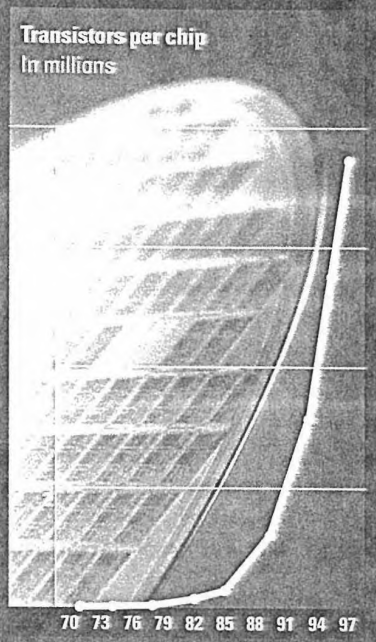
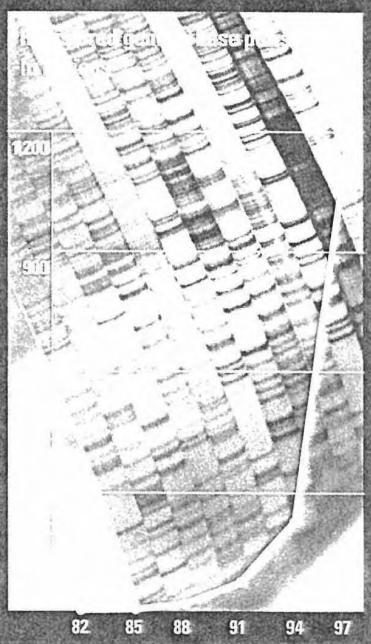
Moore's Law



Source: Intel Corp.

IN 1965, Gordon Moore predicted that the computing power of silicon chips would double every 18 to 24 months. This phenomenon, now known as "Moore's Law," is driving the rapid growth and economic value of the computer industry.

Monsanto's Law



Source: GenBank

TODAY, the ability to identify and use genetic information is doubling every 12 to 24 months. This exponential growth in biological knowledge is transforming agriculture, nutrition and health care in the emerging life sciences industry.

MONSANTO

Food · Health · Hope™

The emerging life sciences industry is producing exponential change — and new opportunity for Monsanto to create value.

COMPANY PROFILE

As a life sciences company, Monsanto is committed to finding solutions to the growing global needs for food and health by sharing common forms of science and technology among agriculture, nutrition and health. The company's 21,900 employees worldwide make and market high-value agricultural products, pharmaceuticals and food ingredients.

MONSANTO'S LAW

A biological equivalent to Moore's Law?

The exponential growth in the computing power of silicon chips, described by Moore's Law, led to the development of the information technology industry, creating aggregate global value in the trillions of dollars.

At Monsanto, we believe that a similar, nonlinear trend in biotechnology capabilities is creating comparable growth potential in the life sciences. In this report, we'll present measures of progress in three areas of genomics — gene sequencing, gene function and genetic improvement — that demonstrate exponential growth. We believe that these genomic technologies will continue to double in capability every 12 to 24 months — a statement we're calling "Monsanto's Law."

Gene sequencing — Technological advances in the computer industry began with the repeated doubling of the number of transistors on a silicon chip. In the life sciences, the starting point is the repeated doubling of the number of base pairs — the building blocks of genes — that are classified, or "sequenced." — *See front cover.*

Gene function — Understanding gene function is the key to unlocking the potential of the life sciences. Genes comprise the [illegible]'s guide to the genetic software of living [illegible] *See page 6.*

[illegible] — Monsanto's ability to create [illegible] based on the genetic improvement [illegible] applying what we've learned about genes to [illegible] the performance of crops in the field and the [illegible] benefit of the food we harvest. — *See page 14.*

[illegible] of knowledge is creating opportunity [illegible] nutrition and health to meet the growth in [illegible] way that sustains our environment. [illegible] unique set of resources [illegible] products and bring them to [illegible] to build the necessary capabilities [illegible] leadership in the life sciences and to create [illegible]

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Shareowner Information
If you'd like to know more about Monsanto, we offer several ways for you to get information.
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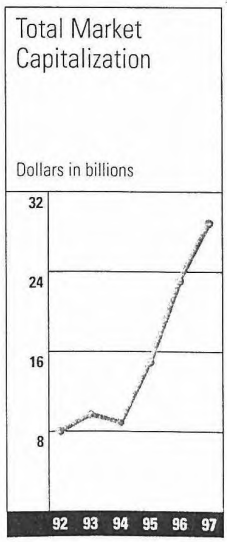
1997 Financial Highlights

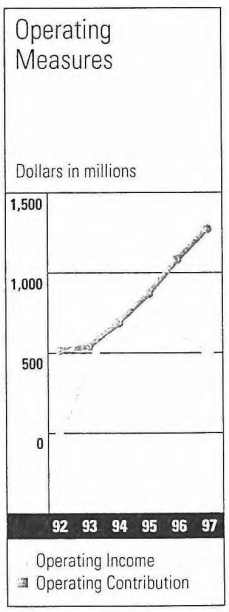
Income from continuing operations would have set a record for Monsanto in 1997, if unusual items were excluded. The company's core businesses were strong, and cash generated by those operations was used to fund research and other growth initiatives. A number of acquisitions in 1997 strengthened Monsanto's position in the life sciences. However, required write-offs for research under way at the acquired companies that had not resulted in commercial products totaled $455 million, or $0.75 per share, and were taken as a one-time charge.

(Dollars in millions, except per share)	1997 [1]	1996 [2]	1995 [3]	% Change 1997 vs. 1996
Net Sales[4]	**$ 7,514**	$ 6,348	$ 5,410	18 %
Income from Continuing Operations[4]	**$ 294**	$ 413	$ 461	(29)%
Per Share:[5]				
Income from Continuing Operations[4]	**$ 0.48**	$ 0.69	$ 0.79	(30)%
Dividends	**$ 0.500**	$ 0.588	$ 0.540	(15)%
Shareowners' Equity	**$ 6.89**	$ 6.31	$ 6.46	9 %
Depreciation and Amortization[4]	**$ 487**	$ 423	$ 405	15 %
Cash Provided by Continuing Operations[4]	**$ 354**	$ 940	$ 531	(62)%
Research and Development (R&D) Expenses[4]	**$ 939**	$ 647	$ 568	45 %
Economic Value Added (cumulative)	**$ 273**	$ 42	$ (11)	—
Percent of Total Debt to Total Capitalization	**47%**	38%	35%	9 [6]
Shareowners (year-end)	**61,265**	54,828	50,745	12 %
Shares Outstanding (year-end, in millions)[5]	**595**	584	575	2 %
Employees (year-end)	**21,900**	28,000	28,500	(22)%

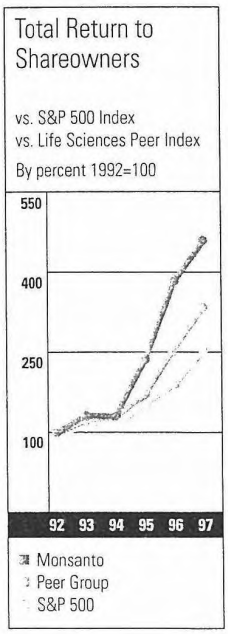
[1] Income from continuing operations for 1997 included $455 million, or $0.75 per share, for the write-off of acquired in-process R&D.
[2] Income from continuing operations for 1996 included restructuring and other unusual charges of $257 million, or $0.43 per share, associated with the closure or rationalization of certain facilities, asset write-offs and work force reductions.
[3] Income from continuing operations for 1995 included net restructuring expenses and other unusual items of $63 million, or $0.11 per share.
[4] These items have been restated to reflect the spinoff of the chemical businesses as of Sept. 1, 1997.
[5] Adjusted for the 1996 five-for-one stock split. Income from continuing operations is on a diluted basis.
[6] Represents percentage point change 1997 vs. 1996.



In 1997, our total market capitalization reached $28.7 billion, a 25 percent increase from Monsanto's market capitalization in 1996, when adjusted for life sciences only. In just the first two months of 1998, Monsanto's market capitalization rose another $5.8 billion to $34.5 billion as of March 1. Total market capitalization is the market value of outstanding shares of common stock and total debt.



Operating income in the last two years was adversely affected by unusual items, including restructuring and other special charges in 1996 and the accounting write-off in 1997 of research under way but not commercial at the time of acquisitions. Operating contribution — which excludes the effect of unusual items and goodwill amortization — increased 17 percent from that in 1996.



On an indexed basis, Monsanto's total return to shareowners has increased more than 350 percent since 1992, when adjusted for the life sciences only. This improvement compares with smaller percentage increases in the total return on both the Standard & Poor's (S&P) 500 Index and a special life sciences peer index. The companies in the life sciences index are: Bayer, DuPont, Zeneca, Hoechst, Novartis, Dow Chemical, and Rhone Poulenc.

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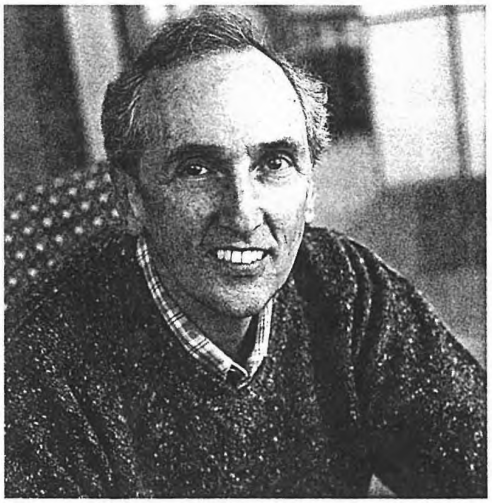
A New Era of Value Creation

To Our Shareowners:

In 1997, we completed one era of your company's history and made long strides into another.

The completed era, of course, is that of Monsanto's existence as a chemical company. It began with the founding of the company in 1901 and ended on Sept. 1, 1997, with the spinoff to shareowners of our chemical businesses as a new, independent company called Solutia Inc. I'm glad to report that the spinoff went smoothly, thanks to an enormous amount of work by people in both companies, and Solutia is off to a great start.

The new era is that of Monsanto's existence as a life sciences company.



Bob Shapiro
Chairman and Chief Executive Officer

The concept of a life sciences company is a recent one, and the term is only now beginning to find its way into the business lexicon. Although several companies have begun using it in connection with their business direction — Novartis, Hoechst, DuPont and Rhone Poulenc are examples — it isn't yet found in any standard list of industry classifications. Nor does it have an accepted definition. Because the concept is new and rapidly evolving, this annual report is intended to explain why we've chosen this direction. It also assesses the past year in that context and outlines what we hope to accomplish in 1998 and beyond.

We became a life sciences company because we were engaged in three historically separate businesses — agriculture, food ingredients and pharmaceuticals — that now have begun to share common technologies and common goals. The technologies are those of advanced bioscience, including genomics. The goals are to help people around the world lead longer, healthier lives, at costs that they and their nations can afford, and without continued environmental degradation.

When we considered the implications of this convergence, we reached two basic conclusions: First, the intersection of these technologies and goals defines an extraordinary set of business opportunities. Second, the previously separate domains of agriculture, nutrition and health should now be managed as an interconnected system. We use the term "life sciences" to describe that system. These conclusions formed the basis for the decision by your board of directors to spin off the chemical businesses and to create a focused company to compete for world leadership in the life sciences.

Few people understand the size and scope of the opportunities we're pursuing. In our last two annual reports, we described the revolution under way in global agriculture, which is driven in large part by the application of biotechnology to create better agronomic practices and better crops. This year, we want to expand the discussion.

Monsanto's Law

In our view, all industries based on biological science — including agriculture, food and health — are in the early stages of an extremely powerful and probably inexorable process. We liken it to what's happened in the last 30 years in the industries based on semiconductor technology — notably, the computer and communications industries, which in turn underpin vast areas of human activity. That process has been incredibly fruitful, and it has created enormous value for customers, investors and society. It's generally recognized that it has largely been driven by a phenomenon known as "Moore's Law."

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In 1965, Gordon Moore, who was later to be a co-founder of Intel Corp., noted that the number of transistors that could be put on a silicon chip was doubling every 18 to 24 months. He predicted that this pattern would continue and that it would produce rapid, exponential growth in computing power. It ranks as one of the best predictions in history.

We're now seeing a similar pattern emerging in the biosciences. Like Moore's Law, this phenomenon can be described in several ways, but we think its basic nature is already clear:

> *Advances in fundamental techniques for understanding gene sequences and functions permit dramatically faster, cheaper development of knowledge that can be practically applied to solve complex human problems in areas such as agriculture, nutrition, health, material sciences, and environmental sustainability. Based on the data now available, it appears that progress has been, and will continue to be, at an exponential rate, with doublings every one to two years.*

A more succinct version, which we propose as "Monsanto's Law," is simply this:

> *The amount of genetic information used in practical applications will double every year or two.*

In part, Monsanto's Law depends directly on Moore's Law. The field of bioinformatics — the application of powerful information technology to genomics — has, in just a few years, become an indispensable part of life sciences capabilities. It's made possible by the exponential advances in computing power that Moore predicted.

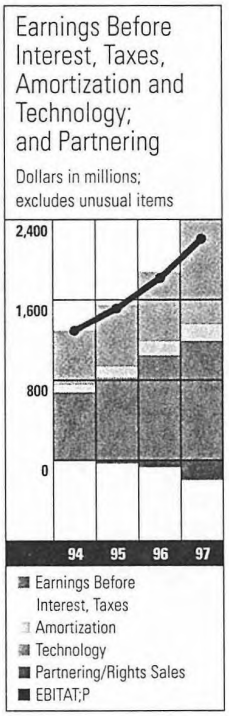
But there are other forces at work. Moore's Law itself was built on multiple factors that allow more and more transistors to be put on a chip — advances in areas such as silicon crystal technology, photolithographic techniques and equipment, and computerized design and testing. Monsanto's Law likewise has multiple bases. The array of technologies needed to put genes to work — from sophisticated mathematical modeling of complex systems to robotics that vastly increase the sensitivity and throughput of laboratory procedures — is so large and complex that new networks and alliances among companies are already emerging to support them.

When Moore's Law was formulated, few people appreciated its importance. In 1971, when Intel squeezed about 2,300 transistors onto a chip to create a four-bit microprocessor, not even wild-eyed visionaries imagined what could be done 26 years later by the 7.5 million transistors on its Pentium II processor — nor what conceivable market such a device would serve.

In 1996, Monsanto introduced single-gene traits into commercial agricultural products. Like other companies, we also developed drugs that target proteins produced by single human genes. These single-gene products are revolutionary, and they produce great value for farmers, patients and investors. But they are no more than the equivalent of Intel's four-bit microprocessor in 1971: very useful, commercially important, but no more than the tip of the tip of the iceberg.

As these technologies progress, the movement toward employing multiple genes and their interactions is inevitable. New combinations almost certainly will produce astonishing results across the life sciences and lead to solutions for many large, intractable human problems.

We believe that Monsanto's Law will produce economic effects on a scale at least as large as Moore's Law. There are plausible grounds for arguing that the effects may even be larger. That's why we're moving quickly to link the array of capabilities that will enable us to invent, develop and market the continuing stream of products Monsanto's Law predicts. That's been the organizing theme of our strategies for the past several years, and will continue to be for the next several.



Monsanto is reinvesting potential earnings to create greater future value and growth. Amortization and technology costs are rising as we bring new products forward, often with the help of partners who are offsetting some expenses.

1997 Results

In 1997, we continued the two trends that will make it possible to achieve that purpose.

First, we continued to generate increased earnings from our marketed products.

Second, we continued the major ramp-up of our investment in new products and the capabilities we'll need to launch and market them around the world.

Our reported financial results for 1997 reflect some accounting complexities, especially the restatement of our accounts to reflect the spinoff, and the write-offs of the costs for research and development (R&D) in progress at the companies we acquired last year. If unusual items were excluded in 1996 and 1997, sales and operating income each would have grown more than 18 percent since 1996, and income from continuing operations 12 percent. Earnings per share, if unusual items were excluded, would have been $1.23, an increase of 10 percent.

These results should be seen in the context of the two basic trends I mentioned above: a substantial increase in income from marketed products, and a somewhat larger rate of increase in spending to create new products and to build the global infrastructure to commercialize them.

To put these trends in perspective, for the last five years, if unusual items were excluded, income from continuing operations would have grown at a compound rate of 25 percent per year. Although there's no universally accepted definition of "growth" spending, our calculations — which include technology, infrastructure costs and the income effects of

(continued on page 4)

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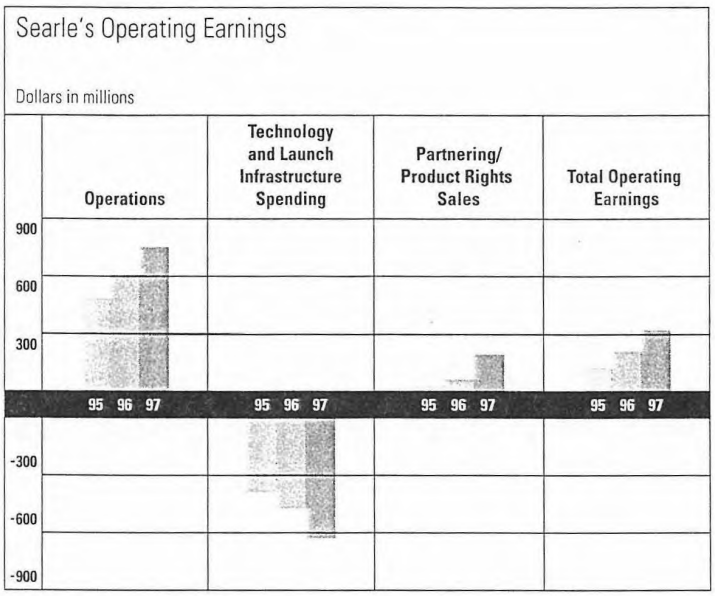
(continued from page 3)

recent acquisitions — show that we've been increasing growth spending at a compound rate of 28 percent per year over the same period. Even more striking, we estimate that we spent more than $1.3 billion pretax on growth in 1997, an increase of more than $500 million, or about a 60 percent increase, from our growth spending in 1996.

Put another way, if we had held 1997 growth spending flat at the 1996 level and if unusual items were excluded, income would have been approximately $1.1 billion, an increase of more than 60 percent from $670 million in 1996.



Searle's operating income, if unusual items were excluded, would have continued to increase as its base businesses and partnering income have grown significantly and have helped fund the development and launch of new products.

By choosing to ramp up growth spending and thereby to forgo a portion of current income, we're expressing confidence in the earnings capacity of our base businesses, in the nature of the opportunities ahead, and in our ability to implement our strategies in an intensely competitive marketplace.

If we had held 1997 growth spending flat at the 1996 level and if unusual items were excluded, income would have been approximately $1.1 billion, an increase of more than 60 percent from $670 million in 1996.

Our base businesses had by far the best year in our history.

Revenues in our agriculture sector grew 22 percent, with operating contribution up 19 percent. Volume gains for *Roundup* herbicide were well in excess of long-term growth trends and more than offset continued price reductions.

Sales and operating income from our agricultural biotechnology traits grew dramatically in their second year on the market.

Posilac, our bovine somatotropin product for enhanced dairy production, became solidly profitable.

Pharmaceutical revenues were up 21 percent, and operating contribution was up more than 50 percent, reflecting good growth for *Ambien* short-term treatment for insomnia and for *Daypro* and *Arthrotec* arthritis treatments, as well as royalty income.

However, revenues in our nutrition and consumer products sector were down 3 percent, and operating contribution declined 10 percent. Aggressive price competition in tabletop sweeteners was the major cause.

In addition to strong operating performance, the real story of 1997 was the progress in our new product pipeline and the strengthening of our capabilities to launch and market these new products around the world.

Celecoxib, a new arthritis treatment from our family of COX-2 inhibitors, continued to move satisfactorily through Phase III clinical trials for arthritis and pain indications. Celecoxib also showed promise for other possible indications, including certain cancers and Alzheimer's disease. Subject to regulatory approval of the name, celecoxib will be marketed under the trademark *Celebra*.

Less in the public spotlight, the rest of our pharmaceutical pipeline products also made good progress. Our anti-platelet compounds, xemilofiban and orbofiban, appear to have taken the lead over potential competitive offerings, and the first products from our new oncology platform are moving ahead.

We received U.S. Food and Drug Administration approval for *Arthrotec,* and launched it in early 1998. *Arthrotec* has been successful in other markets and is off to a good start in the highly competitive U.S. nonsteroidal anti-inflammatory market.

We entered into two major collaborations to help fund our pharmaceutical programs and increase the speed and power of new product launches. Pfizer Inc. will co-promote *Celebra* with us in the United States. We're in discussions to expand this collaboration around the world, except in Japan, where we'll work with our Japanese partner, Yamanouchi Pharmaceutical Co. Ltd. We've also entered into an innovative agreement with Yamanouchi concerning other compounds at earlier stages in our pipeline.

We completed several seed and ag biotech acquisitions, including Asgrow Agronomics, Calgene Inc., Holden's Foundation Seeds Inc. and the seed business of Sementes Agroceres S.A. These companies fit well with each other and with our gene discovery and development programs.

We made substantial investments in genomics, both internally and with other companies. We're building an industry-leading network of relationships to help us find major new products and bring them to market much more rapidly.

We also accelerated spending to develop new classes of products in our nutrition business. We're working on nutritional targets that can make genuine scientifically

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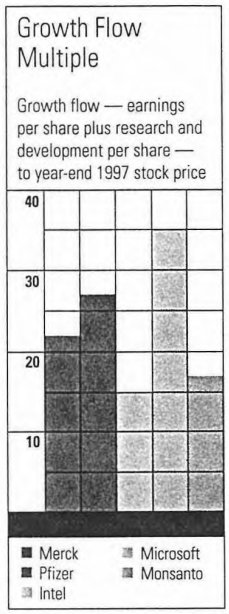
based contributions to human health.

We invested in the global infrastructure a successful life sciences company will need, including advanced information technology systems and increased presence in growing markets.

In summary, 1997 was a year of achievement on many fronts and on a large scale. We were a strong company entering the year, but we're demonstrably stronger today.

These achievements were only partly reflected in the price of your shares, which began the year at $39 and ended it over $47 on a comparable basis, which includes the spunoff Solutia shares. Total return to shareowners was 23 percent, lagging the Standard and Poor's (S&P) 500 Index, which recorded a 33 percent return. On a three-year basis, however, total return on Monsanto shares was 255 percent compared with 126 percent on the S&P 500 Index.

We reduced the dividend after the chemicals spinoff. Many of you didn't like that decision. At this time, for reasons I hope this report makes clear, we strongly believe that the cash we generate is better invested in our future than paid out as dividends.



Traditional price/earnings multiples may not reflect the total value created by high technology companies. This growth flow multiple relates earnings per share and R&D per share to stock price as an alternative measure of potential future value. By this measure, Monsanto's stock price is undervalued when compared with other technology-driven companies with large R&D commitments.

Outlook

There are several large issues we'll be confronting in the months ahead.

First, the "so-called life sciences" industry (as a recent *New York Times* article called it) is getting crowded. A few years ago, we could justifiably claim, by virtue of our early commitment to ag biotech, that we had a somewhat deeper understanding of its implications than many of our competitors. A year or two ago, we were probably ahead of the pack in seeing some of the connections among agriculture, nutrition and health. Today, these issues are generally well understood, and a number of companies are pursuing similar strategies.

It's characteristic of a knowledge industry that learning and insight spread rapidly. The corollary to Monsanto's Law is that as the pace of genetic discovery accelerates, our success will increasingly depend on our ability to move faster than our competition in picking the right targets and assembling the necessary capabilities. The ag biotech investments we've made in the past few years will help, as will our increasing genomics capabilities.

Second, we continue to see major consolidations across the life sciences. We expect this trend to accelerate. The value of quality assets in this field will continue to increase, and prices will continue to surprise many observers. As in the recent past, we expect to participate in collaborations, alliances and networks, as well as in acquisitions.

One key issue is our ability to launch blockbuster pharmaceutical products. Some have questioned whether we have the required global mass, and have argued that we ought to combine our drug business with another company. So far, we don't feel at all disadvantaged. We've spent what was needed to move our pipeline products ahead. We've successfully launched several products in major markets in the last few years. We're enlarging our sales forces. And partnering arrangements will offer flexible and financially attractive means of addressing issues of mass.

Industry consolidation will, in the end, affect all competitors. We want to participate in that process at appropriate times and from a position of strength and choice.

Third, growth in spending puts obvious pressure on near-term earnings. We've tried to be very clear about our approach:

We'll be selective in what we pursue. We continuously screen our portfolio to eliminate programs and businesses that don't fit. A few years ago, we needed to cast our nets wide to find growth opportunities. For now, we have more than enough to keep us busy. This is a time of increasing focus.

We'll continue to seek value-creating partnerships to help shoulder some of the investments.

We'll continue to increase our levels of investment. We've worked hard for years to reach a position where the increasing opportunities described by Monsanto's Law are available to us. Our value-based metrics, such as Economic Value Added (EVA), incline us to make economically attractive investments, even when they depress current income, as they often do. We'll try to choose wisely and to manage those investments in a disciplined manner. But we're going to keep doing what's necessary to help lead the evolution of the life sciences industry.

We recognize that many of our competitors are among the world's greatest companies, with fine people and abundant resources. We know that, over time, the only sustainable source of competitive advantage is a working environment that enables *our* people, together, to outperform *their* people. We're trying to create that kind of environment.

If you could have the pleasure, as I do, of working with Monsanto people every day, you would be as proud of them as I am. This report can only suggest some of what they're accomplishing.

Sincerely,

Bob Shapiro
Chairman and Chief Executive Officer
March 1, 1998

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A Defining Moment

MONSANTO'S LAW

Understanding gene function — unlocking the potential of life sciences

The increasing speed and power of computers has led to more complex and more useful software. Nature has already developed amazingly complex and elegant software in the genetic structure of every organism on earth. With rapid advances in genomic technologies, we're learning how those genetic programs give the traits and characteristics that are inherited, and how those characteristics interact with the environment to affect growth and development, and health and well-being.

Understanding gene function is a key to life sciences. For humans, better understanding of our individual and shared characteristics will help us make better choices about diet, nutrition, lifestyle and health care. For crops, better understanding of traits and environmental conditions will help farmers and food processors make better choices to improve yields and food quality.

Base pairs — the building blocks of genes — are the starting point of genetic understanding. As depicted on the cover of this annual report, an international database of registered base pairs is growing at an exponential rate — doubling within 12 to 24 months. There has been a corresponding reduction in gene sequencing costs — as shown on the opposite page.

While any comparison between the computer industry and life sciences vastly understates the richness and complexity of living systems, there is a close analogy. Base pairs are the programming code of genetic software. A plant like rice has approximately 40,000 separate genes and 400 million base pairs. Humans may have more than 100,000 genes and a total of approximately 3 billion base pairs. But this genetic programming code becomes useful only with a more intimate knowledge of those complete genes.

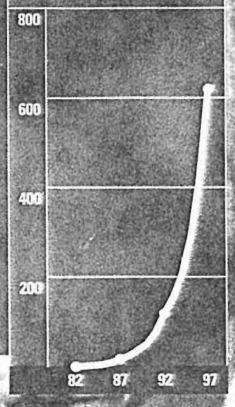
With the power of biotechnology and genomics, we're rapidly learning about the functions of individual genes and recording this information as annotations to the database of gene sequences. These footnotes to the genetic database weave our growing knowledge of base pairs into an explanation of the role and function of entire genes within living systems. As shown on the graph below, the rate of gene annotation is also increasing exponentially — now doubling within 12 to 24 months.

Gene annotations comprise the user's guide to genetic software. They provide clues to the improvement of traits for more nutritious foods and new approaches to pharmaceuticals and disease prevention. This third area of genomics — genetic improvement — is also exhibiting exponential growth, as explained on page 14.

