currently manufacturing Messenger for sale in commercial quantities and began commercial sales of the product in August 2000. Messenger is a water-soluble, granular powder that is topically applied either independently or in conjunction with traditional chemical pesticides. Once

6

9

applied, Messenger degrades rapidly and leaves no detectable residue. Messenger provides all the advantages of our core technology, including:

- simultaneous activation of natural plant systems to:
  - protect against a broad array of viral, fungal and bacterial diseases, including some diseases for which no effective treatment is currently available;
  - reduce damage caused by a variety of pests; and
  - improve plant growth, crop yield and quality;
- effectiveness across a wide array of crops;
- improved food safety;
- reduced risk of environmental damage;
- increased worker safety; and
- reduced likelihood of pest resistance.

In addition to these key advantages of our proprietary technology, Messenger provides the following additional benefits:

- Low dosage and quick activation of plant systems. Generally, only two to four grams of harpin protein, Messenger's active ingredient, are required to treat one acre. Upon application, Messenger generally initiates the

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activation of the plant's defense and growth systems within five to ten minutes, with full activation occurring within three to five days. The presence of Messenger initiates the plant response. The continued presence of Messenger is not required for full activation, reducing the need for re-application due to rain or other environmental conditions.

- Simple application. Messenger can be applied using standard equipment and a variety of simple application methods, such as direct foliar sprays, seed treatments and soil drenches. For foliar spray applications, Messenger is mixed with water, either alone or in combination with other plant treatments, and applied using conventional spray equipment. In contrast to many traditional pesticides, which generally require that each individual plant leaf be sprayed, it is not necessary to spray the entire plant for Messenger to be effective.
- Extended effect. In certain crops, such as wheat and rice, we believe only one application of Messenger per season is necessary. For other crops, such as fresh vegetables and ornamentals, repeat applications at a rate equal to or less than traditional chemical pesticides have been shown to enhance the defense and growth benefits of Messenger.
- Reduced use restrictions and ease of disposal. Many chemical pesticides have restrictions that prohibit farm workers from re-entering treated fields or greenhouses for periods of 24 to 48 hours, which may cause significant delays in grower activities. Messenger, on the other hand, qualifies for the EPA's minimum restricted entry interval of four hours. Similarly, many chemical pesticides are subject to restrictions that impose minimum time periods, ranging from a few days to several weeks, between the product's last application and the time of harvest. Because Messenger is virtually nontoxic and leaves no detectable residues on treated crops, there is no pre-harvest interval. In addition, in contrast to most traditional chemical pesticides, personal protective equipment, such as respirators, rubber gloves, boots and complete suits of protective outerwear, is not required for workers applying Messenger. Unlike products containing toxic chemicals, Messenger's packaging materials can be easily disposed of in traditional municipal or county waste collection systems.

7

10

### Messenger's Performance in Field Trials

We conduct both small scientifically oriented field trials and large demonstration field trials to test the efficacy and performance of Messenger, to educate growers and their advisors regarding the value and use of Messenger, and to generate data to enable us to improve application rates and timing. In addition, we conduct field trials in connection with our research and development of new products. Field trials are conducted with major growers, universities and consultants. Generally, we pay these independent third parties to execute, evaluate and report on our trials pursuant to specific protocols agreed to by such parties. Compliance with such protocols is monitored by our field development specialists.

Since 1996, we have completed in excess of 700 field trials on over 40 crops in the United States, the People's Republic of China and other countries. The majority of trials were conducted on citrus, cotton, cucumber, peppers, strawberries, tobacco, tomatoes and wheat. Our field trials generally demonstrated that there is an increase of 10% to 20% in the yields of crops treated with Messenger over the yields of crops grown under current agronomic practices. In addition, Messenger generally provided better or equal disease control over traditional chemicals, even when compared to crops treated

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simultaneously with a combination of two or more traditional pesticides. In large-scale demonstration field trials on citrus, fresh tomatoes, strawberries and other crops, traditional pesticide use could be reduced by 70% to 90%.

Field trials are subject to numerous environmental and human circumstances beyond our control and results can vary significantly. Not all the trials we have conducted have shown commercially significant results. We will continue to research the crops that may prove to be unresponsive to Messenger as we learn more about plant biochemistry through our research programs.

### Messenger's Safety

Independent toxicology studies, in-house laboratory tests and our extensive field testing experience demonstrate that Messenger is virtually nontoxic to humans and the environment. The following is a summary of the human health and environmental safety attributes of Messenger:

- Negligible human dietary and environmental exposure. There is virtually no human dietary or environmental exposure to Messenger resulting from application of the product. Residues of Messenger on treated crops are rapidly degraded by sunlight, rain and microorganisms and are undetectable within three to ten days following application, even when applied at rates far above our recommended application rates.
- Safe for animals. The EPA requires that toxicology studies be conducted to evaluate the impact of Messenger on selected animals. The EPA-required mammalian toxicology testing placed Messenger in the EPA's "Toxicity Category IV," a designation reserved for materials with the lowest hazard potential. Further, only at dose levels hundreds of times higher than would ever be present as a result of recommended field applications is there any evidence of toxicity to fish or other aquatic organisms. Unlike many plant protection and yield enhancement products, Messenger requires no label warnings or special use restrictions to protect animals.
- Nontoxic to plants. Messenger has never been observed to cause toxicity or any other adverse effects in plants during the course of hundreds of field trials conducted on a diversity of crops under a wide variety of environmental conditions. Also, we have not observed any adverse effects attributable to Messenger in numerous controlled laboratory studies to evaluate its effects on seedling germination and emergence.
- Safe for use in sensitive habitats. The EPA has expressed concern about the use of crop protection products in or around highly sensitive habitats such as estuaries and areas inhabited by threatened or endangered plants and animals. Because Messenger exhibits such a high degree of safety to plants and nontarget organisms, we believe it is an ideal candidate for use within and adjacent to environmentally sensitive areas and the Messenger label bears no restrictions or precautions regarding such use.

### COMMERCIALIZATION STRATEGY

We have initiated marketing activities designed to promote the distribution and sale of Messenger, made our first sales of the product in August 2000 and will continue to commercialize Messenger by implementing the following strategies:

- Initially focus on high-value crops and large commercial growers. Our initial commercialization efforts are focused on high-value crops in the

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United States, such as citrus, tomatoes, peppers, cucumbers, strawberries and other horticultural and specialty crops, from which we expect growers will derive the greatest benefit from Messenger, both in terms of its relative cost compared to the value of the crops treated and the value of the expected increases in yields. In addition, we are focusing on large commercial growers in the United States who have significant purchasing power and are generally considered early adopters of new technologies. We have recruited leading growers and their consultants to participate in field trials, enabling them to become familiar with Messenger and to experience its benefits firsthand.

- Employ existing industry distribution channels and expand our sales and field development team. We are employing established industry methods to distribute Messenger. In addition, we intend to expand our team of sales and field development specialists to educate growers and distributors and maintain close relationships with commercial growers.
- Take advantage of the Messenger brand to promote the use of Messenger on traditional field crops. We plan to take advantage of the Messenger brand developed in the use on high-value crops and apply it in marketing Messenger to traditional field crops, such as cotton, wheat, rice, corn and soybean.
- Capitalize on international opportunities. We intend to expand internationally by hiring personnel with experience in foreign markets, conducting additional international field trials, pursuing regulatory approval in international markets and establishing distribution relationships with multinational agri-chemical companies in an effort to capitalize on global opportunities and to establish Messenger as a leading plant protection and yield enhancement product in the global marketplace.

### SALES, MARKETING AND DISTRIBUTION

We intend to market and sell our products worldwide as an attractive alternative or complement to traditional chemical pesticides and genetically modified plants. We plan to utilize traditional industry distribution channels in our sales efforts, as well as to employ sales, marketing and field development specialists, to market and sell our products to large commercial growers.

Our distribution strategy is to focus on large, nationwide and regional independent distributors. We will be highly selective in choosing distributors and retailers to represent our products. They will be selected based on commitment to our product, technical expertise, local market knowledge and financial stability. We believe our distributors and retailers will have the opportunity to achieve attractive profit margins selling our products and, therefore, will have an incentive to promote Messenger and other products we may develop. To ensure that they have adequate selling incentives, however, we may also offer volume discounts, extended payment terms or establish other programs designed to motivate our distributors and retailers. We have engaged several independent distributors and retailers regarding the distribution and sale of Messenger.

Our sales and marketing staff consists of sales and marketing specialists and field development specialists who possess a high level of technical expertise and knowledge regarding Messenger and our harpin and harpin-related technology as well as competing plant protection and yield enhancement products and techniques. Our specialists support our products and educate growers and independent distributors on the uses and benefits of our technology. Our sales and marketing and research staff is organized into separate business units that focus on particular regions and crops. As of December 31, 2000, we had

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established three business units. Our Florida business unit currently consists of 10 sales and field development personnel and is focused on citrus and fresh vegetable crops. Our Southeastern business unit currently consists of 10 sales and field development personnel and is focused on cotton, tobacco and peanut crops. Our Western and Mexico business unit consists

9

12

of 11 sales and field development personnel and is focused on strawberries, grapes, fresh and processed vegetables and small grain crops.