► *Gene annotation builds on the sequencing of genetic base pairs to identify the function of the gene. We're not only learning about more genes, but we're gaining a deeper understanding of those genes. This knowledge is growing exponentially for several reasons: many genes share features in common, making it ever easier to hypothesize about the functions of new genes; the tools to study gene function are improving rapidly; and more researchers are pursuing genetic studies.*

Growth Rate of Gene Annotation

Base pairs in millions
Source: GenBank and Monsanto



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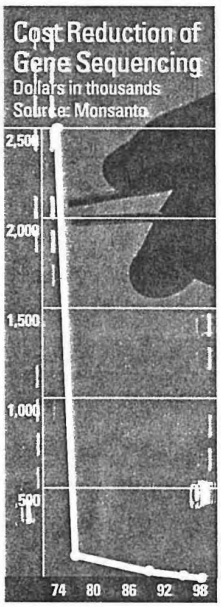
Today, the ability to identify and use genetic information is doubling every 12 to 24 months. This exponential growth in biological knowledge is transforming agriculture, nutrition and health care in the emerging life sciences industry.



▲ *Monsanto's cost to sequence one gene — to determine its chemical structure — has fallen from $2.5 million in 1974 to $150 in 1998.*

◄ *The 21st century will be defined by rapidly growing demand for food and other natural resources. The sciences underpinning satisfy that demand — without environmental degradation.*

The term exponential accurately describes recent growth in biological knowledge. We have seen an explosion of discovery and innovation in the life sciences, at a time when increases in both population and economic development are driving growth in world demand for better food and health care. For Monsanto, this convergence creates an opportunity to capture the value inherent in the life sciences and to meet expanding demand for nutrition and health in a way that preserves the environment.

OPPORTUNITY/TECHNOLOGY

Advances in biotechnology accelerate innovation and integration of the life sciences

We're experiencing an explosion of knowledge in biotechnology, which realizes the potential of living systems through an understanding of their genetic structure and function.

The pace and magnitude of change constitute a revolution in the life sciences comparable with — and building on — what has come to be known as the Information Revolution. Exponential growth in computing capacity, which speeds the evaluation of complex genetic data, will support exponential growth in our knowledge of genes and our ability to apply that knowledge to improve nutrition and health.

Exponential is not a term we use loosely. We believe that the ability to identify and use genetic information is doubling every 12 to 24 months, a phenomenon we refer to as "Monsanto's Law." This trend is comparable to the technological phenomenon driving the Information Revolution — a doubling of the computing power of silicon chips every 18 to 24 months known as "Moore's Law."

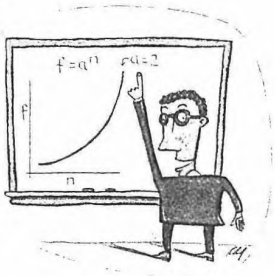
EXPONENTIAL

The meaning of exponential

In mathematics, an exponential function is of the form $f = a^n$ where n is a number greater than zero and a is a number greater than one. This means a is multiplied by itself n times.

When a equals two, then as n takes on the successive values of one, two, three, etc., f will double.

The larger the number n, the faster the curve rises. The graphs in this report that exhibit exponential rates of change demonstrate the potential of life sciences for nonlinear, accelerating growth.



Monsanto has created a life sciences company to capture value by advancing and applying this explosion in biological knowledge. We've linked agriculture, nutrition and health with our core capabilities in biotechnology. By integrating our efforts across the life sciences continuum — from food to nutrition to human health — Monsanto can create value in three ways. First, we can find multiple applications for discoveries in biotechnology. Second, by considering agriculture, nutrition and health as a system rather than as isolated pieces, we can expect to develop more powerful

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approaches to medical and agricultural needs. And third, we can reduce the time and cost of research and development (R&D) and focus on the most promising candidates in our product pipeline.

By combining expertise in plant biotechnology and nutrition, Monsanto is developing soybean and canola plants that will produce oils with healthier properties for margarines and shortenings. By combining plant biotechnology with pharmacology, Monsanto is producing plant-grown antibodies that can be produced more efficiently than in animals and that hold promise in helping patients tolerate cancer treatments.

FACT

Monsanto's top two biotechnology product groups — Roundup Ready *products, which tolerate* Roundup *herbicide, and* Bollgard, NewLeaf *and* YieldGard *products, which resist insects — are each based on only one gene out of 40,000 in a plant.*

A key factor in the growth of the life sciences is the emergence of genomics as a powerful new area of biotechnology.

Genomics is a group of technologies that dramatically increase the speed and power of genetic research. By compressing the time needed to study large numbers of genes, genomics also makes it possible to analyze the genetic structures of biological systems rather than only isolated genes.

Genomics creates opportunities that could not be fathomed with earlier technologies. It accelerates new discoveries in how we can grow food, and how we can nourish our bodies to fight — even prevent — disease.

Monsanto has made major investments as part of a comprehensive strategy to integrate the leading genomics capabilities into its R&D efforts *(see "A Network of Partnerships," page 22)*. Genomics has contributed to an exponential increase in the speed and precision with which we can create life sciences products and bring them to market. For example, Monsanto's cost to sequence one gene — to determine its chemical structure — has fallen from $2.5 million in 1974 to $150 in 1998. The ability to identify more genes more rapidly and at lower costs has implications for Monsanto's R&D in all areas of the life sciences.

FACT

Global planting of genetically improved crops increased from 5 million acres in 1996 to 30 million acres in 1997 and is expected to reach 65 million acres in 1998. Crops with Monsanto traits will account for approximately 50 million of those acres.

Genomics is a critical element in Monsanto's drug discovery process. It's particularly useful in identifying molecular targets, reducing costly and time-consuming trial and error. For example, had our current genomics capabilities been available earlier, celecoxib — a new treatment for arthritis that we're preparing for regulatory review — might have been developed and brought to market at least two to three years earlier.

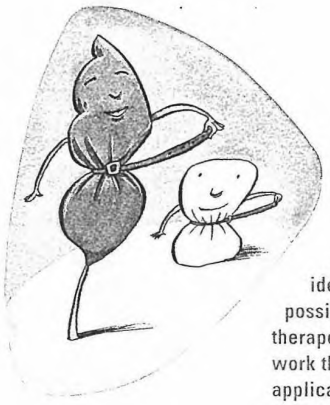
We've scarcely begun to realize the potential of biotechnology and genomics. Monsanto's top two biotechnology product groups — *Roundup Ready* products, which tolerate *Roundup* herbicide, and *Bollgard, NewLeaf* and *YieldGard* products, which resist insects — are each based on only one gene out of 40,000 in a plant. In 1997, we introduced cotton with both *Bollgard* and *Roundup Ready* traits, the first plants with specialized combinations of multiple traits. The ability to "stack" multiple genes in a single plant will allow Monsanto to commercialize more products faster and create far greater value for our customers. (continued on page 10)

FACT

In developing celecoxib, a new treatment for arthritis and pain, Monsanto expects to cut in half the time it has taken us historically to bring a pharmaceutical product from the first human trials to global registration. Celebra, *Monsanto's trademark for celecoxib, is being prepared for a 1998 filing at the U.S. Food and Drug Administration.*

CALGENE

Getting more nutrition out of oil seeds



Monsanto's acquisition of Calgene Inc., completed in 1997, is one step in our larger strategy to invest in a science-based approach to food and nutrition. Among the strengths that Calgene brings to Monsanto is the science of how to control fatty acids in oil seeds, and to add nutritional and other consumer benefits to oils.

High-stearate soybean oil can be used to produce margarines, spreads and shortenings that don't contain trans fatty acids, known to increase cholesterol levels. *Laurical*, a high-laurate canola oil, has a range of applications. It's being marketed first as a replacement for cocoa butter in chocolate-flavored confections and as a dairy replacement in whipped topping. *Laurical* offers appealing taste and texture, and a better melting point.

Monsanto researchers are collaborating to identify fatty acids with possible nutritional and therapeutic benefits — work that may lead to applications of Calgene technology in both nutrition and pharmaceuticals.

Another Calgene technology is increasing the oil content in soybeans, corn and canola. Higher oil content means a more valuable crop for farmers and grain processors, and a more valuable seed product for Monsanto.

TOWOLDMON0016036

Three waves of genetic improvement of plants

The growth potential of the life sciences can be seen in the 1997 growth of Monsanto's agricultural biotechnology products. The six-fold increase in acres planted with our crops reflects only the first of three waves of agricultural biotechnology. As Monsanto continues to expand first-wave traits, with more traits applied to more crops, we're also working on second- and third-wave traits.

Each successive wave adds potential value for growers, processors and consumers. In the first wave, agronomic traits improve plant characteristics that affect growth. In the second wave, quality traits enhance the food and fiber produced by the plant, providing improved nutrition and other desirable attributes. And in the third wave, new traits transform plants into "factories" that can manufacture products today made from nonrenewable resources.

THIRD WAVE

BIOFACTORIES

Plants replacing factories as production facilities

In the third wave of agricultural biotechnology, seeds will become the ultimate energy-efficient, environmentally friendly production facilities. A canola plant, for example, could serve as a factory to add beta carotene to canola oil to alleviate the nutritional deficiency that causes night blindness.

Around the world, 250 million people — especially children — are at risk for night blindness as a result of inadequate beta carotene, or vitamin A, in their diets. Since many of these diets include canola oil, Monsanto is developing canola with a third-wave trait that produces oil with beta carotene.

SECOND WAVE

QUALITY TRAITS

Producing [illegible] food and fiber from plants

These "output" traits [illegible] growers and processors creat[illegible] for consumers by enh[illegible] quality of the food and fiber produced by the plant. Quality trait products include improved soybean and ca[illegible] and corn with selected nutritional qualities for animal feed. Ultimately, plants could be designed with specific nutritional traits to meet the health needs of consumers on special diets.

FIRST WAVE

[illegible]nts [illegible]wers [illegible]with less

Agro[illegible] "input" traits create [illegible]mers by giving plants [illegible] do things that increase [illegible]duce the need for inputs [illegible] pesticides [illegible]'s current products with [illegible]its include *Roundup Ready* [illegible] that tolerate *Roundup* herbi[illegible] *Bollgard*, *[illegible] Leaf* and [illegible] insect-protec[illegible] [illegible] disease [illegible]

TOWOLDMON0016037

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billion

illion

FACT

Projections of world population in 2050 range from 8 billion to 12 billion, up from approximately 6 billion in 1996.

OPPORTUNITY/MARKETS

Demand for life sciences products is creating markets, attracting competitors, and requiring increased investment

Two trends are coinciding with the increase in biological knowledge: growth in markets and intensification of competition.

The life sciences industry is developing to serve some of the largest possible markets — providing health and nutrition for the world's population at a moment when rapidly growing population is straining the world's resources. Estimates of world population in 2050 range as high as 12 billion — double the current number. At the same time, economic growth is adding an estimated trillion dollars to the global economy each year, expanding markets for life sciences products.

Rising incomes in emerging economies will create increased demand for better diets, better health care and other factors affecting quality of life. We believe that the combination of population and economic growth will double or even triple world food demand.

As demand for nutrition and health care increases because of population and income growth, we anticipate that demand for products created through life sciences technologies will grow even faster. As consumers substitute

(continued on page 12)

DECOMMODITIZATION

Specialized crops will transform agriculture, create value

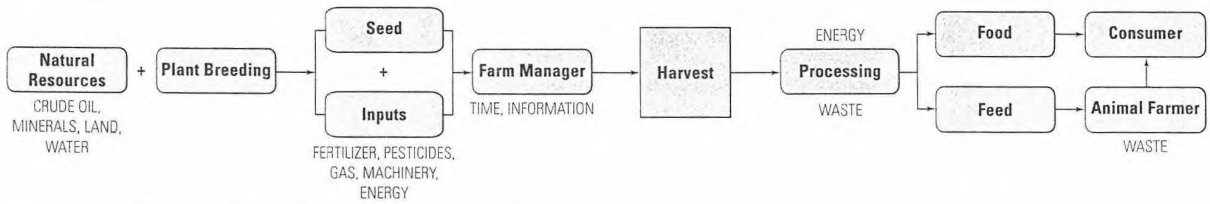
Agriculture is changing. Today, most agriculture is based on growing large amounts of crops of a standard quality for universal use. In the future, the products of life sciences will change the process and provide additional value across the system.

As we progress from the agronomic traits of today's first biotechnology crops to higher quality traits and biofactories, farmers will be able to grow specific crops for specialized uses. Differentiated crops will create, in turn, the need for identity preservation along the production chain. These higher value life sciences traits will provide the economic incentive for growers to farm differently and processors to operate differently in order to provide foods for specific nutritional needs and other specialized products.

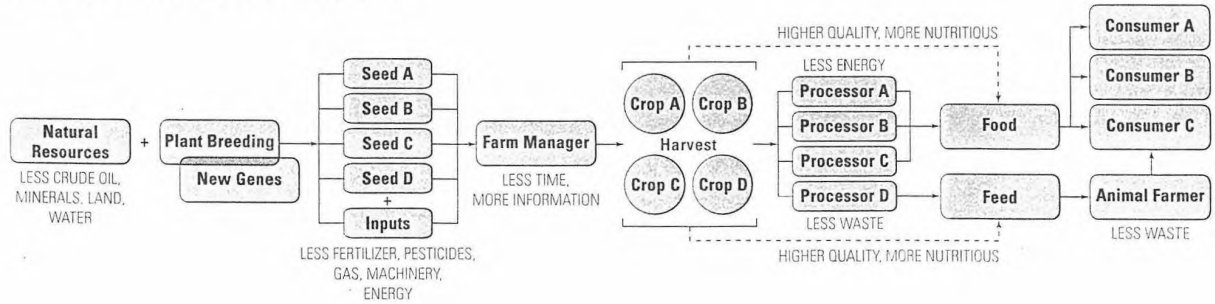
In short, global agriculture will experience what is being called "decommoditization," and an industry built around commodities will have to restructure itself to support new technologies. Such a period of flux presents Monsanto with an opportunity to redefine our role in creating and capturing value.

The flow charts below demonstrate how more specialized crops will result in a proliferation of production streams. Each integrated process will require fewer inputs and produce greater value.

Traditional Agriculture Model: Commodities



Emerging Agriculture Model: Decommoditization



TOWOLDMON0016038

Sustainable development: environmental imperative, economic opportunity

Sustainable development means meeting the demands of people today while preserving the capacity of the environment to provide for future generations. Achieving sustainability means creating economic growth and improving the quality of life while conserving environmental resources.

People who already enjoy a high standard of living can't expect the rest of the world to abandon their economic aspirations in order to preserve clean air and water. That's not only an ethical position, but an economic reality. Monsanto believes there is economic value to be captured in meeting world demand for a better quality of life in a sustainable way.

The earth's ecological system cannot withstand unlimited increases in the amount of material produced and consumed, but it can withstand exponential increases in knowledge and information. Monsanto is creating value by developing processes and products that are sustainable because they replace "stuff" with information. For example, Monsanto has applied biotechnology to improve seeds, so that their genes carry information to repel or destroy harmful insects. This information is more valuable than the "stuff" it replaces — insecticides and the fuels used to apply them — because it achieves the same desired effect in a sustainable way.

For additional information on sustainability, you're invited to read Monsanto's Sustainable Development Report for 1997 *(see page 65 for ordering information)*, or visit our web site at www.monsanto.com.

▼ ***Current agricultural technology is not sustainable.***
Today, farmland covers approximately 6 million square miles of the earth's surface. If we used only the conventional farming practices in place today, we would need as much as 15 million square miles of arable land to produce the food needed for the 8 billion to 12 billion people expected to inhabit the earth by 2050. Yet most of the world's productive, sustainable farmland is already under cultivation. We must either expand agriculture onto underdeveloped or marginal land — depleting resources and destroying habitats that support biodiversity — or achieve higher yields on existing farmland. Seeds improved through biotechnology are making it possible to produce higher yields on the farmland we have available today while reducing the effect on the environment. In 1997, Monsanto's YieldGard *insect-protected corn increased yields 8 percent from yields of standard corn hybrid varieties, while farmers who used* Bollgard *insect-protected cotton saw a 7 percent yield improvement.*

▲ *Conservation tillage (con-till) is a farming practice that replaces plowing with the judicious use of herbicides to control weeds. Con-till reduces erosion that currently results in the loss of 25 billion tons of topsoil each year worldwide. Crop residue is left on the field, seeds are planted in narrow rows or drilled holes, and weeds are controlled with herbicides such as Monsanto's* Roundup.

A recent study indicates that the use of Roundup Ready *soybeans combined with* Roundup *encourages con-till practices and allows farmers to use herbicides more judiciously.*

Argentine agronomist Manuel Ferrari (above) finds earthworms a sign of healthy soil in a con-till field. Con-till acreage is increasing in Argentina, and sales of Roundup *there reflect this growth.*

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higher quality and more environmentally sustainable products of life sciences for those produced by conventional means, they will add another layer of demand.

The convergence of demand and technology offers a significant opportunity for the companies and investors who get there first. Monsanto has assumed a leading role in the creation and consolidation of the life sciences industry through steadfast pursuit of a consistent strategy rooted in decisions made more than a decade ago. At a time when Monsanto's base business was chemicals, the company recognized the potential of biotechnology and made investments across the life sciences — in agriculture, nutrition and pharmaceuticals — to develop that potential.

The magnitude of the opportunity allows for many winners, but opportunities will be greatest for companies that gain early access to key capabilities. That's why Monsanto moved quickly to build alliances in technology and in the marketplace. Other firms are now following our lead, consolidating their positions in the life sciences. Their actions confirm Monsanto's strategy, but also increase competition for future partnerships and investments.

The market is developing as we expected, although unfolding faster and larger than anyone could have anticipated. Opportunities are expanding rapidly, but so is the scale of the necessary investment. This requires Monsanto to make critical choices and to focus its resources where they create the greatest long-term value.

In 1997, Monsanto invested approximately $1.3 billion pretax on growth — a figure that includes spending on technology and the effect on income of acquisitions and infrastructure costs. This figure represents an increase of more than $500 million, or approximately 60 percent, from our growth spending in 1996. For the past five years, if unusual items were excluded, income from continuing operations would have increased at a compound rate of 25 percent annually, while spending on growth increased at a compound rate of 28 percent per year. Near-term earnings will continue to reflect the imperative to invest in growth.

billion

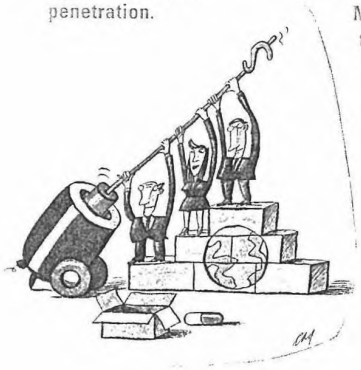
FACT

According to the World Bank, the global economy is estimated to grow 3.4 percent annually in the decade from 1997 to 2006 in terms of real gross domestic product (GDP). Based on world GDP of $28.3 trillion in 1995, this rate of growth adds a trillion dollars or more to the world economy each year.

LAUNCH

What it takes to launch a global blockbuster

Shorter product life cycles — brought about by accelerating technological advances — demand new launch strategies for pharmaceutical products. To capture the maximum value from a product, companies must achieve virtually simultaneous global launches and rapid market penetration.



Global launches of cholesterol-reducing pharmaceuticals in recent years have set the new pattern: a dramatic escalation in upfront launch costs and rapid growth in long-term market share and earnings.

Monsanto is collaborating with Pfizer Inc. to co-promote Monsanto's *Celebra* treatment for arthritis and pain in the United States. Both companies are in discussions to extend the collaboration worldwide, except in Japan. We have similar arrangements in Japan with Yamanouchi Pharmaceutical Co. Ltd. for *Celebra* and with Sankyo Co. for xemilofiban and orbofiban to prevent blood clots.

With several blockbusters — products with potential sales of more than $750 million — approaching launch in the next few years, Monsanto must make large investments now to achieve full value from its product pipeline. The alliances we've formed will add financial and marketing resources critical to successful launches that achieve maximum returns during each product's life cycle.

Blockbuster launches will require a global network and infrastructure, consistency in positioning and marketing products, and highly coordinated regulatory efforts. For example, comprehensive data must be assembled prior to launch to support speedy regulatory approval, public acceptance and effective positioning in the marketplace. To achieve a steep increase in sales, spending on large clinical trials and marketing strategy and materials must begin years before the launch. For new blockbusters, Monsanto's target is to secure, within 12 months of the first launch, regulatory approval in the markets that account for 85 percent of the potential sales. We'll continue to pursue partnerships that strengthen these global launch capabilities.

TOWOLDMON0016040

Higher stakes in pharmaceuticals — focused, productive R&D at Searle

Fundamental changes are driving further consolidation of the pharmaceutical industry. The driving force is the escalating cost of research and development (R&D). Pharmaceutical companies are under intense pressure to be first to market with products that offer significant new therapeutic benefits.

That pressure is coming from competitors and consumers. Competitors are developing genomic capabilities to accelerate the R&D process. Consumers are responding to rising health care costs by holding pharmaceuticals to a higher standard. Governments, insurance companies and managed care providers are refusing to cover products that don't offer substantial new benefits. "Me too" products are out.

As a result, speed to market is critical. The research process is compressed, while the number of potential targets is expanding. To compete, companies must make major investments in genomics and other R&D infrastructure.

In 1997, Monsanto's pharmaceutical business, Searle, invested 26 percent of its product sales in R&D, including investments in key areas of genomics. This is one of the highest levels of R&D investment in the pharmaceutical industry.

Searle is also among industry leaders in the productivity of its R&D. The potential value of Searle's pipeline is approximately seven times R&D investment, compared with an average of two to three times for most major pharmaceutical companies.

Searle's strategy is to pursue performance leadership in five key therapeutic areas: sleep, arthritis, oncology, cardiovascular disease, and women's health.

Searle is building on this strategy with platforms and programs to develop new pharmaceuticals. To build a platform, Searle studies a specific mechanism, such as COX-2 — an enzyme that causes the swelling and pain associated with arthritis — and looks for ways that blocking COX-2 can affect other therapeutic areas.

Beginning with *Celebra*, a COX-2 inhibitor that reduces pain and inflammation in arthritis patients, Searle is building a family of products. The COX-2 platform includes compounds to treat cancer, Alzheimer's disease and postsurgical pain.

A program, on the other hand, focuses on one therapeutic area and develops an array of related products to treat closely related diseases. For example, Searle is building a portfolio of new oncology products that not only restore white blood cells, platelets, and bone marrow destroyed by chemotherapy, but also stimulate the patient's immune system to fight tumors.

Searle continues to develop new health care products for women. A treatment for vaginal infection, an estrogen patch for menopausal symptoms and a low-dose oral contraceptive are among products to be launched in 1998.

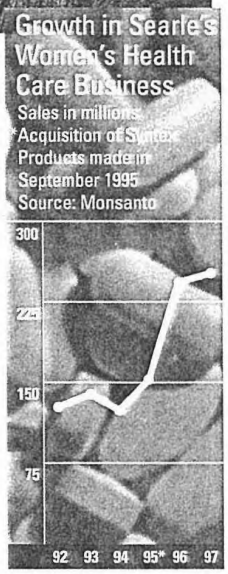
Searle's strategy is producing results. Five years ago, Searle had declining sales and a weak pipeline. Today, it has double-digit revenue growth and one of the top product pipelines in the industry. In 1997, Searle had five compounds in Phase III trials — the final phase in development before application for regulatory approvals — and five more are expected to enter Phase III in 1998.

New products build on Searle leadership in women's health

Searle is building on its traditional strength in women's health care. Searle introduced the world's first oral contraceptive 37 years ago, and today its contraceptives are sold in 70 countries.

New hormone replacement therapy (HRT) products maintain a woman's hormone levels to control symptoms of menopause and to reduce risk of heart disease and osteoporosis. Searle's transdermal patches for HRT are currently in large-scale clinical trials, with an anticipated U.S. launch in 2000.

In 1998, pending regulatory approval, Searle will undertake a first-time launch of low-dose oral contraceptives in Japan. In addition, the women's health care business will launch products in seven other countries. These launches include *Flagyl ER* — an oral treatment for vaginal infection — in the United States, and *Elleste* — an estrogen patch for menopausal symptoms — in Brazil.



Searle has increased sales of women's health care products, in part through acquisitions, from $128 million in 1992 to $252 million in 1997.

TOWOLDMON0016041

A Value Multiplier

MONSANTO'S LAW

Rapidly expanding capabilities for genetic improvement of plants

As discussed on page 6, gene annotation reflects our growing understanding of the genetic organization and potential of plants. But that's only half the story and part of the growth. Monsanto's ability to create value in agriculture is based on the genetic improvement of plants — applying what we've learned about genes to strengthen the performance of crops in the field and the nutritional benefit of the food we harvest.

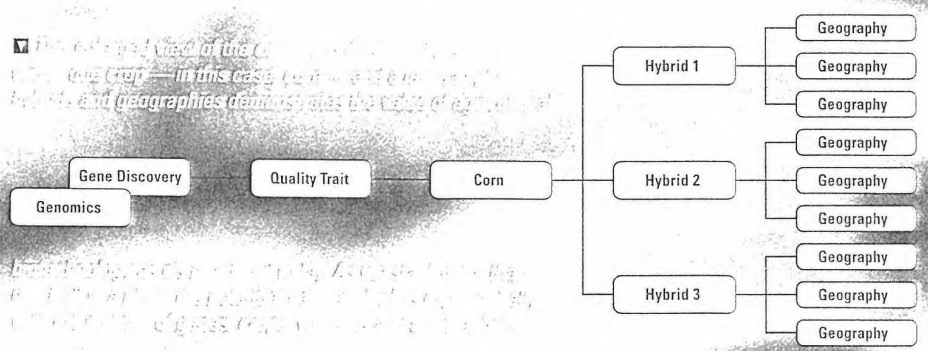
Monsanto's ability to insert genes into plants has grown exponentially. In 1982, we were able [illegible] 20 [illegible] genes in a plant. And the only plants we could transform were petunias and a wild relative of the tobacco plant. Today, we can manage more than 40,000 gene trials a year, including crops like corn, rice, wheat and soybeans. This exponential increase in production allows for the testing of more individual traits, reduced risk in product development, and the increased chance of identifying traits with commercial potential. The chart on the opposite page demonstrates the exponential growth in Monsanto's ability to insert genes into a variety of crops.

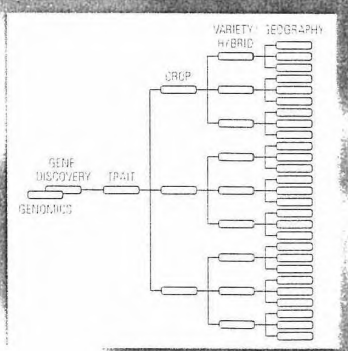
Each new trait captures value at multiple levels. The commercialization process of one gene demonstrates the growth in its value when applied across multiple crops, multiple varieties or hybrids of each crop.

For instance, today the *Bacillus thuringiensis (Bt)* gene for insect protection is being used in four crops. Each of those crops has between 20 and 200 important varieties or hybrids that will receive the *Bt* gene. Each variety or hybrid also is grown in many different locations around the world. This multidimensional application of even one gene represents what we refer to as the "value multiplier." Additional value will be captured as we begin to stack multiple genes in each variety or hybrid of each crop for each location.

▲ *We're developing quality traits for corn and other crops — adapted to specific varieties or hybrids and growing conditions — to improve nutrition for consumers.*

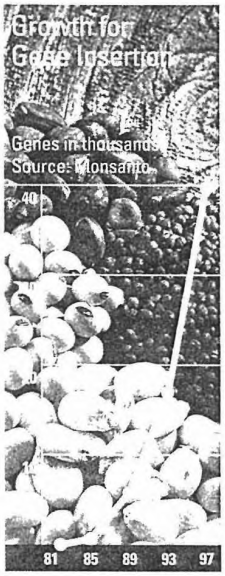
▼ [illegible] *one crop — in this case [illegible] and geographies demonstrates the [illegible]*





TOWOLDMON0016042

Multiple applications of biotechnology produce exponential possibilities for value creation. Integrated life sciences capabilities multiply the potential value created by Monsanto.



Monsanto's ability to insert genes into plants and test them for new traits is growing exponentially. Every gene we insert successfully into a plant reveals clues to inserting the next new gene.

The more quickly we can verify the efficacy of a new trait, the more quickly we can capture value through the commercialization of that trait.

Exponential growth is a product of multiplication: Growth in an integrated life sciences company stems from multiplying the benefits of new discoveries across many disciplines and markets. At Monsanto, growth in agricultural biotechnology and nutrition will be the result of multiple traits applied to multiple crops in multiple countries. Growth in pharmaceuticals will be the result of our focus on compounds with multiple therapeutic applications. The multiplier effect is producing growth in Monsanto's base business and value from its product pipeline.

VALUE/BASE BUSINESS OUTLOOK

Current products demonstrate capacity to sustain earnings growth and support R&D investment

Monsanto's core businesses would have generated compound annual earnings growth of 25 percent for the past five years, if unusual items in all years were excluded. In that time, the base businesses have provided significant funds for the growing research and development (R&D) demands of the product pipeline. The outlook for Monsanto's base businesses shows room for continued growth in extensions to new markets and increasing sales in current markets. The accelerating growth potential of Monsanto's pipeline *(see "Value/Pipeline Outlook," page 18)* is layered on, and supported by, consistently strong growth in existing products.

Rapid growth of biotechnology products and the continued strength of *Roundup* herbicide form the basis for future growth of Monsanto's agricultural business. In 1997, agricultural business sales increased by 22 percent, and operating contribution — a measure of cash-based profitability — increased 19 percent. To accelerate future growth, Monsanto is

(continued on page 16)

EVA

Measuring value creation

To make the best investment choices in the life sciences, Monsanto needed to employ the most sophisticated techniques available to measure value creation. We chose Economic Value Added (EVA) — which measures a firm's true economic profit after the cost of all capital is subtracted — as part of a system of economic-based metrics that measure shareowner value and drive decisions to enhance shareowner wealth. EVA also correlates closely with the stock price, which also helps guide our efforts to create greater value.

Monsanto has created Economic Value Added of more than $270 million since the start of 1995, when Monsanto first began to evaluate and use EVA. EVA is a powerful and comprehensive tool that aligns long-term shareowner value with the decisions made and actions taken by all employees to improve the company's operating results.

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pursuing two principal strategies: We're expanding volumes of *Roundup* and the acreage of existing biotechnology products, and we're developing biotechnology products with new agronomic and quality traits.

Monsanto is expanding the market for existing products to new crops and new geographies via a strong international network. Sales of *Roundup*, the world's leading nonselective agricultural and industrial herbicide, continued to grow in 1997. *Roundup* maintained volume growth in 1997 above the 20 percent historical trend line. Much of the volume growth in *Roundup* was outside the United States — the only country where *Roundup* is still patent-protected.

FACT

The practice of conservation tillage — which reduces or eliminates plowing to control weeds — has more than doubled globally since 1990, from approximately 110 million acres to approximately 285 million acres. Roundup *is the herbicide of choice for conservation tillage.*

The interaction of selective price reductions and volume increases has enhanced the strong competitive position of *Roundup* and fueled earnings growth. To maintain its low-cost position in the production of glyphosate, the active ingredient in *Roundup*, Monsanto is achieving continued reductions in unit costs through improvements in manufacturing technology and operating efficiency, as well as economies of scale.

Another factor in the continued growth of *Roundup* is conservation tillage, a farming practice that reduces soil erosion, labor and energy and equipment costs by reducing or eliminating the use of tillage to control weeds. Because *Roundup* is the herbicide of choice for conservation tillage, volumes have grown steadily as more growers adopt this practice.

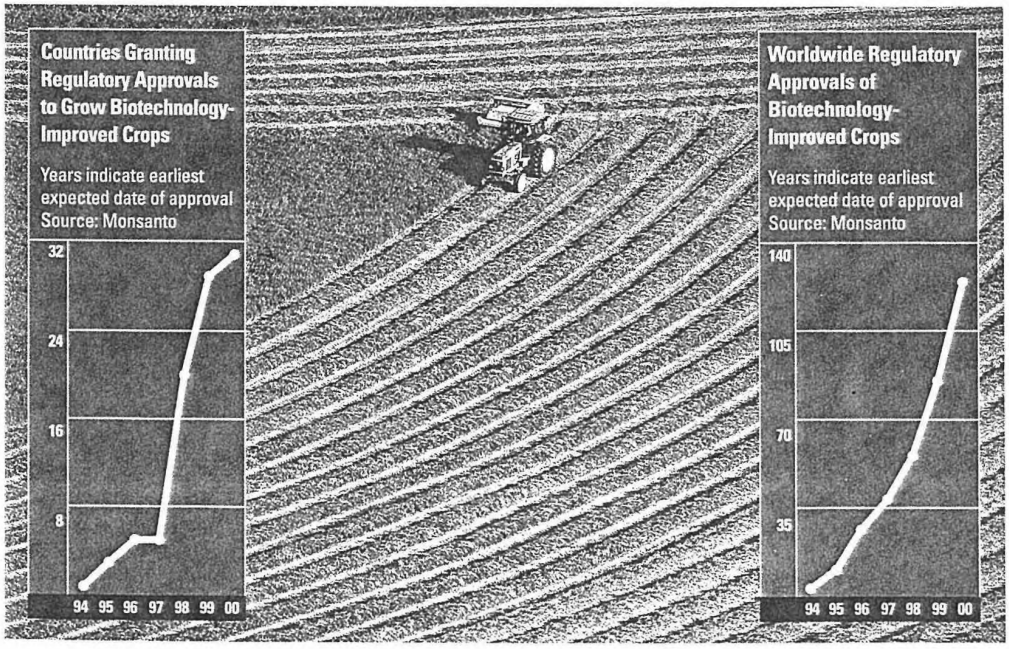
The introduction of *Roundup Ready* crops — crops that are tolerant of *Roundup* herbicide — also has stimulated increased sales of *Roundup*. *Roundup Ready* cotton was added to the portfolio in 1997.

Roundup Ready crops are an example of Monsanto's first wave of agricultural biotechnology products with improved agronomic traits. Expansion of biotechnology crops in 1997 — from 3 million acres to 19 million acres — confirmed the growth potential of this technology.

With widespread grower acceptance, the primary limit on expansion has been the time it takes to produce seed with new traits. As the supply catches up with demand, total acreage planted in Monsanto's biotechnology crops is expected to approach 50 million in 1998.

Monsanto is broadening the applications of first-wave biotechnology products by stacking multiple traits in a plant. In 1997, we launched *Bollgard* and *Roundup Ready* cotton plants stacked with the genes for both insect protection and tolerance of *Roundup*. We expect to launch *NewLeaf* Y and *NewLeaf* Plus potatoes with protection against certain insects and potato viruses in 1998. (continued on page 18)

After more than 20 years on the market, volume growth of Roundup *rose above the 20 percent historical trend line in 1997. Growth in* Roundup *volumes is a product of several factors, including [illegible] conservation tillage worldwide and the introduction of* Roundup Ready *crops.*



Prior to crop approvals from regulatory agencies, controlled testing of biotechnology-improved crops is required in farm fields in a variety of geographies and growing conditions. Since 1982, there have been more than 3,600 government-authorized on-farm tests involving 56 different crops in 34 countries. By the end of 1997, Monsanto's biotechnology crops had received commercial approval in five countries. Approvals of 16 crops are anticipated in the next three years in more than 25 other countries, for a cumulative total of 120 or more approvals.

TOWOLDMON0016044

AGRICULTURAL BIOTECHNOLOGY

Genetically improved seeds: demonstrated performance, global potential

Acres planted with Monsanto's agricultural biotechnology products — *Roundup Ready* for tolerance to *Roundup* herbicide and *Bollgard*, *NewLeaf* and *YieldGard* for insect protection — increased by approximately 500 percent in 1997, as reported results from previous years demonstrated the value of genetically improved seeds.

Acres planted in *Roundup Ready* soybeans increased from 1 million in 1996 to 9 million in 1997. In all, 19 million acres were planted in crops improved with Monsanto traits. But these products have only begun to realize their growth potential, as indicated in the table below:

Global Acreage Appropriate for Technology	
Roundup Ready soybeans:	75 million acres
Bollgard insect-protected cotton:	28 million acres
YieldGard insect-protected corn:	120 million acres
Roundup Ready corn:	148 million acres
Roundup Ready canola:	64 million acres
NewLeaf insect-protected potatoes:	5 million acres

In three years in the southeastern United States, Monsanto's *Bollgard* cotton provided an advantage of $54 per acre from increased yields and lower insect control costs. An independent study of *Roundup Ready* cotton reported that it required less herbicide, reducing production costs for growers. Studies in the U.S. Corn Belt found that *YieldGard* insect-protected corn outperformed unprotected corn by an average of 13.5 bushels per acre and other protected brands by an average of 8.3 bushels per acre.

These results are building grower acceptance, as farmers around the world plant seeds with Monsanto traits. A survey by a cooperative in Brazil found that 80 percent of growers there were prepared to use genetically improved soybeans. And more than 87 percent of farmers in the United States who planted *Roundup Ready* soybeans in 1997 say they intend to use the product again in 1998.

Through partnerships with Delta & Pine Land Co., we opened a cotton seed processing unit in China, and we signed a joint agreement with a distributor in Argentina to produce and sell genetically improved cotton seeds. In 1997, Monsanto acquired Sementes Agroceres S.A., the leading seed corn company in Brazil, and created a joint venture with Maharashtra Hybrid Seed Co. to sell *Bollgard* cotton in India.

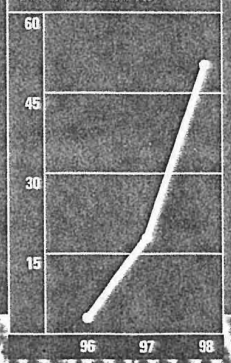
The opportunity to expand geographically is creating exponential growth potential for existing products. The constant introduction of new traits further increases the potential for growth in agricultural biotechnology.

► Plantings of commercialized Monsanto biotechnology crops grew from approximately 3 million acres in 1996, the first year any Monsanto plant biotechnology product was commercialized, to more than 19 million acres in 1997. In 1998, global plantings of Monsanto crops are projected to approach 50 million acres.

▲ In 1997, Monsanto had YieldGard *insect-protected corn,* Bollgard *insect-protected cotton,* NewLeaf *insect-protected potatoes, and* Roundup Ready *canola, cotton and soybeans on the market. Limited quantities of a cotton product with both insect protection and tolerance to* Roundup *herbicide also were available.*

Global Plantings of Monsanto's Commercialized Biotechnology Crops

Acres in millions — approximate
Source: Monsanto



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(continued from page 16)

FACT

Revenues from Searle's three key growth products — Ambien, Arthrotec and Daypro — have grown from $159 million in 1993 to $830 million in 1997.

Five pharmaceutical product lines, each generating revenues of more than $175 million, support a trend of strong sales growth. Sales at Searle, Monsanto's pharmaceutical business, grew by 21 percent in 1997, following 17 percent growth in 1996. Since 1993, when Searle decided to concentrate on five key therapeutic areas, the company has developed a more diverse product portfolio with strong growth.

Searle's three key growth products — *Ambien, Arthrotec* and *Daypro* — have increased revenues from $159 million in 1993 to $830 million in 1997. Sales of *Ambien,* a short-term treatment for insomnia, rose by 31 percent in 1997, and the product's share of total prescriptions increased to 50 percent. Since its introduction, *Ambien* has not only built its market share, but it has reversed the overall market decline in sleep aids. *Arthrotec,* already the leading nonsteroidal anti-inflammatory drug (NSAID) in several countries, was approved in December 1997 for use in the United States. *Daypro* arthritis treatment became the second-leading NSAID in the United States in 1997.

The nutrition and consumer products business includes food ingredients, *Ortho* brand lawn-and-garden products and *Roundup* herbicide for residential use. Revenues from this business declined in 1997, primarily because of lower sales volumes for tabletop sweeteners. Monsanto continues to build on the low-cost position and superior quality of *NutraSweet* brand sweetener while developing new sweeteners and bulking agents. At the same time, Monsanto is building on the food ingredients business to develop a science-based nutrition program.

In January 1998, we announced that we're considering alternatives for several businesses, including the lawn-and-garden business, as part of an effort to focus on growth in the life sciences. Alternatives include partnerships, restructurings, divestitures or joint ventures.

FIBANS

Treatment designed to prevent blood clotting is a breakthrough for heart patients

Searle is now at work on fibans, a new class of breakthrough cardiovascular drugs, with its research focused on developing products taken orally. By blocking a receptor on blood platelets, fibans may prevent blood clotting, a danger for patients with heart disease. Searle is the first company to bring an oral fiban to Phase III trials. Two compounds are now being tested in large patient populations.

Xemilofiban is designed to prevent blood clots after coronary angioplasty, a process performed to unblock coronary arteries. This lifesaving heart operation is performed on more than 1 million patients globally each year. The only treatment currently available following an angioplasty to prevent platelet clotting is intravenous, which is expensive and available only during a hospital stay. Xemilofiban can be taken orally for six months after the patient goes home.

Orbofiban is designed for longer-term treatment of patients with chronic heart disease, including those who have had myocardial infarctions or unstable angina. In the United States alone, nearly 14 million people suffer from coronary heart disease. Orbofiban can provide a new life-prolonging treatment for millions of patients each year.

VALUE/PIPELINE OUTLOOK

Multiple programs with multiple products create a pipeline with strong growth potential

On a base of strong, steady growth in its current business, Monsanto is developing the potential for nonlinear, accelerating growth in its pipeline. What makes such growth possible is that Monsanto's pipeline is built on discovery and commercialization of new products in multiple areas of potential growth.

Monsanto's pipeline has expanded through careful choices among potential investments, which have resulted in an unusually low rate of attrition. In fact, low attrition in the pipeline has created increased demands for investment in growth and a need to focus only on the most valuable opportunities.

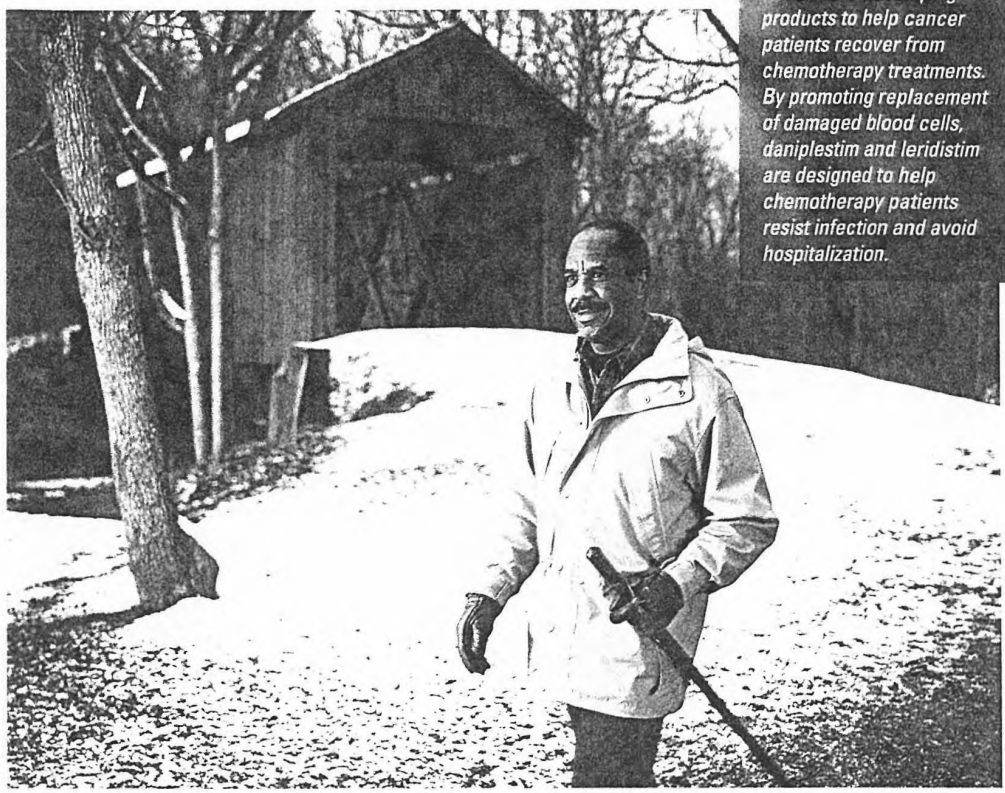
The value of Searle's pipeline, as a multiple of the company's current sales, is possibly the highest in the pharmaceutical industry. Five compounds in four of Searle's five therapeutic areas — arthritis, cardiovascular, oncology and women's health care — are currently in Phase III clinical trials, and a total of as many as 10 compounds may be in Phase III before the end of 1998. Product candidates in Phase III trials include:

- *Celebra*, a COX-2 inhibitor for the treatment of arthritic pain and inflammation without gastrointestinal side effects;
- Daniplestim, a growth factor to stimulate replacement of blood cells destroyed by cancer treatments;

(continued on page 20)

TOWOLDMON0016046

New approaches improve cancer treatment and hold potential for cancer prevention



▼ *Searle is developing products to help cancer patients recover from chemotherapy treatments. By promoting replacement of damaged blood cells, daniplestim and leridistim are designed to help chemotherapy patients resist infection and avoid hospitalization.*

Searle is working on new products that represent a major advance in cancer treatment.

Destruction of healthy blood cells is a serious side effect of using drugs to kill cancerous cells. Daniplestim, currently in Phase III trials, is the first product of Searle's strategic focus on blood cell growth factors. It may help chemotherapy patients replace damaged blood cells, resist infection and avoid hospitalization. Another drug, leridistim, a second-generation growth factor with blockbuster potential, is expected to enter Phase III trials in early 1998.

But what if we could actually prevent cancer?

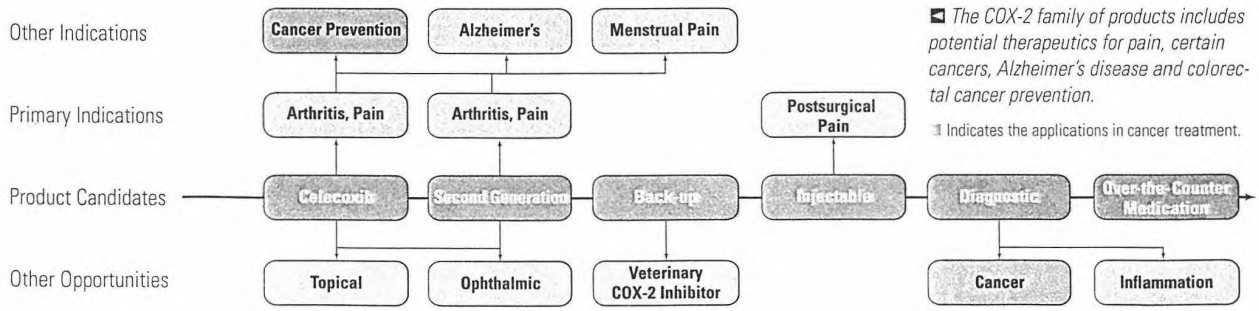
Searle and the National Cancer Institute (NCI) are now testing this hypothesis in collaborative trials. *Celebra* — the COX-2 inhibitor now in Phase III trials as an arthritis treatment — is under evaluation in Phase II trials as a preventive drug for certain types of colon cancer.

The cancer treatment implications of COX-2 inhibition are twofold. In colorectal or colon cancer — and possibly in other forms of cancer — we know that the COX-2 enzyme is found in areas of inflammation. But it's also found very early in precancerous colon polyps, which may evolve into colon or colorectal cancer. COX-2 inhibition may actually restrain the evolution of the polyp and ultimately the cancer. NCI trials are testing for that effect.

Recent research at Searle indicates that COX-2 inhibition also may help treat other forms of cancer. Because COX-2 may be important to angiogenesis — the formation of blood vessels that feed a tumor and allow it to grow or metastasize — inhibiting COX-2 may be useful in the treatment of existing tumors.

Potential benefits of COX-2 research platform

COX-2 is an enzyme that causes the swelling and pain associated with arthritis. The first product of Monsanto research on COX-2 is *Celebra*, a COX-2 inhibitor to reduce pain and inflammation in arthritis patients. But Searle is also building a family of products on the COX-2 research platform that includes second- and third-generation compounds with a range of applications, including the treatment of certain cancers, Alzheimer's disease and postsurgical pain.



◄ *The COX-2 family of products includes potential therapeutics for pain, certain cancers, Alzheimer's disease and colorectal cancer prevention.*

1 Indicates the applications in cancer treatment.

TOWOLDMON0016047

(continued from page 18)

• Hormone Replacement Therapy (HRT) patches that increase a woman's estrogen and progesterone levels as a medical treatment for symptoms of menopause;

• Xemilofiban, an oral anti-platelet agent designed to prevent blood clot formation after coronary angioplasty; and

• Orbofiban, an oral anti-platelet agent designed for long-term use to prevent blood clots.

The pipeline includes three potential blockbusters — products with potential sales of more than $750 million — in advanced stages of development. These include *Celebra* and orbofiban, as well as leridistim (formerly called myelopoietin), a blood cell growth factor to help cancer patients resist infection after chemotherapy. Leridistim is expected to enter Phase III trials in early 1998.

To prepare for new products coming out of the pipeline, Searle is expanding its global marketing force. Expansion has been implemented in the United States, and plans are in place in other key countries. The company also is establishing marketing partnerships that will accelerate global market penetration. *(See "Launch," page 12.)*

The full potential of the agricultural biotechnology pipeline comes from adapting more traits to more crop varieties and more specific geographic conditions around the world. This new product expansion starts from a growing base of first-, second- and third-wave traits.

Among the 30 new products in the agricultural biotechnology pipeline are 16 with first-wave, input traits, such as protection against insects. New products in development include application of existing traits to new crops, such as *Roundup Ready* oilseed rape that tolerates *Roundup* herbicide, as well as new traits to improve yields and provide disease protection.

In addition, there are 14 new products with second-wave and third-wave traits that create better value from the food or fiber produced by the plant. New output traits in development include improved plant oils; improved-solids potatoes, which absorb less fat during cooking; and colored cotton, which eliminates the need for chemical dyeing.

The nutrition and consumer products group is developing a science-based approach to nutrition and health. Monsanto is collaborating in the development of a corn fiber oil that may lower serum cholesterol levels. Corn fiber is a low-value byproduct of wet milling — the industrial process that produces starch sweeteners and other products from corn. Extracting oil from the corn fiber holds the promise of creating nutritional benefits with a variety of food applications.

In the area of food ingredients, Monsanto is developing a unique, no-calorie, high-intensity sweetener called neotame. Previously known as Sweetener 2000, neotame is the product of 16 years of R&D designed to build on the market leadership of *NutraSweet* brand sweetener. Monsanto took the first step toward regulatory approval in December 1997 by filing with the U.S. Food and Drug Administration for tabletop use. We plan to file for general use in late 1998.

To achieve accelerating growth in revenues, earnings and value, we must make substantial investments today in long-term initiatives. Monsanto will continue to make prudent investments with long-term growth potential, including investments in genomics, third-wave plant biotechnology, new compounds for the pharmaceutical pipeline, science-based nutrition and sustainable development.

The ultimate potential of the life sciences is to accelerate value creation, not just by multiplying growth in different areas, but by creating whole new solutions that cross multiple areas of the life sciences — agriculture, nutrition, pharmaceuticals — on a global basis.

The two most common forms of arthritis affect approximately 12 percent of the world's population — a figure that will grow as the average age of the population increases in the next century. Searle's goal is to achieve world leadership in arthritis treatment as that century begins.

FACT

The world's population is growing older. By 2030, nearly 1 billion people alive today will have passed age 65 — more than double the number of people of that age in 1997. This projection, by the U.S. Census Bureau, indicates that the population over age 65 is increasing at a faster rate than the rate of growth for the total world population.

Neotame, a unique, no-calorie, high-intensity sweetener, is approximately 8,000 times sweeter than sugar. Neotame is the product of 16 years of Monsanto R&D to build on the market leadership of NutraSweet *brand sweetener.*

TOWOLDMON0016048

ARTHRITIS

Innovation propels Searle toward world leadership in arthritis treatment

Searle expects to achieve its goal of world leadership in arthritis treatment by the year 2000. The two most common forms of arthritis affect approximately 12 percent of the world's population.

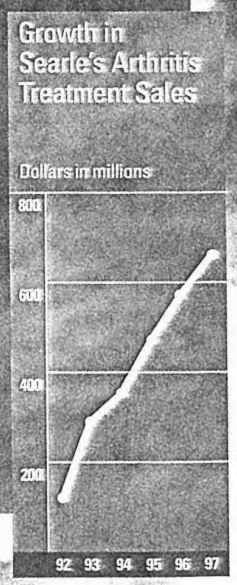
When Searle set its goal in 1992, the company's arthritis franchise had $124 million in sales. In the years since, sales growth for *Daypro* arthritis treatment has outpaced the growth in the market for nonsteroidal anti-inflammatory drugs (NSAIDs). In 1997, *Daypro* reached a cumulative sales total of $1 billion and became the second-leading NSAID in the United States. With the U.S. launch of *Arthrotec* in 1998, Searle is well positioned for leadership in the world's largest market for arthritis and pain treatment. Nearly 40 million Americans — one in seven — suffer from arthritis. By 2020, potential customers will number 60 million.

Arthrotec combines an ulcer preventive drug with an NSAID to deliver arthritis treatment with a significantly decreased incidence of gastrointestinal ulcers. *Arthrotec* is already sold in many countries, and is the No. 1 arthritis treatment in Canada and the United Kingdom. *Arthrotec* will position Searle as the innovative leader in arthritis in the United States. That, in turn, will establish a platform for the launch of *Celebra*, Monsanto's new treatment for arthritis and pain.

Celebra is a potential blockbuster — a term commonly applied to products with potential annual sales of $750 million or more. Monsanto invented this technology to treat arthritis and remains in a leading position against competitive companies in its development. *Celebra* inhibits a type of cyclo-oxygenase, or COX-2, which causes the swelling and pain associated with arthritis. Unlike NSAIDs, *Celebra* does not affect COX-1, which performs basic functions including protecting the stomach lining.

Phase III clinical data showed promising results for *Celebra* in inhibiting COX-2 without blocking COX-1. *Celebra* did not cause gastrointestinal ulcers above the placebo level, nor did it have an effect on platelet function. Preparations are under way for a new drug application to be filed with the U.S. Food and Drug Administration.

► *Sales of Searle's arthritis products increased more than fivefold from $124 million in 1992 to $661 million in 1997.*



TOWOLDMON0016049

A Network of Partnerships

Investments and relationships made in 1997 and by March 1, 1998.

Access to New Markets

Asgrow Agronomics
Our acquisition of this soybean and corn seed company strengthens our ability to deliver new varieties throughout the Americas and Europe.

Carlo Erba S.A.
Monsanto acquired this Brazilian pharmaceutical company, which provides a stronger base to market arthritis and cardiovascular products.

Centro Integral Agropecuario (CIAGRO)
Monsanto and Delta & Pine Land Co. formed a joint venture with this large Argentine distributor to produce and sell genetically improved cotton seeds.

Chemotécnica Sintyal S.A.
Monsanto's acquisition of Sintyal's pharmaceutical business provides access to the Argentine pharmaceutical market with products in the arthritis, pain and antibiotic categories.

Holden's Foundation Seeds Inc., Corn States Hybrid Service Inc., and Corn States International S.a.r.l.
We acquired the world's leading foundation corn seed company and its global marketing network. This allows us to provide farmers improved traits in corn varieties.

Maharashtra Hybrid Seed Co.
Monsanto formed a joint venture with this seed company to develop and commercialize *Bollgard* insect-protected cotton in India.

RAO Biopreparat
Under this joint venture agreement, we're building a pharmaceutical facility in Russia to manufacture 40 to 50 different medical products.

Sementes Agroceres S.A.
The acquisition of Agroceres, the leading seed corn company in Brazil, allows us to introduce improved crops to South American farmers.

Stine Seed Co.
Monsanto and its Asgrow subsidiary are collaborating with Stine to further improve and develop soybean genetics.

Technologies for Future Product Development

ArQule Inc.
This agreement gives Monsanto access to combinatorial chemistry — new methods for discovering and mapping chemical compounds.

Bayer AG
We've formed a joint venture with Bayer AG to develop and market new crop protection products in Europe.

Calgene Inc.
Acquisition of the remaining 45.6 percent of Calgene accelerates our commercialization of new plant oils, produce and cotton seed.

Cytel Corp.
We've formed a research collaboration and provided an equity investment in Cytel to jointly explore immunotherapies for treating cancer.