In order to enhance our commercialization efforts, we expect to continue to expand our sales, marketing and field development capabilities and to continue to establish separate business units in various regional and international markets that will focus on the needs relating to that region or specific crops. We have initiated the development of business units for the Mid western United States and for the European-North African regions. We are also beginning to leverage the sales and marketing efforts of independent distributors by actively training their sales and marketing personnel in the uses and benefits of Messenger.

We conduct a number of marketing and awareness programs to support the sale and distribution of Messenger. We have initiated integrated marketing campaigns in our targeted crops and regions aimed at increasing brand awareness among large growers. These include print advertising in trade magazines, localized radio commercials, targeted direct mail promotions, outdoor advertising, publicity articles and trade show promotions. In addition, we have programs that are designed to educate major commercial growers and their pest and disease control advisors about the benefits of Messenger and we test Messenger in their fields. Our field development specialists conduct field trials with these influential groups to further evaluate product efficacy, timing of application, combination treatments incorporating other pesticide products, and use in integrated pest and disease management programs.

We also target crop specialists and university agricultural research personnel in an effort to increase industry awareness of our harpin and harpin-related technology and its potential benefits. We have sponsored field trials for these groups, who independently test Messenger, report their results to us and make recommendations to growers on inclusion of Messenger in integrated pest and disease management programs.

### MANUFACTURING

We believe that we have the manufacturing capacity to meet our currently anticipated near-term commercial requirements. We intend to expand our manufacturing capabilities. To ensure the quality and supply of our products and to protect our proprietary technology, we intend to retain control over the manufacturing process. We have established comprehensive and detailed quality control and assurance systems to ensure that we sell the highest quality product. We currently conduct numerous quality control tests on each Messenger production lot. We will use independent manufacturing arrangements only when we can assure ourselves that we can maintain our strict quality standards. We currently depend on independent manufacturers to perform certain portions of our production process. We intend to engage and we are in discussions with additional third-party manufacturers to perform this process.

We have designed and developed a water-based fermentation process to manufacture Messenger and other harpin-based products. First, we place the harpin gene into a benign form of common laboratory bacteria, *Escherichia coli*, which is frequently used in pharmaceutical production and is nonpathogenic and nutritionally deficient and cannot survive in normal environmental conditions.

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Once the harpin protein has been produced, the bacteria is destroyed and the harpin protein is extracted and dried. We do not create harmful intermediates in the production of Messenger or other harpin-based products we are developing. Further, waste materials are biodegradable and are easily disposable. The raw materials used in the manufacture of our products are readily available from multiple sources. We do not currently depend on any single supplier for the raw materials necessary for the manufacture of Messenger.

Approximately 20,000 square-feet of our Bothell, Washington facilities are dedicated to the manufacture, packaging, warehousing and shipment of Messenger. The manufacturing portion of our facility is monitored and regulated by a number of different governmental agencies including local, state and federal authorities. We believe that we are in compliance with all regulatory requirements relating to our facilities.

10

13

### RESEARCH AND DEVELOPMENT PROGRAMS

Our research and development efforts utilize protein and organic chemistry, analytical chemistry, recombinant technologies and traditional water-based fermentation techniques, among others. As of December 31, 2000, we employed 36 researchers and support staff in Bothell, Washington and other locations, 10 of whom hold doctoral degrees.

Through our extensive knowledge of harpin effects and harpin receptors and intensive research program, we believe that we will continue to discover and develop new products that will significantly improve plant protection and yield enhancement in the future. We intend to continue to focus our research and development efforts in the following areas:

- Additional Messenger products and product extensions. We are currently developing additional Messenger products and product extensions that are crop, disease or pest specific, or that can be applied to seeds before planting.
- New harpin proteins. We have identified and are currently performing efficacy studies on new harpin proteins that we have shown to be many times more potent than our current product, and are also expected to have effects on other classes of disease or induce additional growth pathways in plants.
- Harpin protein fragments. We have discovered that small sections, or fragments, of the harpin protein are responsible for separate and distinct harpin-induced effects such as growth enhancement and disease control. We are identifying which of these fragments correspond to each separate harpin effect and, in some cases, we are now able to selectively "switch on" individual characteristics in plants. Products incorporating this technology may be useful in circumstances in which it is desirable to control disease without activating plant growth systems.
- The plant receptor system. We believe that our scientists are leading the effort in the international research community to understand how the harpin protein message is received by the plant's receptors and carried throughout the plant and which biochemical pathways are activated in that process. We believe this research will allow us to better understand the potential use of harpin and other harpin-related products.

In addition, we conduct in-house research and development activities with respect to genetically modified plants, principally to increase our understanding of harpin and harpin-related technology. While we currently do not

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intend to manufacture and sell products that modify a plant's DNA in the foreseeable future, no assurance can be given that we will not manufacture and sell these products if market conditions become favorable.

### CONTINUING CORNELL UNIVERSITY RELATIONSHIP

In May 1995, we entered into a license agreement with the Cornell Research Foundation, whereby we acquired worldwide exclusive rights to Cornell University's technology relating to harpin proteins and related genes. Since then, our researchers and researchers at Cornell University have worked together to continue the development of harpin protein technologies, designing research programs and regularly exchanging and discussing information relating to the technology.

The license agreement grants us exclusive rights to make, have made, use and sell any product or use claimed in the licensed patents and patent applications, or that incorporates the licensed biological materials. In consideration of these exclusive rights, we agreed to fund research and development activities at Cornell University, and we issued the Cornell Research Foundation 400,000 shares of our common stock. We further agreed to pay a royalty on net sales of licensed products and to make certain minimum annual royalty payments.

Currently, we have exclusive rights under the license agreement to 10 U.S. patents and 15 U.S. patent applications. The patents and patent applications include claims that protect Messenger and, accordingly, our ability to market and sell Messenger depends on the license agreement. Future inventions may be added to the license agreement based on inventorship, our funding of the research at Cornell that produced the invention

11

14

and the relationship of potential patent claims of the invention to the claims of the licensed patents or licensed patent applications.

The license agreement terminates on the expiration date of the last-to-expire licensed patent. Currently, the last-to-expire licensed patent will expire in February 2018. However, if additional patents are added to the license agreement in connection with the development of future products, the term of the license agreement would be extended to the date of the last-to-expire of the additional patents. The Cornell Research Foundation may terminate the license agreement prior to the expiration of the term, but only if we are in substantial noncompliance with any of the material terms and conditions of the license agreement and we fail to remedy the noncompliance within six months after being notified in writing of the noncompliance.

We are currently responsible for the management of patent prosecution and maintenance activities relating to the licensed patent applications and any patents issuing therefrom. We are obligated to pay all expenses of this prosecution and maintenance, both in the United States and in the foreign jurisdictions that we designate for filing counterpart applications. In addition, we continue to fund research and development activities at Cornell University.

### PATENTS AND PROPRIETARY RIGHTS

We own or have exclusive rights to 160 U.S. and foreign patents and patent applications, consisting of 12 U.S. and foreign issued patents and 148 patent applications pending in the U.S. and abroad. Protection of our proprietary rights is vital to our business. In addition to our policy of seeking patents on our inventions, we rely on trade secrets, know-how that is not patented, and continuing technological innovation to develop and maintain our competitive

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position. In addition, we maintain a policy of acquiring licenses under selected patents or patent applications from third parties, and entering into confidential information and invention assignment agreements with our employees, consultants and other third parties.

Through our license agreement with the Cornell Research Foundation, we have exclusive rights to 10 U.S. patents and 15 pending U.S. patent applications either owned solely by the Cornell Research Foundation or jointly with us. Three of the pending U.S. patent applications have received Notices of Allowance from the U.S. Patent & Trademark Office. We also own or have exclusive rights to two foreign patents and 123 foreign patent applications corresponding to the issued patents or pending U.S. filings. We have filed ten additional U.S. patent applications covering products which have been invented solely by our researchers.

Our Messenger product is covered by the U.S. patents to which we have exclusive rights. These patents, which include claims for the harpin family of proteins generally, and for various specific harpins, and the use of harpin proteins to impart disease resistance and to control insects in plants, will expire between 2013 and 2018. We believe these patents preclude our competitors and other entities from making, using or selling harpin proteins and using harpin proteins to impart disease resistance and to control insects in plants.

Our pending patent applications include claims to several specific harpin proteins, the use of harpin proteins to enhance plant growth and improve yields, and methods to apply harpin proteins to seeds or insert harpin genes into plants to impart disease resistance. In addition, we have filed for patent protection on imparting tolerance to environmental or chemical stress, segments of harpin proteins and receptor technologies.

Patent law is still evolving relative to the scope and enforceability of claims in the fields in which we operate. Like many biotechnology companies, our patent protection is highly uncertain and involves complex legal and technical questions for which legal principles are not yet firmly established. Therefore, our patent applications may be rejected. Even if we are issued patents, they may be insufficient to protect the technology underlying our products.

EDEN Bioscience(R) and Messenger(R) are registered trademarks in the United States, the People's Republic of China, Mexico, the European Union and other key foreign countries. EDEN(R) is also a registered trademark in the United States and certain foreign countries. Applications to register those trademarks are pending in other key foreign jurisdictions.