Flamel Technologies S.A.
We're collaborating with Flamel to develop enhanced formulations of *Roundup* and other Monsanto herbicides using proprietary technology.

Frito-Lay Inc.
This global product development alliance is aimed at improving the quality of potato varieties grown for snack foods.

IBM Corp.
This technology alliance will apply advanced information technologies to genomics research on plant groups and human diseases.

Incyte Pharmaceuticals Inc.
We've extended this partnership, which gives our researchers access to gene sequence databases for use in product development.

Mendel Biotechnology
This collaboration, in conjunction with Empresas La Moderna S.A., provides exclusive access to Mendel's technical capabilities in plant genetics and genomics for many crops.

Millennium Pharmaceuticals Inc.
Our investment in Millennium gains access to proprietary genomics technologies that can help bring future life sciences products to market.

NeoRx Corp.
This collaboration produced a plant-grown human-like antibody that holds promise for allowing cancer patients to tolerate more frequent doses of a tumor-shrinking drug.

Pfizer Inc.
We're collaborating with Pfizer to co-promote *Celebra*, Searle's COX-2 inhibitor for the treatment of arthritis and pain, in the United States. A global agreement, except for Japan, is under discussion.

Yamanouchi Pharmaceutical Co. Ltd.
Yamanouchi and Monsanto will co-develop and co-market an array of pharmaceutical products in Japan, including *Celebra*.

ALLIANCES

Partners strengthen life sciences capabilities

Monsanto has amplified its core life sciences capabilities through a series of acquisitions and partnerships. In 1997, Monsanto continued to build a network of alliances to create a genomics program equal to or better than that of any other company.

An alliance with IBM will support work in mapping genetic structures. A collaboration with Millennium Pharmaceuticals included the creation of a wholly owned Monsanto genomics subsidiary. Monsanto also extended a partnership with Incyte Pharmaceuticals, under which Incyte will provide access to genomics databases. In collaboration with Empresas La Moderna (ELM), Monsanto acquired an interest in Mendel Biotechnology and funded a five-year R&D program, gaining access to plant genomics capabilities.

Monsanto also completed the acquisition of Holden's Foundation Seeds, which complements the genomics alliances by providing access to corn germplasm. This step follows earlier acquisitions of Asgrow Agronomics, to strengthen our position in germplasm and related technologies; Agracetus, to expand our capacity for genetic improvement of, and protein production in, plants; and Calgene, to build our research in plant oils, produce and cotton seed.

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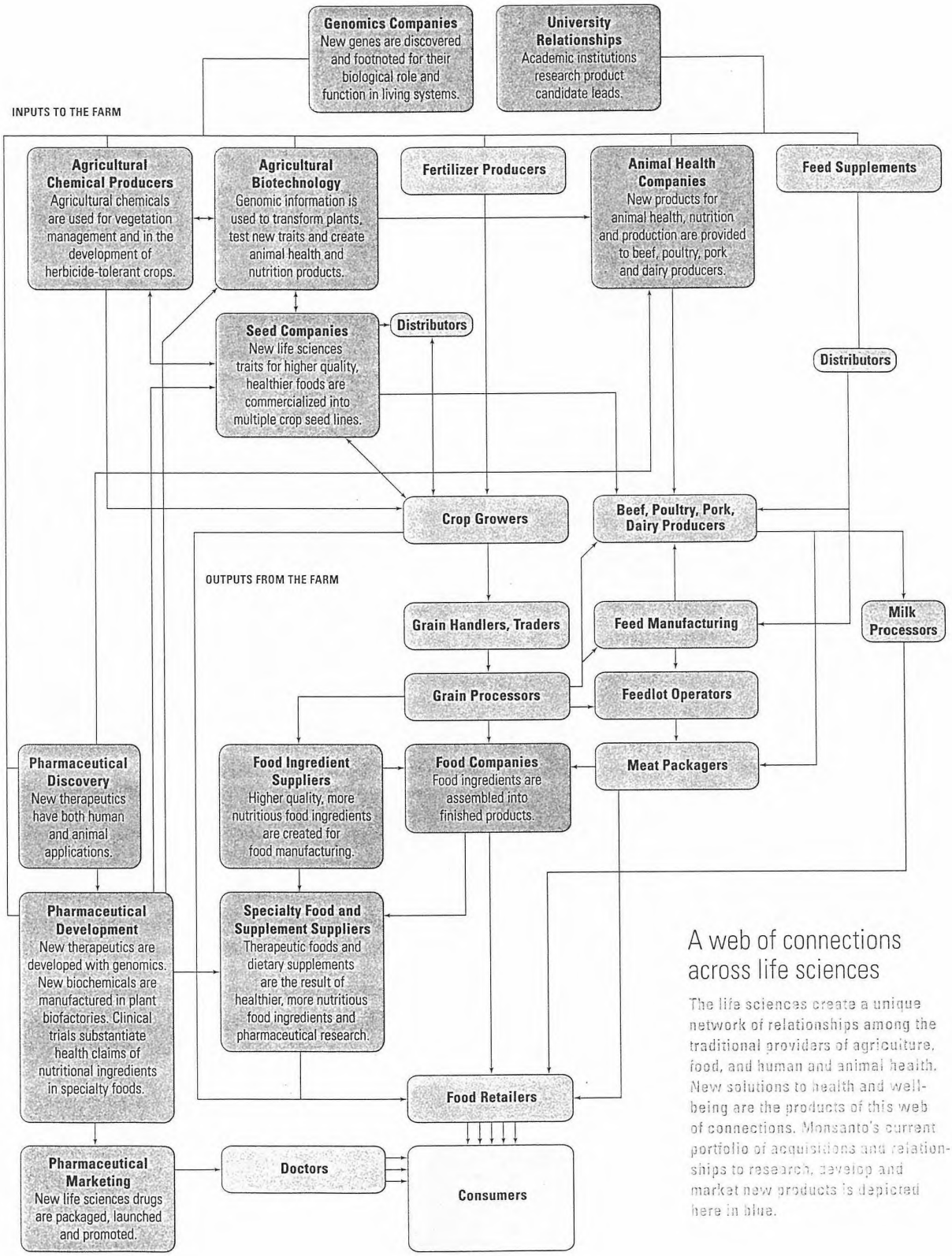

A web of connections across life sciences

The life sciences create a unique network of relationships among the traditional providers of agriculture, food, and human and animal health. New solutions to health and well-being are the products of this web of connections. Monsanto's current portfolio of acquisitions and relationships to research, develop and market new products is depicted here in blue.

TOWOLDMON0016051

A Strong Base Business

A record of steady growth in Monsanto's current operations is built on products with enduring strength and growth potential in their markets.

Current Key Products

***Ambien* Short-Term Treatment for Insomnia**
Ambien continues to be a leader in the U.S. hypnotic market with a 50 percent market share in total prescriptions.

***Arthrotec* Arthritis Treatment**
A pharmaceutical treatment for arthritis, *Arthrotec* combines a nonsteroidal anti-inflammatory drug (NSAID) with an ulcer preventive drug for significantly decreased incidence of gastrointestinal ulcers. *Arthrotec* is already being sold in many countries, and recently received approval from the U.S. Food and Drug Administration (FDA).

***Avadex* BW and *Far-Go* Herbicides**
These herbicides are used to control wild oats in wheat, peas and lentil crops.

***Bollgard* Insect-Protected Cotton**
Growers continue to see higher yields from this cotton developed through biotechnology to protect itself from several insect pests. We're now offering *Bollgard* and *Roundup Ready* cotton with both the insect protection of *Bollgard* and the ability to tolerate *Roundup* herbicide. This cotton comes from a technology that adds multiple traits to a plant.

***Calan* and *Covera-HS* Long-Acting Calcium Channel Blockers**
These pharmaceuticals are used to treat chest pain and hypertension. *Covera-HS* is the first anti-hypertensive medication with a unique delivery system that provides 24 hours of blood pressure control, with peak drug concentrations delivered during morning hours.

***Cytotec* Ulcer Preventive Drug**
Cytotec helps prevent gastric ulcers caused by use of NSAIDs, the most commonly used medications for treating arthritis symptoms.

***Daypro* Arthritis Treatment**
Daypro is a once-a-day NSAID treatment for osteoarthritis and rheumatoid arthritis.

***Demulen* and *Tri-Norinyl* Oral Contraceptives**
These oral contraceptives are used in some 70 countries around the world.

***Equal* Brand Sweetener**
This popular tabletop sweetener is made with *NutraSweet* brand sweetener and used by consumers to sweeten such foods as tea, fruit, coffee and cereal.

***Harness* and *Lasso* Herbicides**
These herbicides are used with corn. *Lasso* is also used for weed control in soybean, peanut and milo (sorghum) crops.

***NewLeaf* Insect-Protected Potatoes**
These insect-protected potatoes offer season-long, in-plant control of the Colorado potato beetle.

***NutraSweet* Brand Sweetener**
The leading brand of high-intensity sweetener, *NutraSweet* is used in beverages and food products around the world.

***Posilac* Bovine Somatotropin**
This animal health product increases milk production in cows and helps decrease farmers' costs.

***Roundup* Herbicide**
Roundup is the world's leading nonselective agricultural and industrial herbicide.

***Roundup Ready* Canola, *Roundup Ready* Cotton and *Roundup Ready* Soybeans**
These products, developed through biotechnology, tolerate *Roundup* herbicide. Growers can apply *Roundup* over the top of these crops to control weeds with no effect on crop performance.

Xanthan Gums, Alginates and Gellan Gums
These food ingredients are used to improve the bulk, texture and processing of soups, sauces, beverages, bakery goods and other products.

***YieldGard* Insect-Protected Corn**
Corn with the *YieldGard* trait is protected against infestations of the corn borer, one of the most destructive corn pests.

TOWOLDMON0016052

A Robust Product Pipeline

The potential for accelerating growth is built not just on one blockbuster, or one business, but on discovery and development in multiple areas with multiple growth opportunities.

1998

***Condrotec* Arthritis Treatment**
Condrotec combines a non-steroidal anti-inflammatory drug (NSAID) with an ulcer preventive drug to treat arthritis while greatly reducing the risk of gastrointestinal damage.

***Flagyl ER* Anti-Infective Drug**
This oral, extended-release formulation of *Flagyl* was approved by the U.S. Food and Drug Administration (FDA) in late 1997. It allows once-a-day dosing for treatment of bacterial vaginosis, a common vaginal infection.

Gellan Biogum
A biogum replacement for gelatin, this food ingredient has new applications in desserts, confections and other foods.

Insect-Protected Tomatoes
Developed through biotechnology, these tomatoes protect themselves from insect pests and offer improved yields and higher quality crops.

***NewLeaf* Plus Insect- and Virus-Protected Potatoes**
These potatoes, developed through biotechnology, protect themselves from insect pests and potato leafroll virus.

***NewLeaf* Y Insect- and Virus-Protected Potatoes**
Through biotechnology, these potatoes protect themselves against the Colorado potato beetle and the potato virus Y.

Oxaprozin Potassium (formerly Xopane)
This pharmaceutical will relieve pain and inflammation. It will be marketed for the management of pain.

***Roundup Ready* Corn**
Through biotechnology, this product will offer corn growers the advantages of in-crop, broad-spectrum weed control with *Roundup*.

***SeaGold* DHA Omega-3 Fatty Acid**
This premium plant-based oil is an alternative to fish oil sources of DHA (docosahexaenoic acid). Studies indicate DHA may help maintain cardiovascular health. *SeaGold* will be sold as a human dietary supplement through General Nutrition Companies (GNC).

1999

***Celebra* arthritis treatment**
Celebra is a member of a new class of drugs known as specific COX-2 inhibitors. Most arthritis medications available today have the potential to cause serious gastrointestinal damage, such as ulcers. *Celebra* is currently being evaluated in Phase III clinical trials to determine if it's effective in treating arthritis without causing damage to the stomach, intestines or kidneys.

Daniplestim
This blood cell growth factor stimulates bone marrow to rapidly replace white blood cells destroyed by cancer radiation therapy and chemotherapy. Currently in Phase III clinical trials, it may help protect patients from infections and bleeding episodes that compromise their cancer care.

MON 37500
This herbicide controls brome, quack grass and winter broadleaf weeds in wheat.

***Roundup Ready* Oilseed Rape**
Through biotechnology, this oilseed rape plant tolerates *Roundup*. Growers can apply *Roundup* over the top of *Roundup Ready* oilseed rape to control weeds without affecting crop performance.

Virus-Protected Tomatoes
These tomatoes will be protected against plant viruses and offer improved yields and a higher quality crop.

ATTRITION REPORT

What's missing from the previous pipeline?

Research and development of products based on new technologies is by its nature high-risk. It's typical for large numbers of products to fall out of development at various stages in the process. Monsanto is fortunate to have removed only three products from the pipeline shown in our 1996 annual report.

BXN Herbicide-Tolerant and *Bollgard* Insect-Protected Cotton
Monsanto and Stoneville Pedigreed Seed Co. have been developing cotton that is both tolerant of Buctril herbicide and insect-protected. However, the U.S. Environmental Protection Agency is currently reviewing Buctril. Therefore, the cotton will be sold for its insect protection, but farmers can't treat the crop with Buctril.

Improved Strawberry Crops
Monsanto sold its strawberry business in 1997.

Inulin
This product will not be launched in 1999, but may be commercialized in subsequent years pending additional evaluation.

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Monsanto has numerous products in its pipeline that will reinforce key franchises or serve as platforms for growth. The years noted here reflect the earliest estimated dates of commercial launch. Commercialization depends on the successful completion of such factors as research, field and clinical trials, and regulatory approvals.

2000

Corn Fiber Oil
This specialty oil developed through proprietary extraction and refining techniques is designed to promote cardiovascular health. It can be used as a food ingredient and dietary supplement.

Feed Enzymes
Feed enzymes developed through biotechnology will increase the nutritive value of animal feed.

High-Myristate Oil
These oils are produced from canola through biotechnology for use as butter substitutes and as raw materials for milder soap and personal care products.

High-Stearate Soybean and Canola Oils
These functional oils, created by modified soybean and canola plants, have healthier properties for margarines and shortenings. High-stearate oil requires no hydrogenation and, as a result, may be better for the heart.

Hormone Replacement Therapy (HRT)
HRT transdermal patches will increase a woman's estrogen and progesterone to premenopausal hormone levels.

Insect-Protected Corn
This corn is modified through biotechnology to protect itself against the corn rootworm and related insects.

Leridistim (formerly Myelopoietin)
This second-generation blood cell growth factor is expected to help prevent infections in cancer patients after chemotherapy.

MON 48500
This herbicide is primarily for pre-emergence control of broadleaf weeds and grasses in European cereals.

MON 65500
MON 65500 is a fungicide for control of take-all disease in wheat.

***Roundup Ready* Sugar Beets**
Through biotechnology, these sugar beets will tolerate *Roundup* for in-crop weed control.

SC-69124A
An injectable COX-2 inhibitor, this compound is formulated for the management of acute pain in a hospital setting.

Xemilofiban
An oral anti-platelet agent, xemilofiban is designed to prevent blood-clot formation after coronary angioplasty.

2001

Disease-Protected Potatoes
These potatoes, developed through biotechnology, will protect themselves from fungal diseases.

Eplerenone
Eplerenone is designed to treat high blood pressure, congestive heart failure and complications of kidney disease; it may have a more favorable side-effect profile than existing agents.

Medium-Chain Fatty Acid/Medium-Chain Triglyceride
Created through biotechnology, these canola plants produce oils for use in medical foods and nutrition products.

Neotame Sweetener (formerly Sweetener 2000)
Neotame sweetener is a new high-intensity sweetener with tabletop and commercial processing applications.

Orbofiban
This oral anti-platelet agent is designed for long-term use in preventing secondary heart attacks and blood clotting from myocardial infarction.

Promegapoietin
A second-generation blood cell growth factor, promegapoietin is expected to enhance blood platelet recovery after chemotherapy, which is key in preventing bleeding in cancer patients.

***Roundup Ready* Potatoes**
Through biotechnology, these potatoes will offer growers the advantages of in-crop weed control with *Roundup*.

SC-65872
This compound is a second-generation COX-2 inhibitor with improved potency. It also has the potential for once-a-day dosing for arthritis sufferers.

SC-72393
Preclinical models indicate that this novel sleep aid may have a better safety profile than current products on the market.

Second-Generation *Bollgard* Insect-Protected Cotton
This cotton will produce a protein that fatally damages specific insect pests by using a mode of action different than the original *Bollgard* cotton in order to help growers manage insect-resistance concerns.

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2002+

Alpha-v Beta-3 Inhibitor
This compound shows promise in inhibiting the growth of blood vessels that nourish cancerous tumors.

Biodegradable Plastic Polymers
Several plant varieties are being designed through biotechnology to produce biodegradable plastics.

Boll Weevil-Protected Cotton
Through biotechnology, this cotton will contain a gene that allows the plant to protect itself from the boll weevil.

Carotenoids
This natural pigmentation is for use in animal feed.

Colored Cotton
Cotton plants with genes that produce colors will reduce the need for chemical dyeing.

Disease-Protected Corn
Developed through biotechnology, these corn plants will resist fungal and viral diseases and offer improved yields.

Disease-Protected Wheat
These wheat plants developed through biotechnology will resist fungal and viral diseases and offer improved yields to growers.

High Beta-Carotene Canola Oil
This canola oil will contain enhanced beta-carotene levels to combat vitamin A deficiency conditions such as night blindness.

Higher Yielding Corn
This corn is developed through biotechnology to increase crop yields for farmers.

Improved-Energy Corn
Developed through biotechnology, these corn plants will supply increased energy and improved oil nutrition for animal feed products.

Improved-Fiber Cotton
These plants with genes that improve cotton fiber will be used to make sturdier, better quality cotton fabrics.

Improved-Oil Canola
These canola plants developed through biotechnology will produce oils containing DHA and other highly unsaturated fatty acids that can be used as dietary supplements and for more nutritious foods.

Improved-Oil Soybeans
Developed through biotechnology, these soybeans will yield improved oils that can be used to make more nutritious foods.

Improved-Quality Potatoes
These potatoes will have improved commercial storage properties and less discoloration caused by bruising.

Improved-Protein Corn
This corn modified through biotechnology for animal nutrition products will contain increased protein and a balanced amino acid profile.

Improved-Solids Potatoes
These potatoes are developed through biotechnology to contain less moisture, which will reduce the absorption of oil during cooking.

iNOS Inhibitor
This pharmaceutical compound may be useful in controlling inflammation associated with arthritis.

Progenipoietin
Progenipoietin is a unique protein that shows promise in stimulating the body's immune system to fight tumors.

***Roundup Ready* Rice**
Through biotechnology, these rice plants will tolerate *Roundup*. Growers can apply *Roundup* herbicide over the top of *Roundup Ready* rice to control weeds without affecting crop performance.

***Roundup Ready* Wheat**
This wheat will offer growers the advantages of in-crop weed control with *Roundup*.

Tifacogin (formerly Tissue Factor Pathway Inhibitor)
This naturally occurring protein inhibits blood coagulation and modifies inflammatory processes. Tifacogin is currently being developed to treat sepsis, a potentially life-threatening condition resulting from severe infection of the blood.

Ultrapure Algin
This food ingredient will have biomedical applications, including the management of diabetes.

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Unless otherwise indicated by the context, "Monsanto" means Monsanto Company and consolidated subsidiaries, and "the company" means Monsanto Company only. Unless otherwise indicated, "earnings per share" means diluted earnings per share. In tables, all dollars are in millions, except per share data.

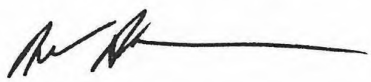
MANAGEMENT REPORT

Monsanto Company's management is responsible for the fair presentation and consistency, in accordance with generally accepted accounting principles, of all the financial information included in this annual report. Where necessary, the information reflects management's best estimates and judgments.

Management is also responsible for maintaining a system of internal accounting controls with the objectives of providing reasonable assurance that Monsanto's assets are safeguarded against material loss from unauthorized use or disposition and that authorized transactions are properly recorded to permit the preparation of accurate financial information. Cost/benefit judgments are an important consideration in this regard. The effectiveness of internal controls is maintained by personnel selection and training, division of responsibilities, establishment and communication of policies, and ongoing internal review programs and audits.

Management believes that Monsanto's system of internal accounting controls as of Dec. 31, 1997, was effective and adequate to accomplish the objectives described above.

Robert B. Shapiro
Chairman and
Chief Executive Officer



Robert B. Hoffman
Vice Chairman and
Chief Financial Officer

Feb. 27, 1998

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FINANCE COMMITTEE REPORT

The finance committee assumed the responsibilities of the audit committee as the board of directors was reorganized following the spinoff of the company's chemical businesses in 1997. After its formation in September, the committee met three times in 1997. The committee is composed of four nonemployee members of the board. As part of its duties, the committee reviews and monitors Monsanto's internal accounting controls, financial reports, accounting practices, and the scope and effectiveness of the audits performed by the independent auditors and internal auditors. The committee also recommends to the full board of directors the appointment of Monsanto's principal independent auditors, and it approves in advance all significant audit and nonaudit services provided by such auditors. As ratified by shareowner vote at the 1997 annual meeting, Deloitte & Touche LLP was appointed independent auditor to examine, and to express an opinion as to the fair presentation of, the consolidated financial statements. This report follows.

The finance committee discusses audit and financial reporting matters with representatives of the company's financial management, its internal auditors, and Deloitte & Touche. The internal auditors and Deloitte & Touche meet with the committee, with and without management representatives present, to discuss the results of their examinations, the adequacy of Monsanto's internal accounting controls, and the quality of its financial reporting. The committee encourages the internal auditors and Deloitte & Touche to communicate directly with the committee.

The finance committee has reviewed the financial section of this annual report. Pursuant to the recommendation of the committee, the board of directors has approved the financial section.

John S. Reed
Chair, Finance Committee

Feb. 27, 1998

INDEPENDENT AUDITORS' REPORT

To the shareowners of Monsanto Company:

We have audited the accompanying statement of consolidated financial position of Monsanto Company and subsidiaries as of Dec. 31, 1997 and 1996, and the related statements of consolidated income, shareowners' equity and cash flow for each of the three years in the period ended Dec. 31, 1997. 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 generally accepted auditing standards. 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, such consolidated financial statements present fairly, in all material respects, the financial position of Monsanto Company and subsidiaries as of Dec. 31, 1997 and 1996, and the results of their operations and their cash flows for each of the three years in the period ended Dec. 31, 1997, in conformity with generally accepted accounting principles.

Deloitte & Touche LLP

Deloitte & Touche LLP
St. Louis, Missouri

Feb. 27, 1998

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STATEMENT OF CONSOLIDATED INCOME

(Dollars in millions, except per share)	1997	1996	1995
Net Sales	$7,514	$6,348	$5,410
Costs and expenses:			
Cost of goods sold	3,091	2,684	2,357
Selling, general and administrative expenses	2,023	1,860	1,521
Technological expenses	1,044	702	601
Acquired in-process research and development	684		
Amortization of intangible assets	173	151	119
Restructuring expenses		356	114
Operating Income	499	595	698
Interest expense	(170)	(119)	(132)
Interest income	45	51	57
Other income (expense) — net	(8)	26	22
Income from Continuing Operations Before Income Taxes	366	553	645
Income taxes	72	140	184
Income from Continuing Operations	294	413	461
Discontinued Operations:			
Income (Loss) from discontinued operations	176	(28)	162
Gain on sale of styrenics plastics business			116
Income (Loss) from Discontinued Operations	176	(28)	278
Net Income	$ 470	$ 385	$ 739
Basic Earnings (Loss) per Share:			
Continuing operations	$ 0.50	$ 0.71	$ 0.81
Discontinued operations	0.30	(0.05)	0.49
Net Income	$ 0.80	$ 0.66	$ 1.30
Diluted Earnings (Loss) per Share:			
Continuing operations	$ 0.48	$ 0.69	$ 0.79
Discontinued operations	0.29	(0.05)	0.48
Net Income	$ 0.77	$ 0.64	$ 1.27

The above statement should be read in conjunction with pages 51-61 of this report.

Key Financial Statistics (Unaudited)	1997	1996	1995
As a Percent of Net Sales:			
Selling, General and Administrative Expenses	27%	29%	28%
Technological Expenses	14	11	11
Research and Development Expenses[1]	12	10	10
Operating Income	7	9	13
Income from Continuing Operations	4	7	9
Effective Income Tax Rate — Continuing Operations	20	25	29

[1] Research and development expenses are included in total technological expenses.

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Monsanto Achieves Record Results, Excluding Unusual Charges

In 1997, Monsanto Company achieved record results, if unusual items were excluded, and sharpened its focus on life sciences following the spinoff of its chemical businesses on Sept. 1, 1997. As a life sciences company, Monsanto has focused its efforts in three areas — agriculture, nutrition and health. Income from continuing operations totaled $294 million, or $0.48 per share, in 1997. Results included aftertax charges of $455 million, or $0.75 per share, for write-offs of in-process research and development (R&D) related to strategic acquisitions. If these unusual write-offs were excluded, income from continuing operations would have totaled a record $749 million, or a record $1.23 per share. The company's core businesses delivered strong results in 1997, as sales of key products continued to grow. Monsanto also made several strategic acquisitions, investments and alliances in 1997 to strengthen the core capabilities necessary to be the first to invent important new life sciences products and bring them to customers worldwide.

Net Sales Set Record

Net sales were a record $7.5 billion in 1997, topping last year's net sales of $6.3 billion by 18 percent. The increase came primarily from continued strong performances by the Agricultural Products and Pharmaceuticals segments. Net sales for Agricultural Products set another record in 1997, led by significant sales volume increases for the family of *Roundup* herbicides. Increases in the use of conservation tillage; increases in over-the-top applications of *Roundup* on *Roundup Ready* soybeans, cotton and canola; and an increase in the acres of major row crops planted worldwide drove sales of *Roundup* herbicide to a new high. The increase in 1997 net sales for the Agricultural Products segment also reflected the inclusion of sales from Asgrow Agronomics, a seed company Monsanto acquired in 1997. Higher sales volumes of *Posilac* bovine somatotropin and *Harness* herbicide also contributed to the sales growth. In addition, net sales benefited from increased demand for crops developed through biotechnology, including *Roundup Ready* soybeans, cotton and canola, *Bollgard* insect-protected cotton and *YieldGard* insect-protected corn.

Net sales for the Pharmaceuticals segment also reached record levels, increasing $412 million, or 21 percent, from 1996 net sales. The increase is attributable primarily to higher sales volumes of *Ambien* short-term treatment for insomnia and *Daypro* and *Arthrotec* arthritis treatments. Sales of these key growth products grew 26 percent from sales in the prior year. Sales also benefited from licensing revenues of $75 million related to a collaborative partnership, and from sales of product rights, which totaled $117 million. Lower sales of verapamil calcium channel blockers partially offset these increases. Sales for the family of *Calan* calcium channel blockers continued to decline, but that decrease was partially offset by growing sales of *Covera-HS*, Searle's newest verapamil product.

Sales for the Corporate and Other segment in 1997 increased significantly compared with year-ago sales, primarily because of the inclusion in 1997 of sales from the produce business of Calgene Inc. Monsanto acquired a controlling interest in Calgene in November 1996. Prior to that time, Calgene was accounted for as an equity affiliate, and its results were not consolidated.

Lower net sales for the Nutrition and Consumer Products segment partially offset the sales increases in the other segments. Nutrition and Consumer Products' sales declined 3 percent in 1997 vs. sales in 1996 primarily because of lower sales volumes of *Equal* and *Canderel* tabletop sweeteners. These decreases were partially offset by higher sales volumes of biogums and *Roundup* herbicide for lawn-and-garden use. Sales of *NutraSweet*, the company's trademark aspartame product, were essentially flat compared with sales in the prior year.

Monsanto's net sales in markets outside the United States represented 44 percent of 1997 net sales, compared with 45 percent in 1996.