12

15

### GOVERNMENT REGULATION AND REGISTRATION

Messenger is regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and under the Federal Food, Drug, and Cosmetic Act (FFDCA) by the U.S. Environmental Protection Agency. The EPA has determined that Messenger is a biochemical pesticide, a subset of biopesticides. Compared to traditional chemical pesticides, biopesticides are generally subjected to significantly fewer data requirements to support registration under FIFRA.

On April 19, 2000, the EPA granted conditional registration for the full commercial use of Messenger. Our Messenger registration will automatically expire two years after the date on which it was granted. Before the expiration date, the EPA will reevaluate the registration and determine whether to convert the product to a non-expiring registration. We will not be permitted to continue sales of Messenger if we do not receive a non-expiring registration.

The EPA also granted EDEN an exemption from tolerance under the FFDCA,



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meaning that it was not necessary to establish a maximum level of harpin residue that may be present on food or animal feed. Now that Messenger is registered by the EPA, the Food and Drug Administration is responsible for monitoring and enforcing Messenger's exemption from tolerance.

Our registration is conditioned on the requirement that by April 19, 2001, we submit:

- the results of one additional laboratory study on a highly sensitive aquatic species to confirm that Messenger poses no foreseeable hazard to nontarget organisms;
- the results of two additional assays to assess product purity; and
- the results from assays of five Messenger production batches to verify our quality standards to protect against potential microbial contamination.

We have completed all of the studies listed above and believe the results of the studies and the assays will meet the EPA's requirements. We expect to submit the final report of the studies prior to April 19, 2001. Upon review and acceptance of this information, we expect the EPA to convert our Messenger registration to unconditional. However, if we are unable to meet the conditions specified by the EPA within the time frames specified in the EPA's notice of pesticide registration, the agency could revoke our registration or impose use restrictions that are not currently applicable. The conditional status of our registration does not currently impact our ability to market and sell Messenger.

Even upon satisfying the conditions imposed by the EPA and the conversion of our registration to a non-expiring registration, Messenger will be subject to continuing review by the EPA and extensive regulatory requirements. The EPA could at any time revoke our registration or impose limitations on the use of Messenger upon receipt of newly discovered information, including an inability to comply with regulatory requirements or the occurrence of unanticipated problems with the product.

Although pesticides themselves are exempt from the Toxic Substances Control Act (TSCA), TSCA does regulate pesticide raw materials such as the bacteria we use to produce harpin protein. However, the EPA has established an exemption from TSCA regulation for the category of bacteria we use to produce harpin if it is used in a contained environment in a limited access facility. The bacteria we use and our facilities comply with these requirements and, therefore, we are exempt from the requirements of this law.

We are required to obtain regulatory approval from certain state and foreign regulatory authorities before we market Messenger in those jurisdictions. We are authorized to sell Messenger in 47 states on virtually all crops and in California for use on strawberry for disease management. The California approval is conditioned on the requirement that we submit data from several additional studies, some of which will be submitted in April 2001. The remaining data will be collected and submitted within various required time frames over the next two years. Upon review and acceptance of the data and information, we expect California to convert the registration to unconditional. We have not yet received approval for Messenger in Colorado and New York or for use on other crops in California. We have not yet obtained authorization to sell Messenger in any foreign

countries. Certain of these jurisdictions may apply different criteria than the EPA in connection with their approval processes.

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Our manufacturing operations are subject to regulation and periodic inspection by the EPA and other federal and state regulatory agencies.

### COMPETITION

The crop protection and treatment industry is highly competitive and is dominated by multinational chemical and pharmaceutical companies, including Syngenta AG, Aventis S.A., Monsanto Company, BASF AG, Bayer AG, E.I. DuPont de Nemours and Company and The Dow Chemical Company. Many of these companies have substantially greater financial, technical, distribution and marketing resources than we do. Competition is based primarily on price and efficacy, which is generally measured by crop yield and overall cost of use to the grower. In addition, attracting and retaining qualified personnel, developing production and marketing expertise, developing proprietary products or processes and obtaining regulatory approvals on a timely basis are essential to establishing a competitive market position.

Many of the large chemical pesticide companies are also developing products that they believe are less environmentally harmful than traditional chemical pesticides and that may directly compete with Messenger and other products we may develop. Syngenta AG, a large multinational company, manufactures a product that is designed to induce disease-resistant systems in wheat and, potentially, in other plants. Other small companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. Furthermore, academic institutions, government agencies and other public and private research organizations may also conduct research, seek patent protection and establish collaborative arrangements for discovery, research, development and marketing of products similar to ours.

We expect competition within the plant protection and yield enhancement industry to intensify as regulatory pressures on traditional chemical solutions increase. We believe this will occur as advances in biological crop protection and yield enhancement technologies, such as that incorporated in Messenger, become more widely known. We may be unable to compete successfully against our current competitors or new market entrants may develop products that compete directly with our products and are more effective, less expensive or more widely accepted than our products.

### EMPLOYEES

As of December 31, 2000, we employed 95 persons, 61 located at our corporate headquarters in Bothell, Washington, and 34 located elsewhere. Of those employees, approximately 36 are engaged primarily in research and development, 18 in manufacturing, 22 in sales and marketing and 19 in management and administration. None of our employees is covered by collective bargaining agreements. We believe relations with our employees are good.

14

17

### EXECUTIVE OFFICERS AND DIRECTORS

The following table sets forth certain information regarding our executive officers and directors as of March 22, 2001:

NAME ----	AGE ---	POSITION -----
Jerry L. Butler.....	52	Chief Executive Officer, President and Director

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Bradley S. Powell.....	40	Chief Financial Officer, Vice President of Finance and Secretary
Zhongmin Wei, Ph.D. ....	43	Vice President of Research
Jon E.M. Jacoby.....	62	Director
Albert A. James.....	68	Director
Agatha L. Maza.....	60	Director
Oscar C. Sandberg.....	70	Director
John W. Titcomb, Jr.....	50	Director
William T. Weyerhaeuser, Ph.D.....	56	Director

JERRY L. BUTLER has served as our Chief Executive Officer, President and a director since our incorporation in July 1994. From January 1991 to December 1993, Mr. Butler served as Vice President of Finance, Chief Financial Officer and Treasurer of Bainbridge Sciences Corporation, a biotechnology diagnostics company. In 1985, Mr. Butler co-founded MicroProbe Corporation, also a biotechnology diagnostics company, and served as its Executive Vice President and a director until November 1990. From 1981 to 1984, Mr. Butler served as Treasurer of Genetic Systems Corporation, a biotechnology diagnostics company. Mr. Butler received B.S. and M.A. degrees from Brigham Young University.

BRADLEY S. POWELL has served as our Chief Financial Officer and Vice President of Finance since July 1998 and as our Secretary since June 2000. From March 1994 to July 1998, he served as Vice President and Corporate Controller of Omega Environmental, Inc., a provider of products and services to owners of underground storage tanks. In 1983, Mr. Powell joined KPMG Peat Marwick, an international public accounting firm, as a certified public accountant and, from 1990 to March 1994, served as a Senior Audit Manager. Mr. Powell received a B.S. degree from Central Washington University.

ZHONGMIN WEI, PH.D. has served as our Vice President of Research since May 1998, as Director of Research from April 1997 to May 1998 and as Senior Scientist from June 1996 to April 1997. From November 1995 to April 1996, Dr. Wei served as Principal Investigator at the Institute of Molecular Agrobiology in Singapore, an agricultural biotechnology research organization. From July 1992 to June 1996, Dr. Wei served as a Research Scientist and, from September 1989 to September 1992, as a Post-Doctoral Associate at the Cornell University School of Agricultural and Life Sciences. Dr. Wei received a B.S. degree from Zhejiang University and M.S. and Ph.D. degrees from Nanjing Agricultural University, both in the People's Republic of China.

JON E.M. JACOBY has served as one of our directors since February 1999. Mr. Jacoby has been employed by Stephens, Inc. and Stephens Group, Inc., both of which engage in investment banking activities, since 1963 and is presently a director and officer of each of those companies. He is also a director of Delta & Pine Land Company, an agricultural products company; Beverly Enterprises, Inc., an operator of nursing facilities; Power One, Inc., a power supplies manufacturer; Sangamo Biosciences, a biotechnology company; and Energy Exploration Technologies Inc., an oil and gas exploration company. Mr. Jacoby received a B.S. degree from the University of Notre Dame and an M.B.A. degree from Harvard Business School.

ALBERT A. JAMES has served as one of our directors since May 1995 and as our Secretary from May 1995 to June 2000. Mr. James is a private investor and currently serves as a general partner in several real estate projects in the Western United States. From 1982 to November 1997, Mr. James served as Managing Partner of Bellevue Associates, a commercial real estate management company. He served as Secretary and Treasurer of Anthony's Restaurants, a regional chain of restaurants, from 1976 to June 1995 and, from 1981 to March 1994, Mr. James served as Vice President of Alpine Industries, a window and laminated glass-manufacturing company. In 1957, Mr. James founded a discount drug and cosmetic business that merged with a chain of

discount retail drug stores, which was ultimately sold to Payless Drug Stores Northwest in 1969. Mr. James received a B.S. degree in Pharmacy from the University of Washington.

AGATHA L. MAZA has served as one of our directors since May 1995. From February 1994 to October 1995, Ms. Maza served as Chief Executive Officer of the National Testing Laboratory in Portland, a division of the American Red Cross involved in biological testing of blood. From July 1991 to January 1994, she served as Chief Executive Officer of Medical Arts Laboratory and, from January 1988 to December 1990, as Chief Executive Officer of Eastside Medical Laboratory, both of which are medical diagnostics services laboratories. Ms. Maza currently serves as CEO, President of Roadable Aircraft International, Inc., an autoflight growth and development company. Ms. Maza received a B.S. degree from Seattle University, an M.B.A. degree from City University and has completed the Executive Marketing Management Program at Stanford University.

OSCAR C. SANDBERG has served as one of our directors since May 1995, and is presently Secretary, Treasurer and a director of three retail automobile dealerships. Mr. Sandberg has served as an officer or director of several businesses, including First Western Bank, a financial institution, and Drug Emporium, a chain of retail drug stores. He has also served as a general partner in various real estate ventures. In 1954, Mr. Sandberg co-founded House of Values, a chain of discount stores, which was sold to Payless Drug Stores in 1969. Mr. Sandberg received a B.A. degree in business administration from the University of Washington.

JOHN W. TITCOMB, JR. has served as one of our directors since May 1995 and as Assistant Secretary from December 1997 to June 2000. Mr. Titcomb is a private investor and currently serves as a director of several privately held companies involved in various technology and manufacturing businesses. Mr. Titcomb received an A.B. degree from Harvard College and a J.D. degree from Harvard Law School.

WILLIAM T. WEYERHAEUSER, PH.D. has served as one of our directors since May 1998. Dr. Weyerhaeuser was in private practice as a clinical psychologist from 1975 to 1999. From May 1993 to June 1994, he served as President of Rock Island Company, a private investment company and from July 1994 to June 1998, as its Chairman of the Board and Chief Executive Officer. Dr. Weyerhaeuser currently serves as a director of several privately held companies and foundations, and of two publicly listed companies, Potlatch Corporation, a timber and paper products company, and Columbia Banking System, Inc., a financial institution. Dr. Weyerhaeuser received a B.A. degree from Stanford University, an M.A. degree from Fuller Theological Seminary and a Ph.D. degree from the Fuller Graduate School of Psychology.

#### FACTORS THAT MAY AFFECT OUR BUSINESS, FUTURE OPERATING RESULTS AND FINANCIAL CONDITION

You should carefully consider the risks described below together with all of the other information included in this annual report on Form 10-K. The risks and uncertainties described below are not the only ones facing our company. If any of the following risks actually occurs, our business, financial condition or operating results could be harmed.

WE ARE AT AN EARLY STAGE OF DEVELOPMENT AND ARE SUBJECT TO THE RISKS OF NEW ENTERPRISES AND THE COMMERCIALIZATION OF A NEW TECHNOLOGY.

We began our operations in 1994 and have recently initiated marketing activities designed to promote the distribution and sale of our first product,

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Messenger, in the United States. We have not proven our ability to commercialize any products. Our early stage of development, the newness of our technology and the uncertain nature of the market in which we compete make it difficult to assess our prospects or predict our future operating results. We are subject to risks and uncertainties frequently encountered in the establishment of a new business enterprise, particularly in the rapidly changing market for plant protection and yield enhancement products. These risks include our inability to transition from a company with a research focus to a company capable of supporting commercial activities, including manufacturing, regulatory approval and compliance, marketing, sales, distribution and quality control and assurance. Our inability to adequately address these risks could cause us to be unprofitable or to cease operations.

16

19

WE CURRENTLY DEPEND ON A SINGLE PRODUCT AND OUR DEVELOPMENT AND COMMERCIALIZATION OF THAT PRODUCT MAY NOT BE SUCCESSFUL.

For the immediately foreseeable future we will be dependent on the successful development and commercialization of one product, which is based on a new technology. While Messenger has been subject to numerous field tests on a wide variety of crops with favorable results, we have only recently begun sales of Messenger, and Messenger could prove to be commercially unsuccessful. Messenger may not prove effective or economically viable for all crops or markets. In addition, because Messenger has not been put to widespread commercial use over significant periods of time, no assurance can be given that adverse consequences might not result from the use of Messenger, such as soil or other environmental degradation, the development of negative effects on animals or plants or reduced benefits in terms of crop yield or protection.

The markets for Messenger, and other harpin-based products we may develop, are unproven. Messenger may not gain commercial acceptance or success. If we are unable to successfully achieve broad market acceptance of Messenger, we may not be able to generate enough product revenues in the future to achieve profitability. A variety of factors will determine the success of our market development and commercialization efforts and the rate and extent of market acceptance of Messenger, including our ability to implement and maintain an appropriate pricing policy for Messenger, and the rate and extent that growers, regulatory authorities and the public accept new pest control practices and products developed through biotechnology.

OUR PRODUCT DEVELOPMENT EFFORTS, WHICH ARE BASED ON AN INNOVATIVE TECHNOLOGY THAT IS COMMERCIALY UNPROVEN, MAY NOT BE SUCCESSFUL.

Our harpin and harpin-related technology is new, in an early stage of development and commercially unproven. It may take years and significant capital investment to develop viable enhancements to our Messenger product or new products based on our harpin and harpin-related technology. Risks inherent in the development of products based on innovative technologies include the possibility that:

- new products or product enhancements will be difficult to produce on a large scale or will be uneconomical to market;
- proprietary rights of third parties will prevent us from marketing products; and
- third parties will market superior or equivalent products or will reach the market with their products first.

INABILITY TO PRODUCE A HIGH QUALITY PRODUCT AS WE INCREASE OUR MANUFACTURING

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CAPACITY COULD IMPAIR OUR BUSINESS.

To be successful, we will have to manufacture Messenger in large quantities at acceptable costs while also preserving high product quality. If we cannot maintain high product quality on a large scale, we may be unable to achieve market acceptance of our products and our sales would likely suffer. Moreover, we do not have backup manufacturing systems and, as a result, a failure of any component required in the manufacturing process could delay or impair our ability to manufacture Messenger in the quantities that we may require.

We intend to significantly expand our manufacturing facilities. We cannot guarantee that we will be successful in expanding our manufacturing activities. We may encounter difficulties in scaling up production of our products, including problems involving manufacturing yields, quality control and assurance, shortages of qualified personnel and compliance with regulatory requirements. Even if we are successful in developing our manufacturing capability and processes, we do not know whether we will do so in time to meet our product commercialization schedule or to satisfy the requirements of our distributors or customers.

WE HAVE A HISTORY OF LOSSES SINCE INCEPTION, WE EXPECT TO CONTINUE TO INCUR LOSSES AND WE MAY NOT ACHIEVE OR SUSTAIN PROFITABILITY.

We have incurred operating losses in each quarter since inception and we expect to continue to incur further operating losses for the foreseeable future. From our inception in July 1994 to December 31, 2000, we

17

20

have accumulated a deficit of \$38.6 million. For the years ended December 31, 1999 and 2000, we had net losses of \$9.4 million and \$15.7 million, respectively. To date, our revenues have been limited. We expect our future revenues to be primarily from the sale of Messenger and other products and these sales are highly uncertain. We expect to continue to devote substantial resources to expand our research and development activities, further increase manufacturing capacity and expand our sales and marketing activities for the commercialization of Messenger. As a result, we will need to generate significant revenues to achieve and maintain profitability. We may never generate profits, and if we do become profitable, we may be unable to sustain or increase profitability on a quarterly or annual basis.

IF OUR ONGOING OR FUTURE FIELD TRIALS ARE UNSUCCESSFUL, WE MAY BE UNABLE TO ACHIEVE MARKET ACCEPTANCE OR OBTAIN REGULATORY APPROVAL OF OUR PRODUCTS.

The successful completion of multiple field trials in domestic and foreign locations on many crops is critical to the success of our product development and marketing efforts. If our ongoing or future field trials are unsuccessful or produce inconsistent results or unanticipated adverse side effects or if we are unable to collect reliable data, regulatory approval of our products could be delayed or we may be unable to achieve market acceptance of our products. Although we have conducted successful field trials on a broad range of crops, we cannot be certain that additional field trials conducted on a greater number of acres, or on crops for which we have not yet conducted field trials, will be successful. Moreover, the results of our ongoing and future field trials are subject to a number of conditions beyond our control, including weather-related events such as drought or floods, severe heat or frost, hail, tornadoes and hurricanes. Generally, we pay third parties, such as growers, consultants and universities, to conduct our field tests for us. In addition, incompatible crop treatment practices or misapplication of the product by the growers that participate in our field trials could interfere with the success of our field trials.

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RAPID CHANGES IN TECHNOLOGY COULD RENDER OUR PRODUCTS UNMARKETABLE OR OBSOLETE.