An analysis of the company's sales change, along with comparative data, follows:

Sales Analysis	1997	1996
Selling prices	(3)%	(2)%
Sales volumes and mix	9	17
Acquisitions and pharmaceutical product rights sales and licensing revenues	12	2
Total Change	**18%**	17%

Events Affecting Operating Comparability

During 1997, Monsanto acquired several seed companies specializing in various stages of seed production. These acquisitions included Asgrow, a global leader in soybean research and seeds; Holden's Foundation Seeds Inc., a global leader in the development and growth of corn germplasm and a supplier of parent seed to retail seed companies; Corn States Hybrid Service Inc., the exclusive marketer and distributor for Holden's products; and Sementes Agroceres S.A., the leading seed corn company in Brazil. Monsanto also acquired the remaining interest in Calgene, which has done significant biotechnology research in oils, cotton and produce.

The company recorded pretax charges of $684 million ($455 million aftertax, or $0.75 per share) for the write-off of acquired in-process R&D related to these acquisitions. This is an accounting treatment that values and

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immediately writes off research that is under way at the time of an acquisition but that has not resulted in commercial products and has no alternative future use.

In December 1996, the board of directors approved pretax restructuring charges and other unusual items of $376 million ($257 million aftertax, or $0.43 per share) for the closure or rationalization of certain facilities, asset write-offs, and work force reductions. Approximately 940 of the 1,520 positions expected to be eliminated by the restructuring had been eliminated by the end of 1997.

Without the unusual events in 1997 and 1996, income from continuing operations would have been $749 million for 1997, an increase of 12 percent from $670 million for the prior year. Earnings per share from continuing operations in 1997 would have been $1.23 vs. $1.12 for 1996, an increase of 10 percent.

Operating Results Increase, If Unusual Items Are Excluded

Operating income totaled $499 million in 1997, $96 million, or 16 percent, lower than operating income of $595 million in 1996. If the net pretax unusual charges of $684 million in 1997 and $407 million in 1996 were excluded, operating income would have increased $181 million, or 18 percent, in 1997. The increase primarily resulted from higher sales volumes, licensing revenues and sales of product rights. These increases were partially offset by increased selling, general and administrative (SG&A) expenses and higher technological spending.

If unusual charges in 1997 and 1996 were excluded from segment results, operating income would have increased in 1997 for both the Agricultural Products and Pharmaceuticals segments. The increase in operating income for Agricultural Products was driven by record sales, partially offset by increased SG&A expenses and technological spending. Selling expenses for Agricultural Products rose primarily because of higher selling expenses from seed companies Monsanto acquired in 1997. The segment's technological expenses rose principally because of higher spending on crop biotechnology initiatives and the inclusion of expenses from the acquired seed companies. The increase in operating income for the Pharmaceuticals segment resulted from higher sales volumes of key products, licensing revenues, and sales of product rights, partially offset by increased selling and technological expenses. SG&A expenses for Pharmaceuticals were higher because of an expansion in the sales force and because of preparations for new product launches in 1998. The segment's technological expenses increased markedly as new product candidates advanced to later, more expensive phases of development. If unusual items were excluded, operating income for the Nutrition and Consumer Products segment would have declined in 1997, primarily because of lower sales volumes of tabletop sweeteners and increased technological spending. Technological expenses for Nutrition and Consumer Products rose principally because of the continuing development of a new no-calorie sweetener called neotame.

Total SG&A expenses increased $163 million, or 9 percent, in 1997 compared with expenses in 1996, principally because of the spending increases in the Agricultural Products and Pharmaceuticals segments. Total technological expenses increased $342 million, or 49 percent, compared with those in 1996. Technological expenses rose for all segments, as Monsanto's focus on developing new products continued.

Amortization of intangible assets increased in 1997 compared with amortization in the prior year, principally because of the increase in intangible assets related to current-year seed company acquisitions. The increase in interest expense in year-to-year comparisons was caused by a greater amount of debt outstanding during 1997. If $31 million of unusual income in 1996 were excluded, "Other income (expense) — net" would have shown a small decline in 1997. This decrease was caused by significantly higher exchange losses partially offset by increased income from equity affiliates, primarily from European aspartame joint ventures and DEKALB Genetics Corp. The currency exchange losses stemmed primarily from southeast Asia, particularly Indonesia and Malaysia. The 1997 effective tax rate of 20 percent was lower than the 1996 effective tax rate of 25 percent, primarily because of the decrease in pretax income, which gave tax benefits a greater relative effect in 1997. If the unusual items in 1997 and 1996 were excluded, the effective tax rate would have been 29 percent in 1997 vs. 28 percent in 1996.

Cost Savings Continue

In prior years, Monsanto took steps to make worldwide operations more focused, productive and cost-effective. The effect of these actions benefited operating income by more than $400 million in 1997. The company invests the savings in its core businesses, new product development, and strategic acquisitions and investments to enhance its long-term profitability. These savings are in line with original expectations, and they are expected to continue. Business redesign and other productivity efforts have yielded significant benefits as well. These initiatives will continue as the company responds to increased global competition and higher customer expectations.

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Development and Commercialization of New Products Are Priorities

New product development and commercialization continue to be strategic priorities for Monsanto. Recent efforts include insect-protected and herbicide-tolerant crops, a novel arthritis treatment, and a new sweetener. Monsanto's R&D expenditures were $939 million in 1997, or 12 percent of net sales, a level that reflects management's strong, long-term commitment to R&D. The discovery and development of pharmaceutical, agricultural and science-based nutritional products continue to be the focus of most of these expenditures. Significant R&D efforts in existing product technologies and new product applications also continue across all business sectors. Additionally, Monsanto's research program includes new technologies and proprietary information obtained through licensing and strategic acquisitions. As a result, Monsanto has numerous products in the R&D pipeline. Many of them are expected to be commercialized in the next few years.

Prior Year Review

Income from continuing operations in 1996 totaled $413 million, or $0.69 per share, vs. $461 million, or $0.79 per share, in 1995. Both years' results, however, were affected by unusual events. In December 1996, the company recorded pretax restructuring charges associated with the closure or rationalization of certain facilities, asset write-offs, and work force reductions totaling $376 million ($257 million aftertax, or $0.43 per share). In December 1995, the company recorded a pretax restructuring charge of $114 million ($78 million aftertax, or $0.13 per share) to cover the costs of work force reductions, business consolidations, facility closures, and the exit from nonstrategic businesses and facilities. The company also recorded approximately $20 million in favorable pretax adjustments ($13 million aftertax, or $0.02 per share) under certain sales rebate programs for product sales made in prior years, and approximately $4 million ($2 million aftertax, or less than $0.01 per share) in insurance settlements.

Without the unusual events in 1996 and 1995, income from continuing operations would have been $670 million for 1996, compared with $524 million for the prior year, an increase of 28 percent. Earnings per share from continuing operations would have been $1.12 in 1996, a 24 percent increase from comparable 1995 results of $0.90 per share.

Net sales for 1996 were $6.3 billion, up $938 million, or 17 percent, from sales in 1995 of $5.4 billion. The Agricultural Products, Nutrition and Consumer Products, and Pharmaceuticals segments all contributed to the increase, primarily because of higher sales volumes. The effects of lower average selling prices, particularly for the Agricultural Products segment, partially offset the increase in net sales.

Net sales for Agricultural Products in 1996 increased 20 percent from those in 1995 to $2.6 billion. This increase was primarily the result of higher worldwide sales volumes for the family of *Roundup* herbicides. Most world areas posted solid sales volume gains in 1996. Continued increases in conservation tillage practices, favorable weather conditions in certain key markets, and an increase in planted acreage drove the increased demand. Higher sales of *Posilac* bovine somatotropin also contributed to the sales increase.

Net sales for the Nutrition and Consumer Products segment increased in 1996, principally on the strength of higher sales volumes of *NutraSweet* brand sweetener, tabletop sweeteners, biogum products, and lawn-and-garden products.

The increase in net sales for Pharmaceuticals can be attributed to sales of key products, principally *Ambien* short-term insomnia treatment and *Daypro* and *Arthrotec* arthritis treatments. In addition, sales from the women's health care product lines acquired from Syntex in the third quarter of 1995 contributed to the growth. Lower sales for the family of *Calan* calcium channel blockers partially offset the sales increase.

Operating income in 1996 was $595 million, $103 million lower than operating income in 1995. If the net pretax restructuring charges and unusual items of $407 million in 1996 and $90 million in 1995 were excluded, operating income would have increased approximately $214 million, or 27 percent, in 1996. This significant increase in operating income was related principally to higher sales volumes and an improved gross profit. The increase in gross profit was primarily because of an improved sales mix from an increased percentage of higher margin Agricultural Products and Pharmaceuticals sales. SG&A expenses in 1996 increased, primarily because of higher sales and new product launches for Agricultural Products and Pharmaceuticals, higher costs associated with employee incentive programs, and increased spending on growth initiatives. Technological expenses rose because of higher R&D expenses in the Agricultural Products and Pharmaceuticals segments. Cost sharing payments from pharmaceutical alliances partially offset this increase.

If the effect of unusual charges were excluded, 1996 amortization of intangible assets would have increased from amortization in 1995, primarily because of the increase in intangible assets associated with current-year investments and acquisitions in biotechnology businesses. If one-time charges were excluded, "Other income (expense) — net" would have decreased, principally because of lower income from equity affiliates.

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Analysis of Change in Earnings per Share from Continuing Operations

	BETTER (WORSE)	
	1997 vs. 1996	**1996 vs. 1995**
Sales-Related Factors:		
Selling prices	**$(0.23)**	$(0.16)
Sales volumes and mix	**0.66**	0.74
Pharmaceutical product rights sales and licensing revenues	**0.14**	
Total Sales-Related Factors	**0.57**	0.58
Cost-Related Factors:		
Raw material and manufacturing costs	**(0.07)**	0.18
Selling, general and administrative expenses	**(0.03)**	(0.38)
Technological expenses	**(0.33)**	(0.18)
Amortization of intangible assets	**—**	(0.01)
Total Cost-Related Factors	**(0.43)**	(0.39)
Other Factors:		
Change in shares outstanding	**(0.03)**	(0.02)
Acquisitions and divestitures	**—**	0.09
Other expenses — net	**—**	(0.04)
Total Other Factors	**(0.03)**	0.03
Change in earnings per share before unusual factors	**0.11**	0.22
Unusual factors	**(0.32)**	(0.32)
Change in Earnings per Share from Continuing Operations	**$(0.21)**	$(0.10)

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SEGMENT DATA

	NET SALES			OPERATING CONTRIBUTION[1]			OPERATING INCOME (LOSS)[2]		
	1997	**1996**	**1995**	**1997**	**1996**	**1995**	**1997**	**1996**	**1995**
Agricultural Products	**$3,126**	$2,555	$2,134	**$ 762**	$ 639	$508	**$ 112**	$ 520	$478
Nutrition and Consumer Products	**1,535**	1,581	1,371	**304**	338	294	**211**	193	186
Pharmaceuticals	**2,407**	1,995	1,711	**340**	223	144	**318**	79	132
Corporate and Other	**446**	217	194	**(142)**	(124)	(84)	**(142)**	(197)	(98)
Total	**$7,514**	$6,348	$5,410	**$1,264**	$1,076	$862	**$ 499**	$ 595	$698

	TOTAL ASSETS			CAPITAL EXPENDITURES			DEPRECIATION AND AMORTIZATION		
	1997	**1996**	**1995**	**1997**	**1996**	**1995**	**1997**	**1996**	**1995**
Agricultural Products	**$ 4,520**	$ 3,007	$ 2,329	**$341**	$280	$135	**$208**	$153	$142
Nutrition and Consumer Products	**2,646**	2,635	2,653	**82**	98	72	**118**	125	119
Pharmaceuticals	**2,856**	2,391	2,619	**190**	89	78	**136**	130	127
Corporate and Other	**752**	581	375	**31**	33	16	**25**	15	17
Discontinued Operations		2,623	2,755						
Total	**$10,774**	$11,237	$10,731	**$644**	$500	$301	**$487**	$423	$405

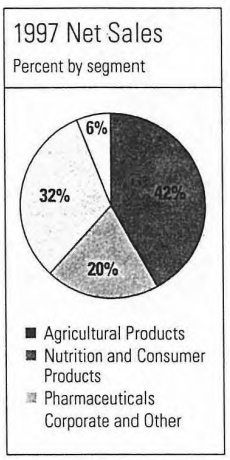
[1] Operating contribution is operating income excluding goodwill amortization and the effect of restructuring and other unusual items.

[2] Operating income was affected by research and development write-offs in 1997 and by restructuring and other unusual items in 1996 and 1995 as follows:

	INCOME (EXPENSE)		
Segment	**1997**	**1996**	**1995**
Agricultural Products	**$(633)**	$(106)	$(17)
Nutrition and Consumer Products	**(51)**	(103)	(66)
Pharmaceuticals		(125)	7
Corporate and Other		(73)	(14)
Total	**$(684)**	$(407)	$(90)

In 1997, Monsanto redefined its segments. Segment information for 1996 and 1995 has been restated to conform to the current presentation.

Although inflation is relatively low in most of Monsanto's major markets, it continues to affect operating results. To mitigate the effect of inflation, Monsanto has implemented measures to control costs, to improve productivity, to manage new fixed and working capital, and to raise selling prices when government regulations and competitive conditions permit. In addition, the current costs of replacing certain assets are estimated to be greater than the historical costs presented in the financial statements. Accordingly, the depreciation expense reported in the Statement of Consolidated Income would be greater if it were stated on a current-cost basis.



Sales among segments were not significant. Certain corporate expenses, primarily those related to the overall management of Monsanto, were not allocated to the segments or geographic areas. Corporate assets are primarily investments in affiliates and a portion of the cash balance.

The principal factors that accounted for the segments' performances in 1997 and 1996, along with the factors that are expected to affect operating results in the near term, are described on the following pages.

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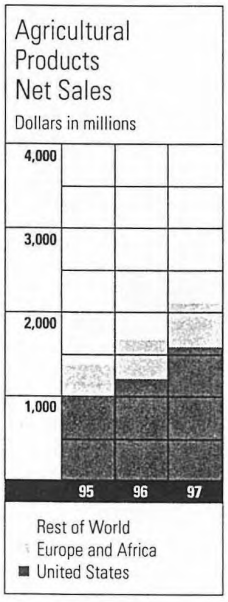
	1997	1996	1995
Net Sales	**$3,126**	$2,555	$2,134
Operating Contribution[1]	**762**	639	508
Operating Income	**112**	520	478
Total Assets	**4,520**	3,007	2,329
Capital Expenditures	**341**	280	135
Depreciation and Amortization	**208**	153	142

[1] Operating contribution is operating income excluding goodwill amortization and the effect of restructuring and other unusual items.

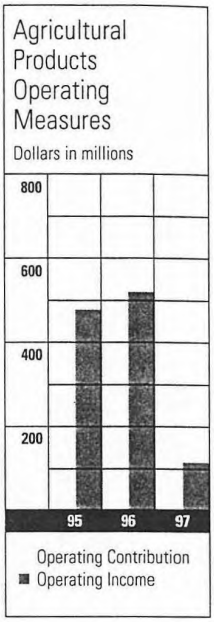
The Agricultural Products segment is a leading worldwide developer, producer and marketer of crop protection products. This group also develops and markets products enhanced by biotechnology. These products improve the efficiency of food production and preserve environmental quality for agricultural and industrial uses. More than half of the unit's herbicide net sales are made outside the United States. Weather conditions in agricultural markets worldwide affect sales volumes.

Net sales for Agricultural Products totaled a record $3.1 billion in 1997, surpassing the 1996 record by $571 million, or 22 percent. The increase in net sales was fueled by higher worldwide sales volumes for the family of *Roundup* herbicides, led by strong sales in Brazil, Argentina and the United States. Sales volumes of *Roundup* herbicide were driven to a new high by increases in the use of conservation tillage, an increase in the acres of major row crops planted worldwide, and applications of *Roundup* on *Roundup Ready* soybeans, cotton and canola. Selling price reductions, principally in markets outside the United States, made *Roundup* more cost effective for weed control in a broader range of crop and industrial uses. The effect of generic competition, especially in certain foreign markets, dampened selling prices modestly. However, the effect of increased sales volumes more than offset the effect of lower selling prices.



Sales from seed companies Monsanto acquired in 1997, particularly Asgrow Agronomics, also added to sales. Net sales for the Agricultural Products segment also benefited from record sales of *Posilac* bovine somatotropin, which increased 25 percent from sales in the prior year; increased demand for crops developed through biotechnology, including *Roundup Ready* soybeans, cotton and canola, *Bollgard* insect-protected cotton and *YieldGard* insect-protected corn; and higher sales volumes of acetanilide-based herbicides, particularly *Harness* herbicide.

Operating income for Agricultural Products in 1997 decreased $408 million from operating income in 1996, while operating contribution increased $123 million, or 19 percent. Operating income was affected by unusual items in both years. In 1997, operating income included $633 million of pretax charges for the write-off of in-process research and development (R&D), primarily associated with the acquisitions of Asgrow, Calgene Inc.'s cotton business, Holden's Foundation Seeds Inc. and Sementes Agroceres S.A. In 1996, the unusual items included $106 million in charges for restructuring and other actions, principally related to the cost of work force reductions. If these unusual items in 1997 and 1996 were excluded, operating income for Agricultural Products would have increased $119 million, or 19 percent, in year-to-year comparisons. Higher sales volumes and increased licensing fees from biotechnology products contributed to the increase. These positive effects were partially offset by increased operating expenses. Selling, general and administrative (SG&A) expenses increased primarily because of higher selling expenses from the seed companies Monsanto acquired in 1997. Technological expenses grew primarily because of higher spending on crop biotechnology initiatives and the inclusion of seed company expenses. Amortization of intangible assets rose principally because of the acquisition of Holden's.



Prior Year Review

Net sales for Agricultural Products in 1996 were 20 percent higher than 1995 net sales. Operating income increased 9 percent from that in 1995. The increase in operating income was affected by unusual items in both 1996 and 1995. In 1996, the unusual items included $106 million in charges for restructuring and other actions, principally related to the cost of work force reductions. In 1995, unusual items included $17 million in restructuring charges and other actions for facility closures and the cost of work force reductions. If unusual items in 1996 and 1995 were excluded, 1996 Agricultural Products' operating income would have increased $131 million, or 26 percent.

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The increase in net sales was primarily because of higher worldwide sales volumes for the family of *Roundup* herbicides. Most world areas posted solid sales volume gains in 1996. The increased demand was attributed to continued increases in conservation tillage practices, favorable weather conditions in key markets, and an increase in planted acreage. Selling price reductions, principally in markets outside the United States, made *Roundup* cost effective for weed control in a broader range of crop and industrial uses. The effect of generic competition, especially in certain foreign markets, dampened selling prices modestly. However, the effect of increased sales volumes on operating income exceeded the effect of lower selling prices. Higher sales volumes of *Harness* herbicide also contributed to the 1996 sales increase. Net sales in 1996 benefited from higher sales of *Posilac* bovine somatotropin. In addition, successful introductions of new products, such as *Roundup Ultra* herbicide, *Roundup Ready* soybeans and *Bollgard* insect-protected cotton, helped fuel sales growth.

In addition to the effect of sales volume increases, 1996 operating contribution and operating income benefited from lower manufacturing costs. The effects of higher sales volumes and lower manufacturing costs were partially offset by higher selling expenses for new product introductions and by higher R&D spending for biotechnology projects.

OUTLOOK

Agricultural Products

Monsanto's family of *Roundup* herbicides continues to face competition from generic producers in certain markets outside the United States. Patents protecting *Roundup* in various countries expired in 1991. Compound *per se* patent protection for the active ingredient in *Roundup* herbicide continues in the United States through the year 2000. Management expects technological breakthroughs in manufacturing processes and formulation advancements, as well as rapidly expanding production capacity, to continue to improve Monsanto's cost position and to help maintain its leadership position. Significant growth potential remains for *Roundup* in conservation tillage applications worldwide, and in the introduction of crops that tolerate *Roundup*.

Seven biotechnology-related plant sciences products were marketed during 1997: *Roundup Ready* canola, cotton and soybeans; corn, cotton and potatoes protected from certain insects; and cotton that is both insect-protected and *Roundup Ready*. These products were developed by Monsanto either alone or in partnership with biotechnology and seed production companies. Market acceptance has been strong; volumes for each of these products are expected to increase in 1998. Management also expects that a significant number of new herbicides and biotechnology-related products currently in the R&D pipeline will be commercialized worldwide in the next few years. As a result, increased technological and product-launch expenses are expected in the next few years. Monsanto continues its efforts to address concerns of government regulators, public interest groups and consumers, particularly in Europe. Such concerns are not uncommon as new technologies are commercialized. The company also is involved in intellectual property disputes with several parties. Management expects that such disputes will continue to occur as the agricultural biotechnology industry evolves.

As discussed in the Notes to Financial Statements beginning on page 51, Monsanto made several strategic acquisitions of agricultural seed companies in 1997. The company completed the acquisition of Asgrow in February. In September, Monsanto completed the acquisitions of Holden's and Corn States Hybrid Service Inc. In December, the company acquired a controlling interest in Agroceres. It's anticipated that Monsanto will make additional alliances and collaborations with, and acquisitions of, other seed companies to enhance its ability to bring new products to market and to gain worldwide distribution of its numerous agricultural products currently being marketed or in the product pipeline.

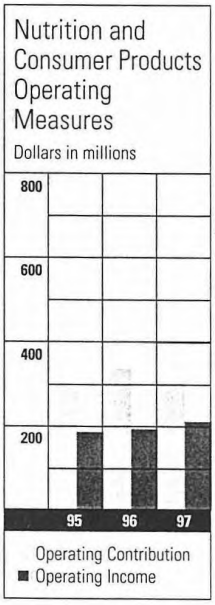
TOWOLDMON0016065

	1997	1996	1995
Net Sales	**$1,535**	$1,581	$1,371
Operating Contribution[1]	**304**	338	294
Operating Income	**211**	193	186
Total Assets	**2,646**	2,635	2,653
Capital Expenditures	**82**	98	72
Depreciation and Amortization	**118**	125	119

[1] Operating contribution is operating income excluding goodwill amortization and the effect of restructuring and other unusual items.

The Nutrition and Consumer Products segment manufactures and markets sweeteners (including *NutraSweet* brand sweetener and *Equal* and *Canderel* tabletop sweeteners), alginates, biogums and other food ingredients. It also develops, produces and markets *Ortho* brand lawn-and-garden products, and *Roundup* herbicide for residential use.

Net sales for the Nutrition and Consumer Products segment declined 3 percent in 1997 from sales in 1996 primarily because of lower sales volumes of tabletop sweeteners. The sales decrease was caused by a continued decline in market share in the United States and Europe because of lower-priced generic competition, as well as a decline in the overall U.S. grocery market for tabletop sweeteners. Sales of *NutraSweet*, the company's trademark aspartame product, were essentially flat compared with sales in the prior year. Higher sales volumes of biogums and lawn-and-garden products partially offset the tabletop sweetener sales decreases. Biogum sales grew 14 percent because of record customer demand. The increase in lawn-and-garden sales resulted from higher sales of *Roundup* for residential use, partially offset by lower sales of the *Ortho* line of products. A global initiative implemented at the end of 1996 boosted sales of *Roundup* for residential use in 1997, despite poor weather in several key markets.



Operating income for the Nutrition and Consumer Products segment in 1997 increased 9 percent from 1996 operating income, while operating contribution declined 10 percent. Unusual items affected operating income in both years. Operating income in 1997 included $51 million in pretax charges for in-process research and development related to the acquisition of Calgene Inc.'s oils business. In 1996, operating income included restructuring charges of $103 million, principally for the cost of work force reductions and facility rationalizations. If these unusual items were excluded, 1997 operating income for the Nutrition and Consumer Products segment would have totaled $262 million, an 11 percent decline from 1996 operating income of $296 million. The decrease was caused primarily by lower sales volumes of tabletop sweeteners and increased technological spending related to the development of a new no-calorie sweetener, called neotame, and other nutrition products. These effects were partially offset by lower selling expenses.

Prior Year Review

In 1996, net sales for the Nutrition and Consumer Products segment increased 15 percent from 1995 net sales. Results in 1996 included a full year of sales from the Kelco business acquired in February 1995. In addition, the sales increase resulted from higher sales of *NutraSweet* brand sweetener, the company's trademark aspartame product, and higher sales volumes of tabletop sweeteners. Higher sales of tabletop sweeteners were driven by increased spending on advertising and promotion. Most of the volume increment for tabletop sweeteners came from international markets. Higher sales volumes of biogum products and increased sales of lawn-and-garden products also contributed to the sales increase.

Operating income for 1996 increased 4 percent from the previous year's level primarily because of higher sales and lower manufacturing costs. The effect of higher sales and lower manufacturing costs was partially offset by higher advertising and promotion costs for tabletop sweeteners, higher administrative expenses associated with growth initiatives, and other costs. In addition, certain unusual items affected earnings in both years. In 1996, operating income included restructuring charges of $103 million, principally for the cost of work force reductions and facility rationalizations. Operating income in 1995 included $66 million in restructuring charges, primarily to exit a production facility and to effect work force reductions. If these unusual items were excluded, 1996 operating results for the Nutrition and Consumer Products segment would have increased 17 percent compared with 1995 results.

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OUTLOOK

Nutrition and Consumer Products

In January 1998, Monsanto announced that it was considering alternatives — including partnerships, restructurings, divestitures or joint ventures — for several of its businesses, as part of its effort to focus on growth opportunities in life sciences. Alternatives for the lawn-and-garden business currently are being considered.

Worldwide demand for aspartame continues to increase. Monsanto is maintaining its leading market share of aspartame sales while pursuing growth opportunities. Monsanto's *NutraSweet* brand aspartame has several competitive advantages, including a low-cost position and superior quality. Monsanto successfully implemented a price increase for its aspartame in the fourth quarter of 1997. Other sweeteners also compete with Monsanto's *NutraSweet* brand sweetener in markets outside the United States. These sweeteners are currently being reviewed by the U.S. Food and Drug Administration (FDA). FDA approval of these competitive products could affect Monsanto's future sales of *NutraSweet*.

Increased competition from lower-priced generic producers of tabletop sweeteners, a declining U.S. grocery market for tabletop sweeteners, and increased competition in Europe may adversely affect future sales and profits from tabletop sweeteners. However, Monsanto introduced two lower priced sweetener products in 1997 in the United States that could enhance its market share.

In December 1997, Monsanto filed a limited-use food additive petition with the FDA for approval of a new no-calorie sweetener called neotame. By the end of 1998, the company plans to file a petition with the FDA to approve neotame as a general-purpose sweetener for use in any food or beverage product. Neotame is approximately 8,000 times sweeter than sugar, and Monsanto has exclusive rights to patents covering the product, its manufacturing processes and its uses in food and beverages.

The company's alginates and biogums hold strong positions in their food ingredients markets. Although biogums face increased competition in certain industrial applications, the effect has not been significant.

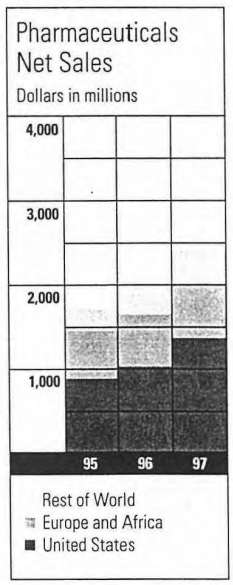
PHARMACEUTICALS

	1997	1996	1995
Net Sales	**$2,407**	$1,995	$1,711
Operating Contribution[1]	**340**	223	144
Operating Income	**318**	79	132
Total Assets	**2,856**	2,391	2,619
Capital Expenditures	**190**	89	78
Depreciation and Amortization	**136**	130	127

[1] Operating contribution is operating income excluding goodwill amortization and the effect of restructuring and other unusual items.

The Pharmaceuticals segment reflects the operations of Searle. Searle develops, produces and markets prescription pharmaceuticals. Its major products include medications to relieve the symptoms of arthritis, to control high blood pressure, to relieve insomnia, to prevent the formation of ulcers, and to provide better health care for women.