We are engaged in an industry characterized by extensive research efforts and rapid technological development. Our competitors, some of which have substantially greater technological and financial resources than we do, may develop plant protection and yield enhancement technologies and products that are more effective than ours or that render our technology and products obsolete or uncompetitive. To be successful, we will need to continually enhance our products and to design, develop and market new products that keep pace with new technological and industry developments.

INABILITY TO DEVELOP ADEQUATE SALES AND MARKETING CAPABILITIES COULD PREVENT US FROM SUCCESSFULLY COMMERCIALIZING MESSENGER AND OTHER PRODUCTS WE MAY DEVELOP.

We currently have limited sales and marketing experience and capabilities. Our internal sales and marketing staff consists primarily of sales and marketing specialists and field development specialists who are trained to educate growers and independent distributors on the uses and benefits of Messenger. We will need to further develop our sales, marketing and field development capabilities in order to enhance our commercialization efforts, which will involve substantial costs. These specialists require a high level of technical expertise and knowledge regarding Messenger's capabilities and other plant protection and yield enhancement products and techniques. We cannot assure you that our specialists and other members of our sales and marketing team will successfully compete against the sales and marketing operations of our current and future competitors that may have more established relationships with distributors and growers. Failure to recruit, train and retain important sales and marketing personnel, such as our sales and marketing specialists and field development specialists, or the inability of new sales and marketing personnel to effectively market and sell Messenger and other products we may develop, could impair our ability to gain market acceptance of our products and cause our sales to suffer.

18

21

WE MAY BE UNABLE TO ESTABLISH AND MAINTAIN SUCCESSFUL RELATIONSHIPS WITH INDEPENDENT DISTRIBUTORS, WHICH COULD ADVERSELY AFFECT OUR SALES.

We intend to rely on independent distributors of agri-chemicals to distribute and assist with the marketing and sale of Messenger and other products we may develop. We have engaged several independent distributors and retailers for the distribution and sale of Messenger. Our future revenue growth will depend in large part on our success in establishing and maintaining these sales and distribution channels. We are in the early stages of developing our distribution network and we may be unable to establish these relationships in a timely or cost-effective manner. Moreover, we cannot assure you that the distributors and retailers with which we partner will focus adequate resources on selling our products or will be successful in selling them. Many of our potential distributors and retailers are in the business of distributing and sometimes manufacturing other, possibly competing, plant protection and yield enhancement products and may perceive Messenger as a threat to various product lines currently being manufactured or distributed by them. In addition, the distributors may earn higher margins by selling competing products or combinations of competing products. If we are unable to establish or maintain successful relationships with independent distributors, we will need to further develop our own distribution capabilities, which would be expensive and time-consuming and the success of which would be uncertain.

INABILITY TO OBTAIN REGULATORY APPROVALS, OR TO COMPLY WITH ONGOING AND CHANGING REGULATORY REQUIREMENTS, COULD DELAY OR PREVENT SALES OF MESSENGER AND OTHER

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### POTENTIAL PRODUCTS.

The field testing, manufacture, sale and use of plant protection and yield enhancement products, including Messenger and other products we may develop, are extensively regulated by the EPA and state, local and foreign governmental authorities. These regulations substantially increase the cost and time associated with bringing our products to market. If we do not receive the necessary governmental approvals to test, manufacture and market our products, or if the regulatory authorities revoke our approvals or grant them subject to restrictions on their use, we may be unable to sell our products and our business may fail.

In April 2000, we received conditional approval from the EPA to market and sell our first product, Messenger, in the United States. We are required, however, to obtain regulatory approval from certain state and foreign regulatory authorities before we market Messenger in those jurisdictions. Although we are authorized to sell Messenger in 47 states on virtually all crops and in California on strawberry, we have not yet received approval for Messenger in Colorado and New York or for use on other crops in California. We have not yet obtained authorization to sell Messenger in any foreign countries. Certain of these jurisdictions may apply different criteria than the EPA in connection with their approval processes.

If we make significant enhancements in Messenger's design as a result of our ongoing research and development projects, additional EPA approvals may be required. Moreover, we cannot assure you that we will be able to obtain approval for marketing additional harpin-based products or product extensions that we may develop. For example, while the EPA has in place a registration procedure for products such as Messenger that is streamlined in comparison to the registration procedure for chemical pesticides, there can be no assurance that all of our products or product extensions will be eligible for the streamlined procedure or that additional requirements will not be added by the EPA that could make the procedure more time-consuming and costly for our future products.

Even after we obtain all necessary regulatory approvals to market and sell Messenger and other products we develop, Messenger will be subject to continuing review and extensive regulatory requirements. The EPA, as well as state and foreign governmental authorities, could withdraw a previously approved product from the market upon receipt of newly discovered information, including an inability to comply with regulatory requirements, the occurrence of unanticipated problems with the product or other reasons. In addition, federal, state and foreign regulations relating to crop protection products developed through biotechnology are subject to public concerns and political circumstances, and, as a result, regulations have changed and may change substantially in the future. These changes may result in limitations on the manufacturing, marketing or use of Messenger or other products that we may develop and commercialize.

19

22

### INABILITY TO SATISFY THE CONDITIONS OF OUR EPA AND CALIFORNIA REGISTRATIONS COULD LIMIT OR PREVENT SALES OF MESSENGER.

The EPA has conditioned its approval of our Messenger registration on the requirement that we conduct four additional studies by April 19, 2001 that are designed to further demonstrate the safety of our product. In addition, our registration to sell Messenger in California, which is limited to sales for use on strawberry for disease management, is conditioned on the requirement that we submit data from several additional studies within various required timeframes over the next two years. If we are unable to conduct the studies required by the EPA or the California Department of Pesticide Regulation in a timely manner, or



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if the results of the studies are unacceptable to the EPA or CDPR, as applicable, the EPA or the CDPR may revoke their approvals or impose limitations on the use of Messenger that could have a negative impact on our sales. Because EPA and state approvals are required for commercial sales of Messenger, the loss of such approvals for any reason, including our inability to satisfy the conditions of our EPA registration, would prevent further sales of Messenger.

INABILITY TO COMPLY WITH REGULATIONS APPLICABLE TO OUR FACILITIES AND PROCEDURES COULD DELAY, LIMIT OR PREVENT OUR RESEARCH AND DEVELOPMENT OR MANUFACTURING ACTIVITIES.

Our research and development and manufacturing facilities and procedures are subject to continual review and periodic inspection. To comply with the regulations applicable to these facilities and procedures, we must spend funds, time and effort in the areas of production, safety and quality control and assurance to ensure full technical compliance. If the EPA or another regulator determines that we are not in compliance, regulatory approval of our products could be delayed or we may be required to limit or cease our research and development or manufacturing activities or pay a monetary fine. If we were required to limit or cease our research and development activities, our ability to develop new products would be impaired. In addition, if we are required to limit or cease our manufacturing activities, our ability to produce Messenger in commercial quantities would be impaired or prohibited, which would have an adverse effect on our sales.

IF THIRD-PARTY MANUFACTURERS FAIL TO CORRECTLY PERFORM, WE COULD BE UNABLE TO MEET DEMAND AND OUR REVENUES COULD BE IMPAIRED.

We currently depend on independent manufacturers to perform certain portions of our production process. We intend to engage and we are in discussions with additional third-party manufacturers to perform this process. Any failure or delay in the ability of our current or any future manufacturers to provide us with material could adversely affect our ability to produce Messenger in the quantities necessary to satisfy the requirements of our distributors or customers, or could increase our costs associated with obtaining fermented materials. In addition, the time and resources that our current or future third-party manufacturers devote to our business are not within our control. We cannot ensure that our current or future third-party manufacturers will perform their obligations to meet our quality standards, that we will derive cost savings or other benefits from our relationships with them or that we will be able to maintain a satisfactory relationship with them on commercially acceptable terms. Moreover, these manufacturers may support products that compete directly or indirectly with ours, or offer similar or greater support to our competitors. If any of these events were to occur, our business and operations could be adversely affected.

INTERNATIONAL EXPANSION WILL SUBJECT US TO RISKS ASSOCIATED WITH INTERNATIONAL OPERATIONS, WHICH COULD ADVERSELY AFFECT BOTH OUR DOMESTIC AND OUR INTERNATIONAL OPERATIONS.

Our success depends in part on our ability to expand internationally as we obtain regulatory approvals to market and sell our products in other countries. We have been conducting field trials in the People's Republic of China and elsewhere, and we hired personnel in Mexico and Europe to develop operations in those regions. International expansion of our operations could impose substantial burdens on our resources, divert management's attention from domestic operations and otherwise adversely affect our business. Furthermore, international operations are subject to several inherent risks, especially different regulatory requirements and reduced protection of intellectual property rights that could adversely affect our ability to compete in international markets and have a negative effect on our operating results.

INABILITY TO ADDRESS STRAIN ON OUR RESOURCES CAUSED BY GROWTH COULD RESULT IN OUR INABILITY TO EFFECTIVELY MANAGE OUR BUSINESS.