In 1997, net sales for Pharmaceuticals grew to a record $2.4 billion, $412 million, or 21 percent, higher than 1996 net sales. Higher sales volumes of *Ambien* short-term treatment for insomnia, and *Daypro* and *Arthrotec* arthritis treatments contributed nearly $170 million to the sales increase. *Ambien* continued to be the leader in the U.S. sleep-aid market. Its sales rose 31 percent in 1997, and its market share increased to 50 percent. *Daypro* and *Arthrotec* also gained market share, with increased sales of 20 percent and 25 percent, respectively. Segment net sales also benefited from licensing revenues of $75 million related to a collaborative partnership and from sales of product rights totaling $117 million. Lower sales of verapamil calcium channel blockers partially offset these increases. Sales for the family of *Calan* calcium channel blockers continued to decline, but the decrease was partially offset by growing sales of *Covera-HS*, introduced in 1996 as the first calcium channel blocker with a unique delivery system that provides 24 hours of blood pressure control.



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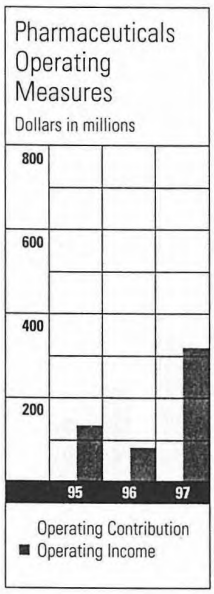
Operating income for the Pharmaceuticals segment totaled $318 million in 1997, compared with $79 million in 1996. However, 1996 operating results included $125 million in restructuring and other unusual charges. Operating income would have increased $114 million, or 56 percent, in 1997, if the unusual items were excluded from 1996 operating income. The improvements in operating income and operating contribution primarily resulted from higher sales volumes of key products, licensing revenues and sales of product rights. Increased technological and selling expenses partially offset the strong sales growth. Technological spending rose in 1997, as new product candidates advanced to later, more expensive phases of development. At the end of 1997, the following five new product candidates were in Phase III clinical trials, the final stage before submission for regulatory approval: *Celebra*, Searle's proposed trademark for celecoxib, an arthritis treatment that is designed to treat arthritis and pain selectively without gastrointestinal side effects; xemilofiban and orbofiban, drugs for the treatment of cardiovascular conditions; daniplestim, a compound that stimulates the replenishment of white blood cells and platelets in chemotherapy patients; and HRT patches, hormone replacement therapy for menopausal symptoms. Technological expenses increased in year-to-year comparisons also because of an absence of cost-sharing payments from alliances and licensing agreements in 1997 compared with the level of such payments in 1996. Selling expenses rose in 1997 because of an expansion in Searle's sales force and new product launch preparations. The product launch preparations primarily were related to oxaprozin potassium and *Arthrotec* arthritis treatments, both of which will be introduced in the United States in 1998.



Searle's investment in research and development (R&D) continues to be significant. R&D expenditures were 24 percent of the segment's net sales in 1997 and 22 percent in 1996, if cost-sharing payments from alliances in 1996 were excluded. Future R&D spending also is expected to be significant. This investment reflects the segment's commitment to the continuing discovery and development of innovative new products.

Prior Year Review

Net sales for the Pharmaceuticals segment in 1996 were $2 billion, or 17 percent, higher than net sales in 1995. The sales growth was fueled by higher sales volumes, led by strong performances from *Daypro* and *Arthrotec* arthritis treatments and from *Ambien*, a short-term treatment for insomnia. In 1996, sales of these products increased 39 percent from sales in the prior year. In total, these key products contributed approximately $660 million to 1996 net sales. Sales and earnings growth also benefited from the women's health care product lines acquired from Syntex in September 1995. The 1996 net sales increase for Pharmaceuticals was partially offset by lower sales for the family of *Calan* calcium channel blockers. Sales in 1995 included the effect of approximately $20 million in favorable adjustments under certain sales rebate programs in the United States for products sold in prior years.

Operating income for Pharmaceuticals decreased from the 1995 results by 40 percent. However, operating results in 1996 and 1995 were affected by unusual items. Operating income in 1996 included $125 million in restructuring and other actions, principally related to the cost of work force reductions and facility rationalizations. Operating income in 1995 included a $13 million charge for restructuring, principally related to work force reductions and other actions. Operating results in 1995 also reflected the aforementioned $20 million in favorable sales adjustments. If the effect of these unusual items were excluded, operating income would have been $204 million in 1996 and $125 million in 1995. The significant improvement in operating income in 1996 was primarily the result of higher sales volumes. Increased expenditures for marketing and product development costs were offset, in part, by higher cost-sharing payments from alliances and licensing agreements.

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OUTLOOK

Pharmaceuticals

Ambien, a short-term treatment for insomnia, continues as the leader in the hypnotic market with a 50 percent share of total prescriptions. *Ambien* is licensed to a joint venture in which Searle is a general partner. Under the joint venture agreement, Searle's share of profits will be reduced from 90 percent to 51 percent in November 1999. In addition, the other joint venture partner has the right to purchase all or part of Searle's interest beginning in December 1999.

In December 1997, Searle received clearance from the U.S. Food and Drug Administration (FDA) to market *Arthrotec*, the first arthritis therapy that combines a non-steroidal anti-inflammatory drug (NSAID) and an ulcer preventive drug to protect the stomach lining against gastrointestinal ulcers. The company's presence in the arthritis market will be strengthened by the continued growth of *Daypro*, Searle's leading treatment for arthritis, and the anticipated 1998 U.S. introductions of *Arthrotec* and oxaprozin potassium — a formulation that acts to relieve pain and inflammation. *Condrotec*, a combination NSAID and ulcer preventive drug to treat arthritis, will be introduced in 1998 in the United Kingdom. In addition, *Celebra*, a product that is designed to treat arthritis and pain selectively without gastrointestinal side effects, is scheduled to complete Phase III clinical trials in 1998. Searle also expects to file a registration application for *Celebra* with the FDA in 1998.

Covera-HS, Searle's newest verapamil product, was introduced in Brazil and Mexico during 1997 and in Canada in January 1998. Registration applications are being submitted in various European and Asia-Pacific markets as well. In the United States, generic competition and continuing controversy following the results of a study about the use of calcium channel blockers may continue to negatively affect the sale of all calcium channel blockers, including Searle's *Calan* and *Covera-HS*. Drugs being developed for the treatment of cardiovascular conditions include xemilofiban and orbofiban, two anti-platelet aggregation product candidates in Phase III clinical trials that act as agents to inhibit blood clotting; tifacogin (formerly tissue factor pathway inhibitor, or TFPI), for sepsis; and eplerenone for congestive heart failure, high blood pressure and the complications of kidney disease.

Also in development are four adjunctive therapies for the oncology market: daniplestim, leridistim (previously called myelopoietin), promegapoietin and progenipoietin. These compounds are being developed to stimulate the replenishment of white blood cells and platelets in chemotherapy patients. Daniplestim is currently in Phase III clinical trials. The other three therapies are in earlier stages of development.

Management expects technological expenses and selling expenses to increase in the next few years as Searle continues its commitment to discovering and developing new products and as it commercializes products now in the R&D pipeline. In December 1997, Searle formed an alliance with Yamanouchi Pharmaceutical Co. Ltd. to develop and commercialize key pipeline products in Japan. Searle also forged a collaboration with Pfizer Inc. in early 1998 to co-promote celecoxib. Management expects that other pharmaceutical alliances will be formed to offset some of the costs associated with developing and marketing pharmaceuticals, to accelerate product development, and to broaden the geographic reach of many Searle products as they are commercialized during the next several years. These alliances could result in increased licensing revenues.

Corporate and Other

The Corporate and Other segment comprises various smaller businesses, as well as certain corporate items that are not allocated to the segments. Segment sales increased significantly in 1997 compared with sales in 1996, primarily because of the inclusion in 1997 of sales from Calgene Inc.'s produce business. Monsanto acquired a controlling interest in Calgene in November 1996. Before that time, Calgene was accounted for as an equity affiliate, and its results were not consolidated. If unusual items of $73 million in 1996 were excluded, the 1997 operating loss for the Corporate and Other segment would have increased $18 million, primarily because of increased technological spending related to genomics. Genomics, which is the study of all the genes in an organism and their organization into chromosomes, is an important enabling technology. This technology will allow Monsanto to develop, at a faster pace, more and better life sciences products in the areas of agriculture, health and nutrition. The segment's operating loss increased from 1995 to 1996 because of greater spending on growth initiatives and higher restructuring charges. As part of Monsanto's efforts to focus on life sciences businesses, alternatives for the *Orcolite* and *Diamonex* optical products and *Diamonex* performance products divisions — including a partnership, restructuring, divestiture or joint venture — are currently being considered.

TOWOLDMON0016069

GEOGRAPHIC DATA

	NET SALES TO UNAFFILIATED CUSTOMERS			OPERATING INCOME (LOSS)[1]			TOTAL ASSETS		
	1997	**1996**	**1995**	**1997**	**1996**	**1995**	**1997**	**1996**	**1995**
United States	**$4,384**	$3,648	$3,127	**$ 60**	$420	$485	**$ 7,808**	$ 6,537	$ 5,810
Europe-Africa	**1,425**	1,345	1,210	**353**	156	173	**1,826**	1,562	1,523
Asia-Pacific	**655**	569	507	**115**	59	63	**455**	606	662
Canada	**285**	271	219	**47**	20	15	**153**	121	115
Latin America	**765**	515	347	**12**	60	57	**1,054**	598	294
Interarea Eliminations				**(15)**	(27)	(32)	**(956)**	(1,127)	(648)
Corporate				**(73)**	(93)	(63)	**434**	317	219
Discontinued Operations								2,623	2,756
Total	**$7,514**	$6,348	$5,410	**$499**	$595	$698	**$10,774**	$11,237	$10,731

The data above are prepared on an "entity basis," which means that net sales, operating income and assets of each legal entity are assigned to the geographic area where that legal entity is located. For example, a sale from the United States to Latin America is reported as a U.S. export sale. Interarea sales, which are sales between Monsanto locations in different world areas, were made on a market price basis.

Interarea sales have been excluded from the above table. They were:

	1997	**1996**	**1995**
World area shipped from:			
United States	**$ 960**	$ 764	$ 660
Europe-Africa	**224**	225	236
Asia-Pacific	**69**	23	15
Canada	**20**	13	10
Latin America	**—**	—	—
Interarea Eliminations	**(1,273)**	(1,025)	(921)
Total	**$ —**	$ —	$ —

The operating income reported for the individual geographic areas does not include the full profitability generated by sales of Monsanto products imported from other locations, principally the United States. Direct export sales from the United States to third-party customers outside the United States were $200 million for 1997, $177 million for 1996, and $185 million for 1995.

During 1997, the Brazilian economy was designated by Monsanto as hyperinflationary for accounting purposes. However, because the Brazilian economy continued to experience lower inflation rates during the year, as of Jan. 1, 1998, Monsanto designated the Brazilian economy as nonhyperinflationary. The functional currency for Monsanto's Brazilian operations was determined to be the U.S. dollar. These changes are not expected to have a material effect on Monsanto's financial position or operating results.

A continuing decline in value of the southeast Asia currencies may adversely affect future income. Monsanto could experience additional foreign currency transactional losses from the area. Also, future sales may decrease because the decline in the southeast Asia economies could cause customers to purchase fewer goods in general, and also because Monsanto products may become more expensive for customers in that region to purchase in their local currency.

[1] Geographic area operating income was affected by the 1997 research and development write-offs and the 1996 and 1995 restructurings and other unusual items as follows:

	INCOME (EXPENSE)		
	1997	**1996**	**1995**
United States	**$(604)**	$(251)	$(54)
Europe-Africa		(94)	(4)
Asia-Pacific		(19)	(16)
Canada		(10)	(13)
Latin America	**(80)**	(9)	—
Corporate		(24)	(3)
Total	**$(684)**	$(407)	$(90)

TOWOLDMON0016070

QUARTERLY DATA *(Unaudited)*

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	TOTAL YEAR
Net Sales					
1997	**$1,875**	**$2,095**	**$1,724**	**$1,820**	**$7,514**
1996	1,612	1,847	1,442	1,447	6,348
1995	1,339	1,541	1,186	1,344	5,410
Operating Income (Loss)					
1997	**298**	**363**	**(216)**	**54**	**499**
1996	341	434	176	(356)	595
1995	265	351	149	(67)	698
Income (Loss) from Continuing Operations					
1997	**206**	**250**	**(167)**	**5**	**294**
1996	222	316	107	(232)	413
1995	164	229	94	(26)	461
Net Income (Loss)					
1997	**274**	**324**	**(133)**	**5**	**470**
1996	260	365	170	(410)	385
1995	229	290	140	80	739
Diluted Earnings (Loss) per Share – Continuing Operations					
1997	**0.34**	**0.41**	**(0.28)**	**0.01**	**0.48**
1996	0.37	0.53	0.18	(0.39)	0.69
1995	0.28	0.39	0.16	(0.04)	0.79
Diluted Earnings (Loss) per Share					
1997	**0.45**	**0.54**	**(0.23)**	**0.01**	**0.77**
1996	0.43	0.62	0.28	(0.69)	0.64
1995	0.40	0.51	0.23	0.13	1.27
Dividends per Share					
1997	**0.150**	**0.160**	**0.160**	**0.030**	**0.500**
1996	0.138	0.150	0.150	0.150	0.588
1995	0.126	0.138	0.138	0.138	0.540
Common Stock Price[1]					
1997					
High	**42¼**	**46½**	**52 5/16**	**45¾**	**52 5/16**
Low	**34¾**	**37**	**36⅜**	**38**	**34¾**
1996					
High	31¾	34½	37⅞	43¼	43¼
Low	23	28⅛	26⅛	36½	23
1995					
High	16⅛	18¼	20⅞	25	25
Low	13⅝	15⅞	18	19½	13⅝

[1] Stock prices were restated to reflect the May 1996 five-for-one stock split, but were not restated to reflect the spinoff of the chemical businesses on Sept. 1, 1997.

Historically, Monsanto's income from continuing operations has been higher during the first half of the year, primarily because of the concentration of generally more profitable sales of the Agricultural Products segment during that part of the year.

Income from continuing operations for each quarter in 1997 was affected by the write-off of in-process research and development from acquisitions. First-quarter 1997 included an aftertax charge of $63 million, or $0.11 per share, principally for the Asgrow Agronomics acquisition. Second-quarter 1997 included an aftertax charge of $72 million, or $0.11 per share, for the Calgene Inc. acquisition. Third-quarter 1997 included an aftertax charge of $270 million, or $0.45 per share, for the Holden's Foundation Seeds Inc. acquisition. Fourth-quarter 1997 included $50 million, or $0.08 per share, for the Sementes Agroceres S.A. acquisition.

Net income for the fourth quarter of 1996 included an aftertax charge of $500 million, or $0.84 per share, associated with the company's exit from the chemical businesses, the proposed spinoff, and other unusual items. The aftertax expense related to continuing operations for these actions was $257 million, or $0.43 per share.

Net income in the first quarter of 1995 included an aftertax gain of $25 million, or $0.04 per share, for insurance-related settlement payments primarily associated with discontinued operations, and an aftertax charge of $25 million, or $0.04 per share, which is reflected in discontinued operations, for integration costs related to the formation of a joint venture.

In the third quarter of 1995, net income included an aftertax gain of $32 million, or $0.06 per share, for environmental insurance litigation settlement payments related primarily to discontinued operations, and an aftertax charge of $25 million, or $0.04 per share, which is reflected in discontinued operations, for the settlement of a lawsuit related to a Superfund site. Third-quarter net income and income from continuing operations included favorable adjustments of approximately $13 million aftertax, or $0.02 per share, related to certain sales rebate programs in the United States for product sales made in prior years.

Net income for the fourth quarter of 1995 included an aftertax charge of $125 million, or $0.22 per share, for restructuring actions. The aftertax expense related to continuing operations for these actions was $78 million, or $0.13 per share. Fourth-quarter 1995 net income also included an aftertax gain of $116 million, or $0.20 per share, which is reflected in discontinued operations, resulting from the sale of the styrenics plastics business.

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STATEMENT OF CONSOLIDATED FINANCIAL POSITION

(Dollars in millions, except per share)	As of Dec. 31,	
ASSETS	**1997**	**1996**
Current Assets:		
Cash and cash equivalents	$ 134	$ 166
Trade receivables, net of allowances of $63 in 1997 and $47 in 1996	1,823	1,515
Miscellaneous receivables and prepaid expenses	692	286
Deferred income tax benefit	243	282
Inventories	1,374	1,183
Discontinued operations		908
Total Current Assets	4,266	4,340
Property, Plant and Equipment:		
Land	99	118
Buildings	914	848
Machinery and equipment	3,359	3,162
Construction in progress	329	300
Total property, plant and equipment	4,701	4,428
Less accumulated depreciation	2,301	2,333
Net Property, Plant and Equipment	2,400	2,095
Investments in Affiliates	329	257
Intangible Assets, net of accumulated amortization of $853 in 1997 and $769 in 1996	2,837	2,166
Other Assets	942	664
Noncurrent Assets — Discontinued Operations		1,715
Total Assets	$10,774	$11,237
LIABILITIES AND SHAREOWNERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 480	$ 479
Wages and benefits	251	456
Restructuring reserves	176	247
Miscellaneous accruals	906	728
Short-term debt	1,726	654
Discontinued operations		837
Total Current Liabilities	3,539	3,401
Long-Term Debt	1,979	1,608
Deferred Income Taxes	97	102
Postretirement Liabilities	735	594
Other Liabilities	320	509
Noncurrent Liabilities — Discontinued Operations		1,333
Shareowners' Equity:		
Common stock (authorized: 1,000,000,000 shares, par value $2)		
Issued: 821,970,970 shares in 1997 and 1996	1,644	1,644
Additional contributed capital	321	65
Treasury stock, at cost (226,686,302 shares in 1997 and 237,594,831 shares in 1996)	(2,570)	(2,661)
Reinvested earnings	4,973	4,795
Reserve for ESOP debt retirement [1]	(123)	(174)
Accumulated currency adjustment	(128)	10
Other	(13)	11
Total Shareowners' Equity	4,104	3,690
Total Liabilities and Shareowners' Equity	$10,774	$11,237

The above statement should be read in conjunction with pages 51-61 of this report. [1] ESOP stands for Employee Stock Ownership Plan.

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Financial Position Remains Strong

Monsanto's financial position remained strong in 1997, as evidenced by the company's "A" debt rating. Financial resources were adequate to support existing businesses and to fund new business opportunities.

At the end of 1997, working capital was $212 million lower than at the end of 1996, primarily because of higher short-term debt levels at year-end 1997. The effect of higher short-term debt was partially offset by increases in receivables and inventories and a decrease in accrued wages and benefits. Miscellaneous receivables increased because of 1997 fourth-quarter Pharmaceuticals segment sales of product rights and licensing arrangements. Trade receivables at year-end 1997 increased compared with those at the prior year-end, primarily because of higher sales levels for the Agricultural Products and the Pharmaceuticals segments. Inventories at year-end 1997 increased, primarily because of higher inventories in the Agricultural Products segment. Accrued wages and benefits declined in 1997 because of a large incentive payout, related to the third year of a three-year plan, made in 1997. Working capital at year-end 1996 included $71 million of working capital related to discontinued operations.

New business opportunities and other needs in 1997 were financed with increased short- and long-term debt, which resulted in a ratio of total debt to total capitalization of 47 percent at year-end 1997, compared with 38 percent at year-end 1996. The company is considering various alternatives for several of its nonstrategic businesses that may result in cash proceeds to reduce the company's debt or finance future opportunities.

The amount of net property, plant and equipment at year-end 1997 was higher than the comparable 1996 amount, as $644 million in capital additions and the effects of acquisitions exceeded 1997 depreciation expense and divestitures. The increase in intangible assets was attributable primarily to the acquisition of Holden's Foundation Seeds Inc.

Total deferred tax benefits, both current and noncurrent, of $495 million at year-end 1997 were related primarily to U.S. operations, which generally have a strong earnings history.

Monsanto uses financial markets worldwide for its financing needs. It has available various short- and medium-term bank credit facilities, which are discussed in the Notes to Financial Statements on pages 51-61. These credit facilities give Monsanto the financing flexibility it needs to take advantage of investment opportunities that may arise and to satisfy future funding requirements. To maintain adequate financial flexibility and access to debt markets worldwide, Monsanto management intends to maintain an "A" debt rating.

Monsanto's commitments and contingencies are described in the Notes to Financial Statements on page 61.

Key Financial Statistics	1997	1996	1995
Current Ratio (Current assets divided by current liabilities)	**1.2**	1.3	1.5
Trade Receivables — Days Sales Outstanding (Fourth-quarter trade receivables divided by fourth-quarter net sales times 30 days)	**95**	99	80
Inventory Turnover Ratio (Cost of goods sold divided by inventory)	**2.2**	2.3	2.2
Interest Coverage[1] (Income from continuing operations before interest expense and income taxes divided by total interest cost)	**2.9**	5.3	5.7
Cash Provided by Continuing Operations/Total Debt	**10%**	42%	26%
Total Debt/Total Capitalization[2]	**47%**	38%	35%

[1] If the effects of the in-process research and development write-offs were excluded in 1997, the interest coverage ratio would have been 6.6. If the effects of the restructuring and other unusual charges were excluded in 1996, the interest coverage ratio would have been 8.2.

[2] Total capitalization is the sum of short-term debt, long-term debt and shareowners' equity.

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STATEMENT OF CONSOLIDATED CASH FLOW

(Dollars in millions)	1997	1996	1995
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS			
OPERATING ACTIVITIES:			
Income from continuing operations	$ 294	$ 413	$ 461
Add income taxes — continuing operations	72	140	184
Income from continuing operations before income taxes	366	553	645
Adjustments to reconcile to Cash Provided by Continuing Operations:			
Income tax payments	(134)	(308)	(335)
Items that did not use cash:			
Depreciation and amortization	487	423	405
Acquired in-process research and development expense	684		
Restructuring expenses		356	114
Other	(16)	70	10
Working capital changes that provided (used) cash:			
Accounts receivable	(268)	(330)	(94)
Inventories	(113)	(86)	(107)
Accounts payable and accrued liabilities	(288)	198	13
Other	(81)	12	(51)
Pretax gains from asset sales and licensing arrangements	(232)	(9)	(9)
Other items	(51)	61	(60)
Cash Provided by Continuing Operations	354	940	531
Cash Provided by (Used in) Discontinued Operations	(138)	263	292
Total Cash Provided by Operations	216	1,203	823
INVESTING ACTIVITIES:			
Property, plant and equipment purchases	(644)	(500)	(301)
Seed company acquisitions and investments	(1,325)	(470)	
Acquisition of Kelco and pharmaceutical product lines			(1,296)
Other acquisitions and investments	(618)	(250)	(139)
Investment and property disposal proceeds	88	165	77
Discontinued operations — proceeds from sale of styrenics plastics business			580
Discontinued operations — other	(44)	(200)	(206)
Cash Used in Investing Activities	(2,543)	(1,255)	(1,285)
FINANCING ACTIVITIES:			
Net change in short-term financing	2,372	297	53
Long-term debt proceeds	208	122	658
Long-term debt reductions	(142)	(177)	(403)
Treasury stock purchases		(253)	
Dividend payments	(294)	(343)	(306)
Common stock issued under employee stock plans	91	142	194
Cash transferred to Solutia Inc.	(75)		
Other financing activities	135	133	56
Cash Provided by (Used in) Financing Activities	2,295	(79)	252
DECREASE IN CASH AND CASH EQUIVALENTS	(32)	(131)	(210)
CASH AND CASH EQUIVALENTS:			
Beginning of year	166	297	507
End of year	$ 134	$ 166	$ 297

The above statement should be read in conjunction with pages 51-61 of this report.
The effect of exchange rate changes on cash and cash equivalents was not material.
Cash payments for interest (net of amounts capitalized) were $210 million in 1997, $195 million in 1996, and $195 million in 1995.

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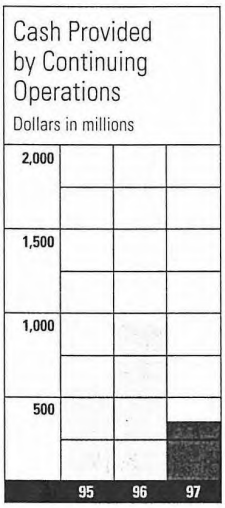
Cash Flow Declines

Cash provided by continuing operations totaled $354 million in 1997, down significantly from the previous year's level of $940 million. The decrease was caused primarily by significantly higher employee incentive payouts in 1997 for the final payment of certain deferred amounts related to a three-year incentive plan; severance and other payments during 1997 related to restructuring reserves and spinoff transaction costs; and $150 million of like-kind exchange proceeds from a 1995 business sale, which were earmarked to prefund 1996 capital expenditures. Working capital as a percent of net sales was 10 percent in 1997 compared with 15 percent in 1996.



Monsanto's operations have historically generated sufficient cash to fund both its existing businesses and its research and development expenses.

In 1997, investment and property disposal proceeds related primarily to sales of nonstrategic properties and maturing investments. In 1996 and 1995, investment and property disposal proceeds related primarily to nonstrategic investments.

Major uses of cash in 1997, 1996 and 1995 included investments, capital expenditures, dividends and treasury stock purchases. Major investments in 1997 were the acquisitions of Asgrow Agronomics, Holden's Foundation Seeds Inc., Corn States Hybrid Service Inc., and Sementes Agroceres S.A. seed companies, and the remaining interest in Calgene Inc. Major investments in 1996 were the equity investment in DEKALB Genetics Corp., an investment in Calgene, and the acquisition of the plant biotechnology assets of Agracetus. Major investments in 1995 included the acquisition of the Kelco business and the Syntex pharmaceutical product lines. Monsanto's capital expenditures, which focused on improved technology and capacity expansions, totaled $644 million in 1997. Business redesign efforts and productivity enhancements were successful in increasing effective capacity at many facilities, thereby reducing the need for additional capital expenditures.

To the extent the company's cash provided by operations was not sufficient to fund its cash needs during the period, short- and long-term debt was issued to finance these requirements. In December 1997, the company issued $200 million of 30-year debentures at an interest rate of 6.75 percent. The majority of the debt needs in 1996 and 1997 were financed with short-term commercial paper because of its relatively low interest rates and the generally favorable debt market environment.

Risk Management

Monsanto continually evaluates risk retention and insurance levels for product liability, property damage and other potential areas of risk. Monsanto devotes significant effort to maintaining and improving safety and internal control programs, which reduce its exposure to certain risks. Management decides the amount of insurance coverage to purchase from unaffiliated companies and the appropriate amount of risk to retain based on the cost and availability of insurance and the likelihood of a loss. Since 1986, Monsanto's liability insurance has been a "claims made" policy form. Management believes that the current levels of risk retention are consistent with those of comparable companies in the various industries in which Monsanto operates. There can be no assurance that Monsanto will not incur losses beyond the limits of, or outside the coverage of, its insurance. Monsanto's liquidity, financial position and profitability are not expected to be affected materially by the levels of risk retention that the company accepts.

Company Prepares for Year 2000

Beginning in late 1996, Monsanto initiated the Global Year 2000 program to ensure that its infrastructure and information systems comply with the systems requirements for the year 2000. The program includes the following phases: identifying systems that need to be replaced or fixed, assessing the extent of the work required, prioritizing the work and developing an action plan, and implementing the action plan. In higher risk areas, the company also has developed contingency action plans. Monsanto had essentially completed the first three phases of the program as of Dec. 31, 1997, and is now primarily in the implementation phase. The majority of systems, including all business critical systems, are expected to comply with year 2000 requirements by the first quarter of 1999. Monsanto also has contacted its major suppliers to assess their preparations for the year 2000. Similar contacts also are planned for major customers. The company continues to evaluate the estimated costs associated with year 2000 compliance based on actual experience. While the year 2000 efforts involve additional costs, Monsanto believes, based on available information, that it will be able to manage its year 2000 transition without any material adverse effect on its business operations, financial position, profitability or liquidity.

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Dividend Policy Re-Evaluated

Monsanto has paid quarterly dividends on its common shares without interruption since 1928. In 1997, following the spinoff of its chemical businesses, the company's board of directors re-evaluated the dividend policy and reduced the quarterly dividend on its common stock. The lower dividend payout was chosen to reflect the desire to fund the company's growth opportunities appropriately to create long-term economic value for shareowners. Monsanto's dividend policy reflects the company's expectations of future growth, profitability, financial position, acquisitions, working and fixed capital needs, scheduled debt repayments, and economic conditions, including inflation. The quarterly dividend paid in December 1997 was $0.03 per share vs. $0.16 per share paid in September 1997.

Monsanto's common stock is traded principally on the New York Stock Exchange. The number of shareowners of record as of Feb. 27, 1998, was 61,008. The high and low common stock prices on that date were $51 7/16 and $50 3/8, respectively.

FINANCIAL INSTRUMENTS

Market Risk Management

Monsanto is exposed to market risk, including changes in interest rates, currency exchange rates and commodity prices. To manage the volatility relating to these exposures, the company enters into various derivative transactions. Monsanto does not hold or issue derivative financial instruments for trading purposes. For more information about how Monsanto manages specific risk exposures, see the currency translation note on page 51, the inventory valuation note beginning on page 54, and the long-term debt note on page 56, in Notes to Financial Statements.

The tables below and on the next page provide information about the company's derivative instruments and other financial instruments that are sensitive to changes in interest rates, currency exchange rates and commodity prices. The financial instruments are grouped by market risk exposure category. Instrument denominations are indicated in parentheses. For instruments denominated in currencies other than the U.S. dollar, the information is presented in U.S. dollar equivalents, which is the company's reporting currency.

Significant interest rate risk sensitive instruments as of Dec. 31, 1997, were:

	EXPECTED MATURITY DATE							
(Dollars in millions, except average interest rate)	1998	1999	2000	2001	2002	Thereafter	Total	Fair Value
Long-Term Debt:								
Fixed rate ($US)								
Principal amount		$50	$179	$ 33	$19	$818	$1,099	$1,171
Average interest rate		8.4%	6.1%	8.6%	8.3%	7.6%	7.4%	
Variable rate ($US)								
Principal amount[1]		$ 1	$ 8	$634	$16	$190	$ 849	$ 849
Average interest rate[2]		2.9%	3.2%	5.6%	3.1%	5.2%	5.4%	
Short-Term Debt:								
Fixed rate (Brazilian real)								
Principal amount	$ 244						$ 244	$ 244
Average interest rate	8.0%						8.0%	
Variable rate ($US)								
Principal amount	$1,208						$1,208	$1,208
Average interest rate[2]	5.8%						5.8%	

[1] Includes $625 million of commercial paper that is assumed to be renewed through 2001, when the company's credit facility expires.

[2] Average variable rates are based on 1997 year-end variable rates. Actual rates may be higher or lower.

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Significant currency exchange rate risk sensitive instruments as of Dec. 31, 1997 (dollars in millions, except average exchange rate):

Expected Maturity 1998	Notional Amount	Average Exchange Rate[1]	Fair Value
Forward Contracts:			
Purchase of Belgian franc	$103	36.09	$101
Purchase of British pound	87	0.589	85
Sale of Brazilian real	50	1.152	50
Sale of Canadian dollar	27	1.402	26
Sale of Australian dollar	19	1.460	18
Sale of South African rand	15	4.966	15
Sale of Indonesian rupiah	9	4377	7
Sale of Philippine peso	7	39.07	7
Sale of Malaysian ringgit	5	3.43	4

[1] Average contract exchange rates are stated in currency units per U.S. dollar.

Significant commodity price risk sensitive instruments as of Dec. 31, 1997:

	Expected Maturity 1998	Fair Value
Corn Futures Contracts:		
Contract volumes (million bushels)	2.1	
Weighted average price (per bushel)	$2.90	
Contract amount ($US in millions)	$6	$6
Soybean Futures Contracts:		
Contract volumes (million bushels)	8.9	
Weighted average price (per bushel)	$6.96	
Contract amount ($US in millions)	$62	$61

Contract amounts are used to calculate the contractual payments and quantity of the commodity to be exchanged.

DISCLOSURE OF FORWARD-LOOKING STATEMENTS

Under the Private Securities Litigation Reform Act of 1995, companies are provided a "safe harbor" for making forward-looking statements about the potential risks and rewards of their strategies. Monsanto believes it's in the best interests of our shareowners to use these provisions in discussing future events, as we do in this annual report and other communications. These forward-looking statements include our plans for growth; the potential for the development, regulatory approval and public acceptance of new products from our pipeline; and other factors that could affect Monsanto's future operations or financial position.

Monsanto's ability to achieve its goals depends on many known and unknown risks and uncertainties, as well as on changes in general economic and business conditions. These factors could cause the anticipated performance and results of the company to differ materially from those described or implied in forward-looking statements.

Factors that could cause or contribute to such differences include, but aren't limited to Monsanto's ability to: generate cash flows or obtain financing to fund its growth, including research and development; identify new technologies and commercialize from that research innovative and competitive new products worldwide; obtain regulatory approvals and gain consumer acceptance of new products worldwide; secure and defend its intellectual property rights and, when appropriate, license required technology; manufacture its products competitively and cost effectively; manage its businesses in the face of adverse weather or other environmental conditions; respond to challenges in international markets, including changes in currency exchange rates, political or economic conditions, and trade and regulatory matters; complete and integrate appropriate acquisitions, strategic alliances and joint ventures; and manage other factors as may be discussed in Monsanto's reports filed with the U.S. Securities and Exchange Commission.

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STATEMENT OF CONSOLIDATED SHAREOWNERS' EQUITY

(Dollars in millions, except per share)	1997	1996	1995
COMMON STOCK:			
Balance, Jan. 1	$ 1,644	$ 329	$ 329
Par value of stock issued in five-for-one stock split		1,315	
Balance, Dec. 31	$ 1,644	$ 1,644	$ 329
ADDITIONAL CONTRIBUTED CAPITAL:			
Balance, Jan. 1	$ 65	$ 902	$ 849
Employee stock plans and ESOP[1]	135	133	53
Par value of stock issued in five-for-one stock split		(970)	
Spinoff of chemical businesses	121		
Balance, Dec. 31	$ 321	$ 65	$ 902
TREASURY STOCK:			
Balance, Jan. 1	$(2,661)	$(2,550)	$(2,744)
Shares purchased[2] (8,244,500 shares in 1996)		(253)	
Net shares issued under employee stock plans[2] (10,900,529 shares in 1997; 15,269,164 shares in 1996; and 19,675,660 shares in 1995)	91	142	194
Balance, Dec. 31	$(2,570)	$(2,661)	$(2,550)
REINVESTED EARNINGS:			
Balance, Jan. 1	$ 4,795	$ 5,097	$ 4,661
Net income	470	385	739
Dividends (net of ESOP tax benefits)	(292)	(342)	(303)
Par value of stock issued in five-for-one stock split		(345)	
Balance, Dec. 31	$ 4,973	$ 4,795	$ 5,097
RESERVE FOR ESOP DEBT RETIREMENT:			
Balance, Jan. 1	$ (174)	$ (181)	$ (199)
Allocation of ESOP shares	20	7	18
Spinoff of chemical businesses	31		
Balance, Dec. 31	$ (123)	$ (174)	$ (181)
ACCUMULATED CURRENCY ADJUSTMENT:			
Balance, Jan. 1	$ 10	$ 101	$ 33
Translation adjustments	(127)	(91)	68
Spinoff of chemical businesses	(11)		
Balance, Dec. 31	$ (128)	$ 10	$ 101
OTHER:			
Balance, Jan. 1	$ 11	$ 34	$ 19
Net change in market value of investments	(8)	(23)	15
Minimum pension liability	(16)		
Balance, Dec. 31	$ (13)	$ 11	$ 34

The above statement should be read in conjunction with pages 51-61 of this report.

[1] ESOP stands for Employee Stock Ownership Plan.

[2] Adjusted for the 1996 five-for-one common stock split.

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Significant Accounting Policies

Monsanto's significant accounting policies are italicized in the following Notes to Financial Statements.

Basis of Presentation

Where applicable, per share amounts and the number of shares have been restated to reflect the May 1996 five-for-one common stock split effected in the form of a stock dividend. The financial statements have been restated to present the results of the company's former chemical businesses as discontinued operations. Earnings per share have been restated to reflect the company's adoption of Statement of Financial Accounting Standard No. 128, "Earnings per Share." Previously reported amounts have been reclassified to make them consistent with the current presentation. The following notes relate to the continuing operations of Monsanto, unless otherwise indicated.

Basis of Consolidation

The consolidated financial statements include the company and its majority-owned subsidiaries. Intercompany transactions have been eliminated in consolidation. Other companies in which Monsanto has a significant ownership interest (generally greater than 20 percent) are included in "Investments in Affiliates" in the Statement of Consolidated Financial Position. Monsanto's share of these companies' net earnings or losses is included in "Other income (expense) — net" in the Statement of Consolidated Income.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and that affect revenues and expenses during the period reported. Estimates are adjusted to reflect actual experience when necessary. Significant estimates are used to account for restructuring reserves, self-insurance reserves, employee benefit plans, asset impairments and contingencies.

Currency Translation

The financial statements for most of Monsanto's ex-U.S. entities are translated into U.S. dollars at current exchange rates. Unrealized currency translation adjustments in the Statement of Consolidated Financial Position are accumulated in shareowners' equity. The financial statements of ex-U.S. entities that operate in hyperinflationary economies are translated at either current or historical exchange rates, as appropriate. These currency adjustments are included in net income.

Major currencies are the U.S. dollar, British pound sterling, Belgian franc and Japanese yen. Other important currencies include the Brazilian real, Canadian dollar, French franc, German mark and Italian lira. Currency restrictions are not expected to have a significant effect on Monsanto's cash flow, liquidity or capital resources.

Currency option contracts are purchased to manage currency exposure for anticipated transactions (for example, expected export sales in the following year denominated in foreign currencies). Currency option and forward contracts are used to manage other currency exposures, primarily for receivables and payables denominated in currencies other than the entities' functional currencies. This hedging activity is intended to protect the company from adverse fluctuations in foreign currencies vs. the entities' functional currencies.

As of Dec. 31, 1997, Monsanto had currency forward contracts to purchase $189 million and to sell $131 million, and purchased currency option contracts to sell $38 million, of other currencies. *Gains and losses on contracts that are designated and effective as hedges are deferred and are included in the recorded value of the transaction being hedged.* Net deferred hedging losses as of Dec. 31, 1997, were not material. *Gains and losses on other currency forward and option contracts are included in net income immediately.* Monsanto is subject to loss if the counterparties to these contracts do not perform.

Principal Acquisitions and Divestitures

In 1997, the company made several strategic acquisitions of agricultural seed companies. In February 1997, Monsanto completed its acquisition of the Asgrow Agronomics seed business. In September 1997, Monsanto completed the acquisitions of Holden's Foundation Seeds Inc. and Corn States Hybrid Service Inc. In December 1997, the company acquired controlling interest in Sementes Agroceres S.A., a Brazilian seed company. The combined purchase price of these acquisitions was approximately $1.4 billion. The purchase price allocations for Agroceres are based on preliminary assumptions and are subject to revision.

In 1997, Monsanto recorded aftertax charges of $383 million, or $0.64 per share, for the write-off of in-process research and development (R&D) related to the seed company acquisitions. The amounts of purchased in-process R&D were determined by independent valuations. Management believes that the technological feasibility of the acquired in-process research has not been established and that it has no alternative future use. Accordingly, the amounts allocated to in-process R&D are required to be expensed immediately under generally accepted accounting principles.

The following unaudited pro forma information combines the consolidated results of operations of Monsanto with those of Asgrow, Holden's, Corn States and Agroceres as if these acquisitions had occurred at

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the beginning of 1996. The pro forma results give effect to certain purchase accounting adjustments, including additional amortization expense from goodwill and other identified intangible assets, and increased interest expense from acquisition debt. Pro forma income from continuing operations for 1997 excludes unusual charges of $455 million, or $0.75 per share, related to in-process R&D. Pro forma income from continuing operations for 1996 excludes restructuring and other unusual charges of $257 million, or $0.43 per share.

	1997	1996
Sales	$7,642	$6,661
Income from continuing operations	683	587
Earnings per share — continuing operations	1.12	0.98

This pro forma financial information is presented for comparative purposes only and is not necessarily indicative of the operating results that actually would have occurred had the acquisitions occurred on the earliest day of the periods presented. In addition, these results are not intended to be a projection of future results.

In May 1997, Monsanto completed its acquisition of the remaining shares of Calgene Inc. that Monsanto did not already own for $8.00 per share, in cash, or approximately $267 million. In conjunction with this acquisition, Monsanto recorded a $72 million aftertax charge ($72 million pretax), or $0.11 per share, for acquired in-process R&D. This charge was not tax effected because the transaction was a stock acquisition rather than an asset purchase. The purchase price allocations are based upon preliminary assumptions and are subject to revision. The amount of this write-off was determined by an independent valuation. Management believes that the technological feasibility of the acquired in-process research has not been established and that it has no alternative future use. Accordingly, the amounts allocated to in-process R&D are required to be expensed immediately under generally accepted accounting principles.

Also in 1997, Monsanto completed several smaller acquisitions. The combined purchase price of these acquisitions was approximately $200 million. The purchase price allocations for these acquisitions are based on preliminary assumptions and are subject to revision.

The above acquisitions were accounted for as purchases, and, accordingly, the results of operations for these companies were included in the Statement of Consolidated Income from the dates of acquisition. The excess of the purchase price over the estimated fair value of net assets acquired was recorded as goodwill and is being amortized over not more than 20 years.

In March 1996, Monsanto acquired significant equity positions in Calgene and DEKALB Genetics Corp. In November 1996, Monsanto acquired a controlling interest in Calgene. The combined investment in these businesses was approximately $340 million. In May 1996, Monsanto acquired the plant biotechnology assets of Agracetus for approximately $150 million.

In September 1995, Searle acquired the women's health care assets, primarily product rights, of the former Syntex Corp., a subsidiary of Roche Holding Ltd., for approximately $240 million. In February 1995, Monsanto completed its acquisition of the worldwide business of Kelco, the specialty chemicals division of Merck & Co. Inc., for $1.062 billion.

Discontinued Operations

In December 1996, the board of directors approved a plan to spin off the company's chemical businesses to shareowners by means of the distribution of shares of a newly formed, wholly owned subsidiary, later named Solutia Inc. Effective Aug. 12, 1997, the board declared the distribution on Sept. 1, 1997, to shareowners of record on Aug. 20, 1997, of one share of Solutia common stock and one preferred share purchase right of Solutia for every five shares of Monsanto common stock, subject to certain conditions, including shareowner approval. At a special meeting held Aug. 18, 1997, shareowners approved the spinoff. It became effective Sept. 1, 1997.

As a result of shareowner approval of the spinoff, Monsanto's financial statements have been restated to present the results of operations, cash flow and financial position of the chemical businesses as discontinued operations. Discontinued operations also include certain other operations of the company's chemical businesses that have been sold, primarily the styrenics plastics business. Operating results for discontinued operations were:

	1997	1996	1995
Net sales	$1,943	$2,914	$3,552
Income (loss) before income taxes	$ 266	$ (13)	$ 253
Pretax gain on sale of business			189
Income taxes	90	15	164
Net income (loss)	$ 176	$ (28)	$ 278

Pretax restructuring and other unusual charges related to discontinued operations were $340 million in 1996 and $55 million in 1995. These costs were associated with work force reductions, the rationalization or closure of certain facilities, asset write-offs, and exit costs to separate the chemical businesses. Other pretax items affecting discontinued operations in 1995 were receipt of settlement payments of $88 million from various insurers for environmental and other insurance litigation, offset by a lawsuit settlement of $41 million and joint venture integration

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costs of $40 million. Also in 1995, the styrenics plastics business and an interest in a related joint venture were sold for a pretax gain of $189 million.

The effective tax rate for discontinued operations for 1996 exceeded the 35 percent U.S. federal statutory rate, primarily because of the effect of nondeductible exit costs incurred to separate the chemical businesses. This, in turn, was partly offset by the effect of lower ex-U.S. tax rates. The effective tax rates for discontinued operations in 1995 and 1994 exceeded the U.S. federal statutory rate, primarily because of the effect of state income taxes.

Interest expense of $39 million in 1997, $52 million in 1996, and $58 million in 1995 has been allocated to the operating results of Solutia based on the debt assumed by Solutia. Historically, the company did not allocate any debt to the chemical businesses because the company uses a centralized approach to cash management and the financing of its operations.

In connection with the spinoff, Solutia assumed the pension liabilities and received related assets for its active employees and for certain former employees of the chemical businesses. Solutia also assumed the postretirement benefit liabilities for its active employees and former employees who last worked in a chemical business.

To complete the spinoff, Monsanto contributed certain assets to Solutia, and Solutia assumed certain liabilities of Monsanto. In addition to the assets and liabilities reported as discontinued operations in the Consolidated Statement of Financial Position, the assets contributed to Solutia and liabilities assumed by Solutia included a joint venture interest in Monsanto's elemental phosphorus business, $75 million of cash and $1.0 billion of short-term debt. Also in connection with the spinoff, Solutia's employee stock ownership plan (ESOP) received 2.4 million shares of unallocated company common stock held by Monsanto's ESOP, and assumed $29 million of ESOP borrowings. The excess of the liabilities assumed by Solutia and Solutia's ESOP over the assets contributed to Solutia in connection with the spinoff (approximately $141 million) increased Monsanto's shareowners' equity.

In connection with the spinoff, several agreements entered into by Monsanto and Solutia allocated responsibility between them for various debts, liabilities and obligations. These agreements provide that Solutia will indemnify Monsanto for the liabilities assumed by Solutia pursuant to such agreements.

Restructuring and Other Actions — Continuing Operations

In December 1996, the company recorded pretax restructuring charges and other unusual items related to continuing operations of $376 million ($257 million aftertax) to cover the closure or rationalization of certain facilities, asset write-offs, and work force reductions. Approximately 940 of the 1,520 positions expected to be eliminated by these actions had been eliminated by the end of 1997. Included in these charges were aftertax amounts for asset impairments totaling $39 million. These write-offs were related to intangible assets for products no longer marketed and excess production capacity. Assets were written down to their discounted cash values, using appropriate discount rates.

In December 1995, the company recorded pretax restructuring charges associated with continuing operations of $114 million ($78 million aftertax) that covered the costs of work force reductions, business consolidations, facility closures, and the exit from nonstrategic businesses and facilities. This plan was substantially completed by the end of 1996 and reduced employment by approximately 370 people. Other unusual items in 1995 included approximately $20 million in favorable pretax adjustments ($13 million aftertax) under certain sales rebate programs in the United States for product sales made in prior years, and approximately $4 million ($2 million aftertax) in insurance settlements.

The components of the pretax expense (income) related to income from continuing operations before income taxes for the restructuring programs and the other actions were:

	1996	1995
Cost of employee reductions	$255	$ 41
Shutdown and consolidation of various facilities and departments	57	73
Asset impairments	51	
Insurance-related settlement (income)		(4)
Other costs (income)	13	(20)
Total	**$376**	$ 90

The restructuring expenses recorded were based on estimates prepared at the time the restructuring actions were approved by the board of directors. The balance in restructuring reserves as of Dec. 31, 1997, was $235 million. It is earmarked primarily for remaining work force reduction costs and the costs associated with the shutdown and consolidation of various facilities and departments. Management believes that the balance of these reserves as of Dec. 31, 1997, is adequate for completion of those activities. Restructuring actions during the last three years have reduced these liabilities by approximately $330 million. Approximately one-half of these reductions were related to the cost of work force reduction programs. The remaining reductions were primarily related to write-offs and expenditures related to the termination or sale of nonstrategic products and facilities.

The pretax expenses (income) related to the restructuring programs and the other unusual items were

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recorded in the Statement of Consolidated Income in the following categories:

	1996	1995
Net sales		$ (20)
Cost of goods sold	$ 28	(4)
Amortization of intangible assets	23	
Restructuring expenses	356	114
Decrease in operating income	407	90
Other (income) expense — net	(31)	
Total decrease in income from continuing operations before income taxes	**$376**	$ 90

In 1996, other expense was reduced by reversals of restructuring reserves that were no longer required, and by a minority interest associated with restructuring and other unusual items recorded by Calgene.

Income from continuing operations decreased $257 million, or $0.43 per share, in 1996, and decreased $63 million, or $0.11 per share, in 1995 because of these restructurings and other unusual items.

Depreciation and Amortization

	1997	1996	1995
Depreciation	$299	$276	$272
Amortization of intangible assets	173	128	119
Obsolescence	15	19	14
Total	**$487**	$423	$405

Property, plant and equipment is recorded at cost. The cost of plant and equipment is depreciated over weighted average periods of 18 years for buildings and 10 years for machinery and equipment, by the straight-line method.

In 1996, total amortization of intangible assets reflected in the Statement of Consolidated Income includes $23 million of charges for asset impairments.

Intangible assets are recorded at cost less accumulated amortization. The components of intangible assets and their estimated remaining useful lives were:

	ESTIMATED REMAINING LIFE[1]	1997	1996	1995
Goodwill	21	$1,835	$1,519	$1,372
Patents and other intangible assets	10	1,002	647	593
Total		**$2,837**	$2,166	$1,965

[1] Weighted average, in years, as of Dec. 31, 1997.

Goodwill and other intangible assets increased in 1997, primarily because of the acquisitions of Asgrow, Calgene and Holden's.

Goodwill is the cost of acquired businesses in excess of the fair value of their identifiable net assets and is amortized over the estimated periods of benefit (five to 40 years). Patents obtained in a business acquisition are recorded at the present value of estimated future cash flows resulting from patent ownership. The cost of patents is amortized over their legal lives. The cost of other intangible assets (principally seed germplasm, product rights and trademarks) is amortized over their estimated useful lives.

Impairment tests of long-lived assets are made when conditions indicate a possible loss. Such impairment tests are based on a comparison of undiscounted cash flows to the recorded value of the asset. If an impairment is indicated, the asset value is written down to its discounted cash value, using an appropriate discount rate.

Investments

Certain investments in equity securities, other than investments in equity affiliates, are classified as available-for-sale securities, and are recorded at their market values. When a decline in market value is deemed other than temporary, the reduction to the investment in a security is charged to expense. As of Dec. 31, these equity securities were detailed as follows:

	1997	1996
Aggregate fair value	$72	$79
Gross unrealized holding:		
Gains	—	31
Losses	12	11

In 1996, proceeds and realized gains from sales of available-for-sale securities were $80 million and $33 million, respectively.

Debt securities held are recorded at amortized cost, because the company has the ability and intent to hold these securities to their maturity date. These securities mature in less than five years. As of Dec. 31, 1997 and 1996, the total amortized cost of these securities was $116 million and $147 million, respectively.

Inventory Valuation

Inventories are stated at cost or market, whichever is less. Actual cost is used to value raw materials and supplies. Standard cost, which approximates actual cost, is used to value finished goods and goods in process. Standard cost includes direct labor and raw materials, and manufacturing overhead based on practical capacity. The cost of certain inventories (49 percent as of Dec. 31, 1997) is determined by using the last-in, first-out (LIFO) method, which generally reflects the effects of inflation or deflation on cost of goods sold sooner than other inventory

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cost methods do. The cost of other inventories generally is determined by the first-in, first-out (FIFO) method. Inventories at FIFO approximate current cost.

The components of inventories were:

	1997	1996
Finished goods	$ 762	$ 630
Goods in process	265	287
Raw materials and supplies	390	333
Inventories, at FIFO cost	1,417	1,250
Excess of FIFO over LIFO cost	(43)	(67)
Total	$1,374	$1,183

Commodity futures and options contracts are used to hedge the price volatility of certain commodities, primarily soybeans and corn. This hedging activity is intended to manage the cost of soybean and corn seeds that Monsanto's seed companies purchase from seed growers and to reduce the risk of incurring higher seed costs in periods of rising commodity prices. *Gains and losses on contracts that are designated and effective as hedges are deferred in inventory and are included in cost of goods sold when the underlying seeds are sold.* As of Dec. 31, 1997, Monsanto had futures contracts to purchase $68 million of corn and soybeans.

Income Taxes

The components of income from continuing operations before income taxes were:

	1997	1996	1995
United States	$(55)	$313	$339
Outside United States	421	240	306
Total	$366	$553	$645

The components of income tax expense charged to operations were:

	1997	1996	1995
Current:			
U.S. federal	$ 138	$ 42	$ 180
U.S. state	20	14	6
Outside United States	124	91	108
	282	147	294
Deferred:			
U.S. federal	(194)	10	(108)
U.S. state	(17)	(6)	6
Outside United States	1	(11)	(8)
	(210)	(7)	(110)
Total	$ 72	$140	$ 184

Factors causing Monsanto's effective tax rate to differ from the U.S. federal statutory rate were:

	1997	1996	1995
U.S. federal statutory rate	35%	35%	35%
U.S. export earnings	(7)	(6)	(2)
Puerto Rican operations	(5)	(4)	(4)
U.S. R&D tax credit	(7)	(1)	—
Lower ex-U.S. rates	(2)	(1)	—
Nondeductible goodwill	3	2	1
Valuation allowances	(4)	—	(2)
Acquired in-process R&D	7		
Other	—	—	1
Effective income tax rate	20%	25%	29%

Deferred income tax balances were related to:

	1997	1996
Property	$(180)	$(243)
Postretirement benefits	231	171
Restructuring reserves	71	181
Inventory	6	40
Net operating tax loss and tax credit carryforwards	138	163
Acquired in-process R&D	207	
Other	(53)	66
Valuation allowances	(22)	(168)
Net deferred tax assets	$ 398	$ 210

Deferred tax balances were:

	1997	1996
Deferred tax assets	$ 495	$ 312
Deferred tax liabilities	97	102
Net deferred tax assets	$ 398	$ 210

The balance in valuation allowances as of Dec. 31, 1996, included $107 million for Calgene, primarily related to U.S. net operating loss carryforwards. In 1997, Monsanto acquired the remaining 46 percent interest in Calgene and, as part of the acquisition accounting, recognized the majority of the deferred tax assets related to these carryforwards. These carryforwards expire from 1999 through 2011. In 1997, Monsanto recognized $24 million in benefits from certain ex-U.S. net operating loss carryforwards. As of Dec. 31, 1997, Monsanto had available approximately $50 million in remaining ex-U.S. net operating loss carryforwards, which expire from 1998 through 2001.

Income taxes and remittance taxes have not been recorded on $1.4 billion in undistributed earnings of subsidiaries, either because any taxes on dividends would be offset substantially by foreign tax credits or because Monsanto intends to reinvest those

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earnings indefinitely. It is not practicable to estimate the income tax liability that might be incurred if such earnings were remitted to the United States.

Short-Term Debt and Credit Arrangements

Short-term debt was:

	1997	1996
Notes payable to banks	$ 312	$129
Commercial paper	1,200	332
Bank overdrafts	126	112
Current portion of long-term debt	88	81
Total	$1,726	$654
Weighted average interest rates of notes payable as of Dec. 31:		
Banks [1]	8.5%	7.7%
Commercial paper	5.9%	5.5%

[1] Includes the effect of notes in certain countries where local inflation results in high interest rates.

Monsanto had aggregate short-term loan facilities of $746 million, under which loans totaling $312 million were outstanding as of Dec. 31, 1997. Interest on these loans is related to various bank rates. Monsanto has a $1.0 billion credit facility, expiring in 2001, which allows the company to request that lenders increase their commitments up to an aggregate of $1.6 billion. There were no borrowings under this credit facility as of Dec. 31, 1997. This facility is used to support the issuance of commercial paper. Interest on amounts borrowed under this agreement is expected to be at money market rates. Covenants under this credit facility restrict maximum borrowings. The company does not anticipate that future borrowings will be limited by the terms of this agreement. Historically, Monsanto did not allocate any short-term debt to the chemical businesses, because the company uses a centralized approach to cash management and the financing of its operations. Effective Sept. 1, 1997, in connection with the spinoff, Solutia assumed $1.0 billion of the company's short-term debt, primarily commercial paper, outstanding on that date.

Long-Term Debt

Long-term debt (exclusive of current maturities) was:

	1997	1996
Industrial revenue bond obligations, average rate in 1997 of 4.96%, due 1999 to 2028	$ 338	$ 338
Medium-term notes, rates in 1997 ranging from 8.55% to 9%, due 1999 to 2005	90	145
Commercial paper	625	325
6% notes due 2000	150	150
7.09% and 8.13% amortizing ESOP[1] notes and debentures due 2000 and 2006, guaranteed by the company	101	138
8⅞% debentures due 2009	99	99
5.6% yen note due 2016	77	88
8.7% debentures due 2021	100	100
8.2% debentures due 2025	150	150
6.75% debentures due 2027	198	
Other	51	75
Total	$1,979	$1,608

[1] ESOP stands for employee stock ownership plan.