As we add manufacturing, marketing, sales, field development and other personnel, both domestically and internationally, during the commercialization of Messenger, and expand our manufacturing and research and development capabilities, we expect that our operating expenses and capital requirements will increase. Our ability to manage growth effectively requires us to continue to expend funds to improve our operational, financial and management controls, reporting systems and procedures. In addition, we must effectively expand, train and manage our employee base. We will be unable to effectively manage our business if we are unable to timely and successfully alleviate the strain on our resources caused by growth in our business, which could adversely affect our operating results.

THE HIGH LEVEL OF COMPETITION IN OUR MARKET MAY RESULT IN PRICING PRESSURES, REDUCED MARGINS OR THE INABILITY OF OUR PRODUCTS TO ACHIEVE MARKET ACCEPTANCE.

The market for plant protection and yield enhancement products is intensely competitive, rapidly changing and undergoing consolidation. We may be unable to compete successfully against our current and future competitors, which may result in price reductions, reduced margins and the inability to achieve market acceptance for our products.

Many entities are engaged in developing plant protection and yield enhancement products. Our competitors include major international agri-chemical companies, specialized biotechnology companies, and research and academic institutions. Many of these organizations have significantly more capital, research and development, regulatory, manufacturing, marketing, human and other resources than we do. As a result, they may be able to devote greater resources to the manufacture, promotion or sale of their products, receive greater resources and support from independent distributors, initiate or withstand substantial price competition, or take advantage of acquisition or other opportunities more readily. Further, many of the large agri-chemical companies have a more diversified product offering than we do, which may give these companies an advantage in meeting customer needs by enabling them to offer integrated solutions to plant protection and yield enhancement.

INABILITY TO PROTECT OUR PATENTS AND PROPRIETARY RIGHTS IN THE UNITED STATES AND FOREIGN COUNTRIES COULD LIMIT OUR ABILITY TO COMPETE EFFECTIVELY SINCE OUR COMPETITORS MAY TAKE ADVANTAGE OF OUR RESEARCH AND DEVELOPMENT EFFORTS.

Our success depends on our ability to obtain and maintain patent and other proprietary-right protection for our technology and products in the United States and other countries. If we are unable to obtain or maintain these protections, we may not be able to prevent third parties from using our proprietary rights. We also rely on trade secrets, proprietary know-how and continuing technological innovation to remain competitive. We have taken measures to protect our trade secrets and know-how, including the use of confidentiality agreements with our employees, consultants and advisors. It is possible that these agreements may be breached and that any remedies for a breach will not make us whole. We generally control and limit access to, and the distribution of, our product documentation and other proprietary information. Despite our efforts to protect these proprietary rights, unauthorized parties may copy aspects of our products and obtain and use information that we regard as proprietary. We also cannot guarantee that other parties will not independently develop our know-how or otherwise obtain access to our technology.

The laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and many companies have

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encountered significant problems and costs in protecting their proprietary rights in these foreign countries.

Patent law is still evolving relative to the scope and enforceability of claims in the fields in which we operate. We are like most biotechnology companies in that our patent protection is highly uncertain and involves complex legal and technical questions for which legal principles are not yet firmly established. Our patents and those patents for which we have license rights may be challenged, narrowed, invalidated or circumvented. In addition, our issued patents may not contain claims sufficiently broad to protect us against

21

24

third parties with similar technologies or products, or provide us with any competitive advantage. We are not certain that our pending patent applications will be issued. Moreover, our competitors could challenge or circumvent our patents or pending patent applications.

The U.S. Patent and Trademark Office and the courts have not established a consistent policy regarding the breadth of claims allowed in biotechnology patents. The allowance of broader claims may increase the incidence and cost of patent interference proceedings and the risk of infringement litigation. On the other hand, the allowance of narrower claims may limit the value of our proprietary rights.

OTHER COMPANIES MAY CLAIM THAT WE INFRINGE THEIR INTELLECTUAL PROPERTY OR PROPRIETARY RIGHTS, WHICH COULD CAUSE US TO INCUR SIGNIFICANT EXPENSES OR BE PREVENTED FROM SELLING OUR PRODUCTS.

Our success depends on our ability to operate without infringing the patents and proprietary rights of third parties. Product development is inherently uncertain in a rapidly evolving technological environment in which there may be numerous patent applications pending, many of which are confidential when filed, with regard to similar technologies. Future patents issued to third parties may contain claims that conflict with our patents. Although we believe that our current product does not infringe the proprietary rights of any third parties, third parties could assert infringement claims against us in the future. Any litigation or interference proceedings, regardless of their outcome, would probably be costly and require significant time and attention of our key management and technical personnel. Litigation or interference proceedings could also force us to:

- stop or delay selling, manufacturing or using products that incorporate the challenged intellectual property;
- pay damages; or
- enter into licensing or royalty agreements that may be unavailable on acceptable terms.

IF WE DO NOT ADEQUATELY DISTINGUISH MESSENGER FROM GENETICALLY MODIFIED PLANTS AND CERTAIN OTHER PRODUCTS, PUBLIC CONCERNS OVER THOSE PRODUCTS COULD NEGATIVELY IMPACT MARKET ACCEPTANCE OF MESSENGER.

Claims that genetically engineered products are unsafe for consumption or pose a danger to the environment have led to public concerns and negative public attitudes, particularly in Europe. We intend to distinguish Messenger and harpin-related technologies from products that genetically modify plants. While our technology does involve genetic modification in the process of manufacturing Messenger, Messenger and harpin-related technologies are topically applied and do not genetically modify the plant's DNA. If the public or potential customers perceive Messenger as a genetically modified product, Messenger may not gain

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market acceptance. Similarly, countries that have imposed more restrictive regulations on genetically modified plants, including Japan and certain members of the European Union, may perceive Messenger as a genetically modified product. If so, regulators in those countries may impose more restrictive regulations on Messenger, which could delay, limit or impair our ability to market and sell Messenger in those countries.

WE MAY BE EXPOSED TO PRODUCT LIABILITY CLAIMS, WHICH COULD ADVERSELY AFFECT OUR OPERATIONS.

We may be held liable or incur costs to settle liability claims if any products we develop, or any products that use or incorporate any of our technologies, cause injury or are found unsuitable during product testing, manufacturing, marketing, sale or use. These risks exist even with respect to products that have received, or may in the future receive, regulatory approval, registration or clearance for commercial use. We cannot guarantee that we will be able to avoid product liability exposure.

We currently maintain product liability insurance at levels we believe are sufficient and consistent with industry standards for companies at our stage of development. We cannot guarantee that our product liability insurance is adequate, and, at any time, it is possible that such insurance coverage may not be available on commercially reasonable terms or at all. A product liability claim could result in liability to us greater than our assets and/or insurance coverage. Moreover, even if we have adequate insurance coverage, product liability claims or recalls could result in negative publicity or force us to devote significant time and attention to matters other than those in the normal course of business.

22

25

INABILITY TO RETAIN OUR KEY EMPLOYEES AND OTHER SKILLED MANAGERIAL AND TECHNICAL PERSONNEL COULD IMPAIR OUR ABILITY TO MAINTAIN AND EXPAND OUR BUSINESS.

We are highly dependent on the efforts and abilities of our current key managerial and technical personnel, particularly Jerry L. Butler, our Chief Executive Officer and President, and Dr. Zhongmin Wei, our Vice President of Research. Our success will depend in part on retaining the services of Mr. Butler and Dr. Wei and our other existing key management and technical personnel and on attracting and retaining new highly qualified personnel. Inability to retain our existing key management and technical personnel or to attract additional qualified personnel could, among other things, delay our product development, marketing and sales efforts. Although Mr. Butler and Dr. Wei have signed agreements with us that limit their ability to compete directly with us in the future, nothing prevents either of them from leaving EDEN. Moreover, in our field, competition for qualified management and technical personnel is intense. In addition, many of the companies with which we compete for experienced personnel have greater financial and other resources than we do. As a result of these factors, we may be unable to recruit, train and retain sufficient qualified personnel.

WE MAY HAVE TO REDUCE OPERATIONS IF WE ARE UNABLE TO MEET OUR FUNDING REQUIREMENTS.

We will require substantial additional funding to continue our research and development activities, increase manufacturing capabilities and commercialize products. If we are unable to generate sufficient cash flow from operations or obtain funds through additional financing, we may have to delay, curtail or eliminate some or all of our research and development, field testing, marketing and manufacturing programs. We believe that our existing capital resources will be sufficient to support our operations for at least the next year. Our future capital requirements will depend on the success of our operations.

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If our capital requirements vary from our current plans, we may require additional financing sooner than we anticipate. Financing may be unavailable to us when needed or may not be available to us on acceptable terms.

OUR OPERATING RESULTS ARE LIKELY TO FLUCTUATE, RESULTING IN AN UNPREDICTABLE LEVEL OF EARNINGS AND POSSIBLY IN A DECREASE IN OUR STOCK PRICE.

Our operating results for a particular quarter or year are likely to fluctuate, which could result in uncertainty surrounding our level of earnings and possibly in a decrease in our stock price. Numerous factors will contribute to the unpredictability of our operating results. In particular, our sales are expected to be highly seasonal. Sales of plant protection and yield enhancement products are dependent on planting and growing seasons, climatic conditions and other variables, which we expect to result in substantial fluctuations in our quarterly sales and earnings. In addition, most of our expenses, such as employee compensation and lease payments for facilities and equipment, are relatively fixed. Our expense levels are based, in part, on our expectations regarding future sales. As a result, any shortfall in sales relative to our expectations could cause significant changes in our operating results from quarter to quarter. Other factors may also contribute to the unpredictability of our operating results, including the size and timing of significant customer transactions, the delay or deferral of customer use of our products and the fiscal or quarterly budget cycles of our customers. For example, customers may purchase large quantities of our products in a particular quarter to store and use over long periods of time, or time their purchases to coincide with their receipt of revenue or loan proceeds, which may cause significant fluctuations in our operating results for a particular quarter or year.

### ITEM 2. PROPERTIES.

As of December 31, 2000, our principal facilities in Bothell and Woodinville, Washington, which house our manufacturing, research and administration functions, totaled approximately 32,250 square feet and are leased under the following arrangements:

- 17,900 square feet of manufacturing, research and office space is leased through December 31, 2001, at which time we have an option to extend the lease for an additional 18 months;
- 5,500 square feet of additional warehouse and office space is leased through July 31, 2001;

23

26

- 4,000 square feet for research and office space is leased through June 2003; and
- 4,850 square feet of warehouse space is leased through October 31, 2003.

In January 2001, we leased approximately 63,200 square feet of office space in Bothell, Washington, to house our research and development and administration functions. The lease has an initial term of ten years with two five-year extension options to be exercised at our sole discretion. Approximately 15,000 square-feet of this space has been subleased to another party for a period of three years.

We operate a field research station on approximately 30 acres of leased property in LaBelle, Florida. The lease expires April 30, 2005 with two 30-month renewal options to be exercised at our discretion. We also lease office space in Melbourne, Florida, Annapolis, Maryland and Mexico City on a short-term basis.

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We anticipate that we will require additional manufacturing space within the next 24 months, but that suitable additional space will be available on commercially reasonable terms, although there can be no assurance in this regard. We do not own any real estate.

### ITEM 3. LEGAL PROCEEDINGS.

We are not a party to any material legal proceedings.

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

No matters were submitted to a vote of our shareholders during the fourth quarter of the fiscal year ended December 31, 2000.

24

27

## PART II

### ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED SHAREHOLDER MATTERS.

Our common stock has been quoted on The Nasdaq National Market under the symbol "EDEN" since our initial public offering on September 27, 2000. Prior to that time, there was no public market for our common stock.

The following table sets forth for the periods indicated the high and low closing sale prices for our common stock as quoted on The Nasdaq National Market.

	HIGH	LOW
	-----	-----
Third Quarter 2000 (from September 27, 2000).....	\$34.250	\$15.000
Fourth Quarter 2000.....	43.250	25.375

We have never paid any cash dividends on our common stock. We currently intend to retain any future earnings to fund the development and growth of our business. Therefore, we do not currently anticipate paying any cash dividends in the foreseeable future.

As of March 22, 2001, there were approximately 397 holders of record of our common stock.

During the fiscal year ended December 31, 2000, we issued and sold unregistered securities as follows:

1. In August 2000, in connection with the establishment of two credit facilities with Stephens Group, Inc. and the WBW Trust Number One, EDEN issued a warrant to Stephens Group to purchase 133,333 shares of our common stock, and a warrant to the WBW Trust to purchase 66,667 shares of our common stock at an exercise price of \$15.00 per share. The foregoing issuances were exempt from registration under the Securities Act pursuant to Section 4(2) thereof on the basis that the transactions did not involve a public offering.

2. From January 1, 2000 to September 27, 2000, EDEN granted options to purchase 1,303,950 shares of its common stock, with exercise prices ranging from \$6.00 to \$14.00 per share, to employees and directors pursuant to its 1995 Combined Incentive and Nonqualified Stock Option Plan. Of these

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options, options to purchase 27,200 shares have been canceled without being exercised and options to purchase 1,276,750 shares remain outstanding. The sale and issuance of these securities were exempt from registration under the Securities Act pursuant to Rule 701 promulgated thereunder on the basis that these options were offered and sold pursuant to a written compensatory benefit plan.

25

28

### ITEM 6. SELECTED FINANCIAL DATA.

The following selected financial data and other operating information are derived from our financial statements. When you read this selected financial data, it is important that you also read the historical financial statements and related notes included in this report, as well as Item 7 of this report entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations." Historical results are not necessarily indicative of future results.

	YEAR ENDED DECEMBER 31,				
	1996	1997	1998	1999	2000
(IN THOUSANDS EXCEPT PER SHARE DATA)					
<b>STATEMENTS OF OPERATIONS DATA:</b>					
<b>Revenues:</b>					
Product sales.....	\$ --	\$ --	\$ --	\$ --	\$ 2,017
Consulting services.....	178	176	121	115	--
Research grants.....	42	7	--	--	--
	-----	-----	-----	-----	-----
Gross revenues.....	220	183	121	115	2,017
Sales allowances.....	--	--	--	--	788
	-----	-----	-----	-----	-----
Net revenues.....	220	183	121	115	1,229
	-----	-----	-----	-----	-----
<b>Operating expenses:</b>					
Cost of goods sold.....	--	--	--	--	662
Research and development.....	1,643	2,865	5,322	7,555	9,575
Selling, general and administrative...	396	577	1,708	2,209	6,042
	-----	-----	-----	-----	-----
Total operating expenses.....	2,039	3,442	7,030	9,764	16,279
	-----	-----	-----	-----	-----
Loss from operations.....	(1,819)	(3,259)	(6,909)	(9,649)	(15,050)
	-----	-----	-----	-----	-----
<b>Other income (expense):</b>					
Interest and dividend income.....	99	172	135	435	1,803
Interest expense.....	(27)	(116)	(162)	(181)	(132)
Fee and fair value of warrants.....	--	--	--	--	(2,281)
	-----	-----	-----	-----	-----
Total other income (expense).....	72	56	(27)	254	(610)
	-----	-----	-----	-----	-----
Net loss.....	\$ (1,747)	\$ (3,203)	\$ (6,936)	\$ (9,395)	\$ (15,660)
	=====	=====	=====	=====	=====
<b>Historical basic and diluted net loss</b>					
per share(1).....	\$ (1.04)	\$ (1.90)	\$ (3.93)	\$ (5.23)	\$ (1.89)
	=====	=====	=====	=====	=====
<b>Weighted average shares outstanding used</b>					

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in computation of historical basic and diluted net loss per share(1).....	1,681	1,681	1,765	1,902	8,290
	=====	=====	=====	=====	=====
Pro forma basic and diluted net loss per share(1).....			\$ (0.59)	\$ (0.67)	\$ (0.85)
			=====	=====	=====
Weighted average shares outstanding used in computation of pro forma basic and diluted net loss per share(1).....			11,752	14,820	18,456
			=====	=====	=====

DECEMBER 31,					
	1996	1997	1998	1999	2000
(IN THOUSANDS)					
<b>BALANCE SHEET DATA:</b>					
Cash and cash equivalents.....	\$ 332	\$ 1,633	\$ 11,723	\$ 13,107	\$ 86,557
Working capital.....	1,369	2,505	10,174	11,014	83,781
Total assets.....	2,087	4,136	13,631	16,278	98,501
Capital lease obligations, net of current portion.....	261	280	712	523	330
Accumulated deficit.....	(2,887)	(6,089)	(13,025)	(22,974)	(38,635)
Total shareholders' equity.....	1,473	3,241	11,345	13,600	93,241

(1) See Note 1 of Notes to Financial Statements for information concerning the calculation of historical basic and diluted net loss per share.

26

29

### 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 contains forward-looking statements that involve risks and uncertainties, such as statements of our plans, objectives, expectations and intentions. We use words such as "anticipate," "believe," "expect," "future," "intend" and similar expressions to identify forward-looking statements. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including the factors described under the caption "Factors That May Affect Our Business, Future Operating Results and Financial Condition" set forth at the end of Part I of this report. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this Form 10-K. You should read the following discussion and analysis in conjunction with our financial statements and related footnotes included in Item 8 of this report.

#### OVERVIEW

We are a plant technology company focused on developing, manufacturing, and marketing innovative natural products for agriculture. We have a fundamentally new, patented and proprietary technology that we believe will significantly improve plant protection and crop production worldwide. We believe our technology and our initial product, Messenger, allow us to offer innovative solutions compared to traditional plant protection and crop yield enhancement



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alternatives and, importantly, avoid the substantial and growing public resistance to chemical pesticides and gene-based biotechnology.

Commercial sales of our initial product, Messenger, began in August 2000. Prior to then, we derived all of our revenue from providing consulting services to growers in the analysis and diagnosis of plant and soil diseases and from research grants. We terminated all consulting services in January 2000 in order to focus on the commercialization of Messenger. Since 1997, we have not sought, and do not intend to seek in the future, additional research grants.

We have incurred significant operating losses since inception. At December 31, 2000, we had an accumulated deficit of \$38.6 million. We incurred net losses of \$6.9 million in 1998, \$9.4 million in 1999 and \$15.7 million in 2000. Total operating expenses increased \$2.8 million (39%) from \$7.0 million in 1998 to \$9.8 million in 1999 and increased \$6.5 million (67%) to \$16.3 million in 2000. We expect to incur additional net losses as we expand and enhance our manufacturing and research and development activities and sales and marketing capabilities.

### RESULTS OF OPERATIONS

#### Revenues

We generated our first revenue from product sales in August 2000 when we began selling Messenger. Revenues from product sales are recognized when the product is shipped to independent distributors and all significant obligations of EDEN have been satisfied. Revenues from product sales in 2000 totaled \$2.0 million. Approximately \$1.8 million (90%) of product sales revenue in 2000 resulted from sales to one major distributor. We expect sales to this distributor to continue to be significant in 2001. In January 2000, we terminated all consulting services in order to increase our focus on the commercialization of Messenger. Accordingly, revenues from consulting services decreased \$6,000 (5%) from \$121,000 in 1998 to \$115,000 in 1999 and decreased \$115,000 (100%) to \$0 in 2000.

#### Sales Allowances

Sales allowances represent allowances granted to independent distributors and retailers for sales and marketing support, product warehousing and delivery and information exchange. Sales allowances are based on a percentage of sales and are accrued when the related product sales revenue is recognized. Sales allowances for 2000 totaled \$787,000, or 39% of product sales revenue. No such allowances were granted in 1999 or 1998.

27

30

#### Cost of Goods Sold

Cost of goods sold includes the cost of raw materials, labor and overhead required to manufacture, package and ship Messenger. Cost of goods sold for 2000 was \$662,000, or 33% of gross product sales revenue. No such costs were incurred in 1999 or 1998. We believe that our cost to manufacture Messenger will decrease as we increase our capacity and continue to improve our manufacturing process.

#### Research and Development Expenses

Our research and development expenses consist primarily of personnel and related expenses, field trial expenses, laboratory expenses, patent expenses and facility and equipment expenses. Research and development expenses increased \$2.3 million (42%) from \$5.3 million in 1998 to \$7.6 million in 1999 and increased \$2.0 million (27%) to \$9.6 million in 2000. Research and development

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expenses have increased primarily because we have increased staffing, conducted more field trials, conducted extensive toxicology tests, developed and enhanced our manufacturing processes and prepared and filed additional patent applications. We expect substantial increases in research and development expenses as we develop new products and attempt to maintain and enhance our harpin-related technology platform.

In 1995, we issued 400,000 shares of our common stock to the Cornell Research Foundation as partial consideration for the exclusive right to use Cornell University's patents, patent applications and biological materials relating to harpin proteins and related genes. The agreement allowed for the cancellation of some shares by us if we did not reach prescribed milestones in product development. We recognized license expense equal to the value of the shares at the time they vested. When we achieved milestones in 1998, we recorded license expense of \$240,000. On September 30, 1998, we amended the license agreement to fully vest the remaining 120,000 shares and recorded license expense of \$420,000.

### Selling, General and Administrative Expenses

Our selling, general and administrative expenses consist of personnel and related expenses for sales and marketing, executive and administrative personnel, marketing expenses, professional fees and other corporate expenses. Selling, general and administrative expenses increased \$501,000 (29%) from \$1.7 million in 1998 to \$2.2 million in 1999 and increased \$3.8 million (174%) to \$6.0 million in 2000. Our selling, general and administrative expenses increased primarily due to increased staffing, marketing costs for the introduction of Messenger and our harpin and harpin-related technology, and increases in professional fees. We expect selling, general and administrative expenses to increase further as we hire additional personnel to support anticipated growth and the commercialization of Messenger, enhance information systems, expand our sales and marketing capability and incur costs associated with being a public company.

### Interest Income

Interest income consists of earnings on our cash and cash equivalents. Interest income increased \$301,000 (223%) from \$135,000 in 1998 to \$436,000 in 1999 and increased \$1.4 million (314%) to \$1.8 million in 2000. These increases were due to higher average cash balances that resulted primarily from the sale of preferred stock in 1998 and 1999 and common stock in 2000. In October 2000, we received approximately \$91.5 million in net proceeds from our initial public offering of 6,670,000 shares of common stock.

### Interest Expense

Interest expense consists of interest we pay on capital leases used to finance certain equipment purchases. Interest expense increased \$19,000 (12%) from \$162,000 in 1998 to \$181,000 in 1999 and decreased \$49,000 (27%) to \$132,000 in 2000. The increase in 1999 resulted from additional capital leases entered into in 1998 and 1999. The decrease in 2000 was due to reduced leasing activity and lower average principal balances as we paid down our existing capital lease obligations.

In August 2000, we established unsecured, multiple-advance, committed credit facilities with Stephens Group, Inc. and the WBW Trust Number One to borrow up to a total of \$15 million. Under the terms of the

facilities, we paid commitment fees totaling \$300,000 and issued warrants to

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purchase 200,000 shares of our common stock at an exercise price of \$15.00 per share. The commitment fee and fair value of these warrants totaled \$2.3 million and is included in other income (expense). We did not borrow any amounts pursuant to these credit facilities and, with the completion of our initial public offering, we no longer have the ability to borrow any amounts under these credit facilities.

### Income Taxes

We have realized a net loss from operations for each period since we began doing business. As of December 31, 2000, we had accumulated approximately \$36 million of net operating loss carryforwards for federal income tax purposes. These carryforwards expire between 2009 and 2015. The annual use of these net operating loss carryforwards may be limited in the event of a cumulative change in ownership of more than 50%.

### LIQUIDITY AND CAPITAL RESOURCES

At December 31, 2000, our cash and cash equivalents totaled \$86.6 million. Prior to October 2000, we financed our operations primarily through the private sale of our equity securities, resulting in net proceeds of \$36.5 million through September 30, 2000. In October 2000, we received approximately \$91.5 million in net proceeds from the initial public offering of 6,670,000 shares of our common stock. To a lesser extent, we have financed our equipment purchases through lease financings.

Net cash used in operations increased \$3.2 million (69%) from \$4.6 million in 1998 to \$7.8 million in 1999 and increased \$4.3 million (54%) to \$12.1 million in 2000. Net cash used in operations resulted primarily from net losses less depreciation and amortization and fair value of warrants granted for credit facilities of \$5.7 million, \$8.3 million and \$12.7 million in 1998, 1999 and 2000, respectively. We expect net cash used in operations to increase for expansion and enhancement of our manufacturing and research and development activities and sales and marketing capabilities and increases in trade accounts receivable and inventory.

Net cash used in investing activities increased from \$7,900 in 1998 to \$2.2 million in 1999 and increased \$5.2 million (237%) to \$7.4 million in 2000. Investing activities in 1998 consisted of purchases of property and equipment of \$1.4 million, offset by a nearly equal amount of proceeds from the sale of short-term investments. Investing activities in 1999 and 2000 consisted primarily of property and equipment purchases in connection with expansion of our manufacturing and research and development facilities, which we expect to complete by September 30, 2001. We expect to spend approximately \$4 million to \$5 million in 2001 to complete the expansion of our manufacturing facilities and approximately \$7 million to \$9 million in 2001 to improve and equip our new leased facility which will house our research and development and administration functions.

Net cash provided by financing activities decreased \$3.3 million (22%) from \$14.7 million in 1998 to \$11.4 million in 1999 and increased \$81.6 million (713%) to \$93.0 million in 2000. Funds provided in 1998 and 1999 resulted primarily from private offerings of our preferred stock and from the exercise of common stock warrants and options. Funds provided in 2000 resulted primarily from the initial public offering of 6,670,000 shares of our common stock, resulting in net proceeds of approximately \$91.5 million. At December 31, 2000, our future minimum payments under capital and operating leases totaled approximately \$1.3 million and are payable over the next five years. In January 2001, we entered into a new facility lease with annual future minimum payments of \$1.2 million to \$1.5 million over the next 10 years.

We currently expect to substantially increase our operating expenses as we

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enhance and expand our sales and manufacturing capabilities and continue to enhance our manufacturing and research and development activities. These additional operating expenses and capital expenditures and increases in working capital requirements will consume a material amount of our cash resources. We believe that the balance of cash and cash equivalents at December 31, 2000 will be sufficient to meet our anticipated cash needs for net losses, working capital and capital expenditures for at least the next year. Our future capital requirements will depend on the success of our operations.

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In the future, we may require additional funds to support our working capital requirements or for other purposes and may seek to raise such additional funds through public or private equity financing or from other sources. We may be unable to obtain adequate or favorable financing at that time.

### ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We do not currently hold any derivative instruments and we do not engage in hedging activities. Also, we do not have any outstanding variable interest rate debt and currently do not enter into any material transactions denominated in foreign currency. Therefore, our direct exposure to interest rate and foreign exchange fluctuation is currently minimal. We believe that the market risk arising from holdings of our financial instruments is not material.

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### ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

#### REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

To the Board of Directors of  
EDEN Bioscience Corporation:

We have audited the accompanying balance sheets of EDEN Bioscience Corporation as of December 31, 1999 and 2000, and the related statements of operations, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2000. 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 in accordance with auditing standards generally accepted in the United States. Those standards 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. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of EDEN Bioscience Corporation as of December 31, 1999 and