Maturities and sinking-fund requirements on long-term debt, excluding commercial paper, are $88 million in 1998, $84 million in 1999, $226 million in 2000, $43 million in 2001, and $35 million in 2002.

Commercial paper balances of $625 million and $325 million as of Dec. 31, 1997 and 1996, respectively, have been classified as long-term debt. Monsanto has the ability and intent to renew these obligations beyond 1998.

Interest-rate swap agreements are used to reduce interest rate risks and to manage interest expense. By entering into these agreements, the company changes the fixed/variable interest-rate mix of its debt portfolio. As of Dec. 31, 1997, Monsanto was party to interest-rate swap agreements with an aggregate notional principal amount of $90 million related to existing debt. The agreements effectively convert floating-rate debt into fixed-rate debt. This reduces the company's risk of incurring higher interest costs in periods of rising interest rates. Monsanto is subject to loss if the counterparties to these agreements do not perform. *Interest differentials to be paid or received because of swap agreements are reflected as an adjustment to interest expense over the related debt period.*

Historically, Monsanto did not allocate any long-term debt to the chemical businesses, because the company uses a centralized approach to cash management and the financing of its operations. Effective Sept. 1, 1997, in connection with the spinoff, Solutia's ESOP assumed $29 million of ESOP borrowings.

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Fair Values of Financial Instruments

The estimated fair values of Monsanto's financial instruments were:

	1997		1996	
	RECORDED AMOUNT	FAIR VALUE	RECORDED AMOUNT	FAIR VALUE
Long-term debt	$1,979	$2,053	$1,608	$1,681

The recorded amounts of cash, trade receivables, investments in securities, discounted receivables, third-party guarantees, commodity futures contracts, currency forward contracts and swaps, accounts payable, interest-rate swaps, and short-term debt approximate their fair values.

Fair values are estimated by the use of quoted market prices, estimates obtained from brokers, and other appropriate valuation techniques based on information available as of Dec. 31, 1997. The fair-value estimates do not necessarily reflect the values Monsanto could realize in the current market.

Postretirement Benefits — Pensions

Most Monsanto employees are covered by noncontributory pension plans. The components of pension cost were:

	1997	1996[1]	1995[1]
Service cost for benefits earned during the year	$ 61	$ 83	$ 70
Interest cost on benefit obligation	148	287	291
Assumed return on plan assets[2]	(167)	(322)	(326)
Amortization of unrecognized net (gain) loss	13	9	(25)
Total	$ 55	$ 57	$ 10
Continuing operations	$ 55	$ 54	$ 29
Discontinued operations		3	(19)
Total	$ 55	$ 57	$ 10

[1] In connection with the spinoff, Solutia assumed the pension liabilities and received related assets for its active employees and for certain former employees of the chemical businesses. The components of pension cost for 1996 and 1995 have not been restated for amounts related to continuing and discontinued operations as no detailed information was available.

[2] Actual returns on plan assets were $350 million in 1997, $558 million in 1996, and $671 million in 1995.

Pension benefits are based on an employee's years of service and/or compensation level. Pension plans are funded in accordance with Monsanto's long-range projections of the plans' financial conditions. These projections take into account benefits earned and expected to be earned, anticipated returns on pension plan assets, and income tax and other regulations.

Pension costs were determined through the use of the preceding year-end rate assumptions. Assumptions used as of Dec. 31 for the principal plans were:

	1997	1996	1995
Discount rate	7.00%	7.50%	7.25%
Assumed long-term rate of return on plan assets	9.50%	9.50%	9.50%
Annual rates of salary increase (for plans that base benefits on final compensation level)	4.00%	4.50%	4.50%

The funded status of Monsanto's pension plans at year-end was:

	1997		1996[1]
	ASSETS EXCEED ABO	ABO EXCEEDS ASSETS	
Actuarial present value of plan benefits:			
Vested	$428	$1,750	$3,495
Nonvested	1	77	154
Accumulated benefit obligation (ABO)	429	1,827	3,649
Effect of projected future salary increases	54	173	377
Projected benefit obligation[2]	483	2,000	4,026
Plan assets at fair value	466	1,563	3,817
Excess of projected benefit obligation over plan assets	17	437	209
Unrecognized initial net gain	6	21	94
Unrecognized prior service costs	(29)	(77)	(264)
Unrecognized subsequent net gain (loss)	(25)	(45)	241
Minimum liability adjustment	—	33	
Accrued net pension liability (asset)[3]	$(31)	$ 369	$ 280
Continuing operations	$(31)	$ 369	$ 208
Discontinued operations			72
Total accrued net pension liability (asset)	$(31)	$ 369	$ 280

[1] In connection with the spinoff, Solutia assumed the pension liabilities and received related assets for its active employees and for certain former employees of the chemical businesses. The projected benefit obligation, the fair value of plan assets and the components of accrued pension liability for 1996 have not been restated for amounts related to continuing and discontinued operations as no detailed information was available.

[2] Included $228 million in 1996 for unfunded plans.

[3] Included $138 million in 1996 for unfunded plans.

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The accrued net pension liability related to continuing operations was included in:

	1997	1996
Postretirement liabilities	$390	$264
Less other assets	(52)	(56)
Accrued net pension liability	$338	$208

As a result of employment reductions from the 1996 restructuring program, $36 million of restructuring reserves was transferred to accrued net pension liability during 1997.

Included in the preceding table are plan assets and projected benefit obligations for the principal U.S. plans of approximately $1.55 billion and $1.96 billion, respectively, as of Dec. 31, 1997. Plan assets consist principally of common stocks and U.S. government and corporate obligations. Contributions to these plans were neither required nor made in 1997, 1996 and 1995 because the company's principal pension plans are adequately funded, using assumed returns.

Postretirement Benefits — Health Care and Other

Monsanto provides certain health care and life insurance benefits for retired employees. Substantially all of Monsanto's regular, full-time U.S. employees and certain employees in other countries may become eligible for these benefits if they reach retirement age while employed by Monsanto. These postretirement benefits are unfunded and are generally based on the employee's years of service and/or compensation level. The costs of postretirement benefits are accrued by the date the employees become eligible for the benefits.

The components of the cost of these postretirement benefits, principally health care and life insurance, were:

	1997	1996[1]	1995[1]
Service cost for benefits earned during the year	$10	$ 25	$ 21
Interest cost on benefit obligation	27	88	94
Amortization of unrecognized net (gain) loss	(3)	2	(2)
Total	$34	$115	$113
Continuing operations	$34	$ 33	$ 32
Discontinued operations		82	81
Total	$34	$115	$113

[1] In connection with the spinoff, Solutia assumed the postretirement benefit liabilities for its active employees and for former employees who last worked at a chemical facility. The components of the cost of postretirement benefits for 1996 and 1995 have not been restated for amounts related to continuing and discontinued operations as no detailed information was available.

Postretirement costs were determined by using the preceding year-end rate assumptions. Assumptions used as of Dec. 31 for the principal plans were:

	1997	1996	1995
Discount rate	7.00%	7.50%	7.25%
Initial trend rate for health care costs[1]	7.00%	8.00%	9.00%
Ultimate trend rate for health care costs	5.00%	5.00%	5.00%

[1] The initial trend rate for health care costs declines by 1 percent per year, to 5 percent for years after the year 1999.

A 1 percent increase in the assumed trend rate for health care costs would have increased the cost of 1997 postretirement health care benefits by $1 million and the accumulated benefit obligation by $15 million as of Dec. 31, 1997.

As of Dec. 31, the status of Monsanto's postretirement health care and life insurance benefit plans, and employee disability benefit plans was:

	1997	1996[1]
Accumulated benefit obligation:		
Retirees	$314	$ 938
Eligible active employees	17	60
Other active employees	52	251
Total	383	1,249
Unrecognized benefits from prior service	12	27
Unrecognized subsequent net loss	(26)	(28)
Accrued liability	$369	$1,248
Continuing operations	$369	$ 356
Discontinued operations		892
Accrued liability	$369	$1,248

[1] In connection with the spinoff, Solutia assumed the postretirement benefit liabilities for its active employees and for former employees who last worked at a chemical facility. The accumulated benefit obligation and the components of the accrued liability for 1996 have not been restated for amounts related to continuing and discontinued operations as no detailed information was available.

The accrued liability related to continuing operations was included in:

	1997	1996[1]
Miscellaneous accruals	$ 24	$ 26
Postretirement liabilities	345	330
Accrued liability	$369	$ 356

The assumptions used to compute the accumulated benefit obligation of the principal plans were changed as of Dec. 31, 1997. That resulted in a decrease of approximately $26 million in the obligation.

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Employee Savings Plans

For some company employee savings plans, employee contributions are matched in part by Monsanto. The value of these contributions for such plans was $39 million in 1997, and $30 million in both 1996 and 1995.

Monsanto has established an Employee Stock Ownership Plan (ESOP), which held 14.7 million shares of Monsanto common stock as of Dec. 31, 1997. The ESOP acquired shares by using proceeds from the issuance of long-term notes and debentures guaranteed by Monsanto. The ESOP also borrowed $50 million from Monsanto. A portion of the ESOP shares is allocated each year to employee savings accounts as matching contributions. In 1997, 954,778 shares were allocated to participants under the plan, leaving 10,150,488 unallocated shares as of Dec. 31, 1997. *Unallocated shares held by the ESOP are considered outstanding for earnings-per-share calculations. Compensation expense is equal to the cost of the shares allocated to participants, less cash dividends paid on the shares held by the ESOP.* Dividends on the common stock owned by the ESOP are used to repay the ESOP borrowings, which were $139 million as of Dec. 31, 1997.

In September 1997, the ESOP received Solutia shares from the spinoff. These shares were exchanged for Monsanto shares. Also in connection with the spinoff, Solutia's ESOP received 2.4 million unallocated shares of Monsanto common shares held by the ESOP, and also assumed $29 million of ESOP borrowings.

	1997	1996	1995
Total ESOP expense	**$18**	$14	$21
Interest portion of total ESOP expense	**12**	12	13
Cash contribution	**6**	16	18
Dividends paid on ESOP shares held	**8**	11	10

Stock Option Plans

The company grants stock options under two fixed plans. Under the company's Management Incentive Plan of 1996, the company may grant key officers and management employees stock-based awards, including stock options, of up to 71,605,350 shares of common stock. Under this plan, the exercise price of each option equals not less than the market price of the company's stock on the date of grant. An option's maximum term is 10 years. Options are granted at the discretion of the board of directors' people committee or its delegate. Options generally vest upon the achievement of business performance targets or the ninth anniversary of the option grant date, whichever comes first. Certain options granted to senior management vest upon the attainment of pre-established prices within specified time periods. Under the company's Shared Success Stock Option Plan, most regular full-time and regular part-time employees of the company were granted options on 200 shares of common stock in 1996 and 330 shares in 1997. The maximum number of shares for which stock options may be granted under this plan totals 14.8 million. Approximately 10.4 million options, which vest from April 1999 to February 2000, are outstanding under this plan. The exercise price of each option is determined by the committee and generally equals the market price of the company's stock on the date of grant. An option's maximum term is 10 years.

As permitted by Statement of Financial Accounting Standard (SFAS) No. 123, "Accounting for Stock-Based Compensation," the company has elected to continue following the guidance of Accounting Principles Board (APB) Opinion No. 25, "Accounting for Stock Issued to Employees," for measurement and recognition of stock-based transactions with employees. Accordingly, no compensation cost has been recognized for the company's option plans. Had the determination of compensation cost for these plans been based on the fair value at the grant dates for awards under these plans, consistent with the method of SFAS No. 123, the company's income from continuing operations and earnings per share from continuing operations would have been reduced to the pro forma amounts indicated below:

	1997	1996
Income from continuing operations:		
As reported	**$ 294**	$ 413
Pro forma	**206**	331
Earnings per share — continuing operations:		
As reported	**$0.48**	$0.69
Pro forma	**0.34**	0.57

The pro forma compensation expense may not be representative of pro forma compensation expense that would be incurred in future years.

In computing the pro forma compensation expense, the fair value of each option grant is estimated on the date of grant by using the Black-Scholes option-pricing model. The following weighted-average assumptions were used for grants:

	1997	1996
Expected dividend yield	0.29%	1.5%
Expected volatility	27.0%	25.0%
Risk-free interest rates	6.4%	6.0%
Expected option lives (years)	4.3	4.0

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A summary of the status of the company's stock option plans for the three-year period ended Dec. 31, 1997, follows:

	EXERCISABLE SHARES	OUTSTANDING SHARES	OUTSTANDING WEIGHTED-AVERAGE EXERCISE PRICE
Dec. 31, 1994	**35,842,995**	**68,543,900**	**$11.75**
1995:			
Granted		7,278,725	16.01
Exercised		(20,135,570)	10.83
Expired		(417,745)	14.12
Dec. 31, 1995	**45,383,790**	**55,269,310**	**$12.63**
1996:			
Granted		25,004,150	33.38
Exercised		(16,327,617)	11.93
Expired		(801,605)	22.59
Dec. 31, 1996	**38,362,943**	**63,144,238**	**$20.90**
1997:			
Granted		27,740,275	37.98
Exercised		(12,002,286)	13.64
Expired		(3,476,815)	34.71
Dec. 31, 1997	45,257,512	75,405,412	$25.22

The weighted-average fair values of options granted during 1997 and 1996 were $10.01 and $6.86, respectively.

The following table summarizes information about stock options outstanding as of Dec. 31, 1997:

Options Outstanding

RANGE OF EXERCISE PRICES	SHARES	WEIGHTED-AVERAGE REMAINING CONTRACTUAL LIFE	WEIGHTED-AVERAGE EXERCISE PRICE
$ 7.00 to 9.99	8,890,440	4.5 years	$ 9.11
10.00 to 14.99	18,433,740	5.3	13.13
15.00 to 19.99	451,112	7.6	16.95
20.00 to 29.99	10,283,175	8.2	26.20
30.00 to 39.99	34,997,093	8.9	34.19
40.00 to 55.00	2,349,852	6.8	44.72
$ 7.00 to 55.00	75,405,412	8.2	$25.22

Options Exercisable

RANGE OF EXERCISE PRICES	SHARES	WEIGHTED-AVERAGE EXERCISE PRICE
$ 7.00 to 9.99	8,890,440	$ 9.11
10.00 to 14.99	18,410,240	13.13
15.00 to 19.99	394,528	16.73
20.00 to 29.99	5,533,204	24.97
30.00 to 39.99	12,029,100	34.42
$ 7.00 to 39.99	45,257,512	$19.48

As a result of the spinoff, options to purchase the company's common stock under the aforementioned plans were converted to options to purchase Solutia common stock or to adjusted options to purchase the company's common stock, or a combination of both. Recognition of compensation expense was not required as a result of these conversions.

Earnings per Share

Effective Dec. 31, 1997, Monsanto adopted Statement of Financial Accounting Standard (SFAS) No. 128, "Earnings per Share." SFAS 128 establishes standards for computing and presenting earnings per share (EPS). The presentation of primary and fully diluted EPS required by old standards is replaced by basic and diluted EPS. Basic EPS measures operating performance assuming no dilution from securities or contracts to issue common stock. Diluted EPS measures operating performance giving effect to the dilution that would occur when securities or contracts to issue common stock are exercised or converted.

Basic EPS from continuing operations were computed using the weighted average number of common shares outstanding each year (590.2 million in 1997, 581.2 million in 1996, and 567.2 million in 1995). Diluted EPS from continuing operations were computed taking into account the effect of dilutive potential common shares (20.3 million in 1997, 17.7 million in 1996, and 13.4 million in 1995). Dilutive potential common shares consist of outstanding stock options. As of Dec. 31, 1997, options to purchase approximately 3.6 million shares of common stock were outstanding, but they were not included in the computation of diluted EPS because the exercise prices of the options were greater than the average market price of the common shares. These options expire from 2006 through 2007. See the previous note for more information about Monsanto's stock options.

Capital Stock

As of Dec. 31, 1997, there were 119.8 million common shares reserved for employee stock options.

In January 1990, the company's board of directors declared a dividend of one preferred stock purchase right on each then-outstanding share of the company's common stock. If a person or group acquires beneficial ownership of 20 percent or more, or announces a tender offer that would result in beneficial ownership of 20 percent or more, of the company's outstanding common stock, the rights become exercisable and, as a result of two subsequent stock splits, for every 10 rights held, the owner will be entitled to purchase one one-hundredth of a share of a new series of preferred stock for $450. If Monsanto is acquired in a business combination transaction while the rights are outstanding, for every 10 rights held, the holder will be entitled to purchase, for $450, common shares of the acquiring company

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having a market value of $900. In addition, if a person or group acquires beneficial ownership of 20 percent or more of the company's outstanding common stock, for every 10 rights held, the holder (other than such person or members of such group) will be entitled to purchase, for $450, a number of shares of the company's common stock having a market value of $900. Furthermore, at any time after a person or group acquires beneficial ownership of 20 percent or more (but less than 50 percent) of the company's outstanding common stock, the board of directors may, at its option, exchange part or all of the rights (other than rights held by the acquiring person or group) for shares of the company's common stock on a one-share-for-every-10-rights basis. At any time prior to the acquisition of such a 20 percent position, the company can redeem each right for $0.001. The board of directors also is authorized to reduce the aforementioned 20 percent thresholds to not less than 10 percent. The rights expire in the year 2000.

Commitments and Contingencies

Commitments, principally in connection with uncompleted additions to property, were approximately $116 million as of Dec. 31, 1997. Excluding the ESOP notes and debentures, Monsanto was contingently liable as a guarantor for bank loans and for discounted customers' receivables totaling approximately $123 million as of Dec. 31, 1997, and $156 million as of Dec. 31, 1996. Future minimum payments under noncancelable operating leases, unconditional inventory purchases, and R&D alliances are $105 million for 1998, $83 million for 1999, $57 million for 2000, $47 million for 2001, $43 million for 2002, and $76 million thereafter.

The more significant concentrations in Monsanto's trade receivables at year-end were:

	1997	1996
U.S. agricultural product distributors	**$359**	$361
European agricultural product distributors	**203**	156
Pharmaceutical distributors worldwide	**435**	399
Customers in the former Soviet Union	**75**	44
Customers in southeast Asia	**31**	50

Management does not anticipate losses on its trade receivables in excess of established allowances.

Costs for remediation of waste disposal sites are accrued in the accounting period in which the responsibility is established and when the cost is estimable. Postclosure and remediation costs for hazardous and other waste facilities at operating locations are accrued over the estimated life of the facility as part of its anticipated closure cost. Monsanto's Statement of Consolidated Financial Position included accrued liabilities of $19 million as of Dec. 31, 1997, and $25 million as of Dec. 31, 1996, for the remediation of identified waste disposal sites.

Monsanto's future remediation expenses for waste disposal sites are affected by a number of uncertainties. These uncertainties include, but are not limited to, the method and extent of remediation, the percentage of material attributable to Monsanto at the sites relative to that attributable to other parties, and the financial capabilities of the other potentially responsible parties (PRPs). The company does not expect the resolution of such uncertainties to have a material effect on profitability.

Monsanto is a party to a number of lawsuits and claims, which it is vigorously defending. Such matters arise out of the normal course of business and relate to a variety of issues. Certain of the lawsuits and claims seek damages in very large amounts, or seek to restrict the company's business activities.

Although the results of litigation cannot be predicted with certainty, management's belief, based upon the advice of company counsel, is that the final outcome of such litigation will not have a material adverse effect on Monsanto's consolidated financial position, profitability or liquidity in any one year, as applicable.

Supplemental Data

Supplemental income statement data were:

	1997	1996	1995
Rent expense	**$ 130**	$111	$102
Technological expenses:			
Research and development	**$ 939**	$647	$568
Engineering, commercial development and patent	**105**	55	33
Total technological expenses	**$1,044**	$702	$601
Interest expense:			
Total interest cost	**$ 184**	$128	$137
Less capitalized interest	**(14)**	(9)	(5)
Net interest expense	**$ 170**	$119	$132
Currency losses including equity in affiliates' currency gains and losses	**$ 68**	$ 6	$ 6

Segment Information

Certain segment data and geographic data for 1997, 1996 and 1995 that appear on pages 35 and 42 are integral parts of the accompanying financial statements. The company's principal product lines are discussed in the segment data.

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FINANCIAL SUMMARY

(Dollars in millions, except per share)	1997[1]	1996[2]	1995[3]	1994[4]	1993[5]	1992[6]
Operating Results						
Net Sales	$ 7,514	$ 6,348	$ 5,410	$ 4,679	$ 4,304	$ 4,119
Operating Income (Loss)	499	595	698	643	485	(16)
As a Percent of Net Sales	7%	9%	13%	14%	11%	—
Income (Loss) from Continuing Operations	294	413	461	454	298	(151)
As a Percent of Net Sales	4%	7%	9%	10%	7%	(4)%
Income (Loss) from Discontinued Operations[7]	176	(28)	278	168	196	603
Cumulative Effect of Accounting Changes						(540)
Net Income (Loss)	470	385	739	622	494	(88)
Earnings per Share:[8]						
Income (Loss) from Continuing Operations	$ 0.48	$ 0.69	$ 0.79	$ 0.78	$ 0.50	$ (0.24)
Net Income (Loss)	0.77	0.64	1.27	1.06	0.82	(0.14)
Year-End Financial Position						
Total Assets	$10,774	$11,237	$10,731	$ 9,103	$ 8,788	$ 9,210
Working Capital	727	939	1,493	1,448	1,377	1,512
Property, Plant and Equipment:						
Gross	$ 4,701	$ 4,428	$ 4,111	$ 3,748	$ 3,687	$ 3,689
Net	2,400	2,095	1,893	1,673	1,669	1,737
Long-Term Debt	$ 1,979	$ 1,608	$ 1,667	$ 1,405	$ 1,502	$ 1,423
Shareowners' Equity	4,104	3,690	3,732	2,948	2,855	3,005
Current Ratio	1.2	1.3	1.5	1.6	1.6	1.6
Percent of Total Debt to Total Capitalization	47%	38%	35%	37%	38%	36%
Other Data						
Stock Price:[8,9]						
High	$ 52 15/16	$ 43 1/4	$ 25	$ 17 3/8	$ 15	$ 14 1/4
Low	34 3/4	23	13 3/4	13 3/8	9 7/8	9 7/8
Year-End	42	38 7/8	24 1/2	14 1/8	14 3/4	11 5/8
Price/Earnings Ratio on Year-End Stock Price	55	60	19	13	18	—
Per Share:[8]						
Dividends[10]	$ 0.500	$ 0.588	$ 0.540	$ 0.494	$ 0.460	$ 0.440
Shareowners' Equity	6.89	6.31	6.46	5.29	4.92	4.99
Shareowners (year-end)	61,265	54,828	50,745	53,694	56,601	60,074
Shares Outstanding (year-end, in millions)[8]	595	584	575	560	580	600
Employees (year-end)[9]	21,900	28,000	28,500	29,400	30,000	33,800

(1) Income from continuing operations for 1997 included $455 million, or $0.75 per share, for the write-off of acquired in-process research and development.

(2) Income from continuing operations for 1996 included restructuring and other unusual charges of $257 million, or $0.43 per share, associated with the closure or rationalization of certain facilities, asset write-offs and work force reductions.

(3) Income from continuing operations for 1995 included net restructuring expenses and other unusual items of $63 million, or $0.11 per share.

(4) Income from continuing operations for 1994 included a net aftertax gain for restructuring and other unusual items of $20 million, or $0.03 per share.

(5) Income from continuing operations for 1993 included a net aftertax loss for restructuring and other unusual items of $11 million, or $0.02 per share.

(6) Loss from continuing operations for 1992 included a net aftertax loss for restructuring and other unusual items of $393 million, or $0.64 per share.

(7) Includes sale of styrenics plastics business in 1995 and sale of Fisher Controls in 1992.

(8) Stock prices, per share amounts and shares outstanding were restated to reflect the May 1996 five-for-one stock split.

(9) Amounts prior to 1997 were not restated to reflect the spinoff of the chemical businesses.

(10) The quarterly common stock dividend was reduced from $0.16 per share to $0.03 per share in the 1997 fourth quarter.

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Chairman of the Board and Chief Executive Officer
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Vice Chairman of the Board
Nicholas L. Reding[1]

President
Hendrik A. Verfaillie[1]

Vice Chairmen
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Robert B. Hoffman[1]
Robert W. Reynolds[1]

Executive Vice President
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Senior Vice President, General Counsel and Secretary
R. William Ide III[1]

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Steven L. Engelberg[1]
David L. Morley[1]
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Patrick J. Fortune, Ph.D.[1]
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Frank N. Kotsonis, Ph.D.
Richard A. Overton
Steve R. Stetz Jr.
Michael W. Winkel

Vice President and Controller
Michael R. Hogan

Vice President and Treasurer
Juanita H. Hinshaw

[1] Executive officers as defined by the Securities and Exchange Commission.

[2] Virginia V. Weldon, M.D., will retire from Monsanto Company on March 1, 1998.

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Robert B. Shapiro, 59, of St. Louis, is chairman of the board and chief executive officer of Monsanto. He joined Searle, Monsanto's pharmaceutical business, in 1979. Mr. Shapiro also has served as the head of the NutraSweet business, and as the head of Monsanto's agricultural business. He has been a director for five years. Mr. Shapiro chairs the board's executive committee.

Robert M. Heyssel, M.D., 69, of Seaford, Delaware, is a consultant and president emeritus of the Johns Hopkins Health System, a group of not-for-profit medical centers in Baltimore. He is the retired president and chief executive officer of the Johns Hopkins Health System and the Johns Hopkins Hospital. Dr. Heyssel has been a Monsanto director for nine years. He is a member of the board's people and science and technology committees.

Michael (Mickey) Kantor, 58, of Washington, D.C., is the former secretary of the U.S. Commerce Department (1996-97) and former U.S. trade representative (1993-96). He currently works for the firm of Mayer, Brown and Platt. This is his first year as a Monsanto director. He is a member of the board's finance and public policy committees.

Gwendolyn S. King, 57, of Washington, D.C., is a retired senior vice president, corporate and public affairs for PECO Energy Co., an electric and natural gas provider for the greater Philadelphia area. She is also a former commissioner of the U.S. Social Security Administration. Mrs. King has been a Monsanto director for four years. She chairs the board's public policy committee and is a member of the people and executive committees and the special committee regarding agricultural biotechnology matters.

Philip Leder, M.D., 63, of Boston, is chairman of the Department of Genetics at Harvard Medical School. He is also senior investigator for the Howard Hughes Medical Institute. Dr. Leder has been a Monsanto director for eight years. He chairs the board's science and technology committee and is a member of the people and executive committees and the special committee regarding agricultural biotechnology matters.

Jacobus F.M. Peters, 66, of Wassenaar, the Netherlands, is the retired chairman of the executive board and chief executive officer of AEGON N.V., an international insurance and financial services company. He has been a Monsanto director for five years. Mr. Peters is a member of the board's finance and public policy committees.

Nicholas L. Reding, 63, of St. Louis, is vice chairman of the board of Monsanto. He has been a director for five years. Mr. Reding joined Monsanto in 1956 and headed the company's agricultural businesses for 14 years. He also has served as an executive vice president of Monsanto, with responsibilities for environmental, safety and health, and manufacturing operations. Mr. Reding chairs the board's special committee regarding agricultural biotechnology matters.

John S. Reed, 59, of New York, is chairman and chief executive officer of Citicorp and Citibank N.A. financial service companies. He has been a Monsanto director for 12 years. Mr. Reed chairs the board's finance committee and is a member of the science and technology committee.

John E. Robson, 67, of San Francisco, is an investment banker and senior adviser of BancAmerica ROBERTSON STEPHENS, an investment banking firm. He is a former president and chief executive officer of Searle before it became a subsidiary of Monsanto. He is also a former deputy secretary of the U.S. Treasury Department, chairman of the Civil Aeronautics Board, dean of the Emory University School of Business Administration, and a corporate attorney. This is Mr. Robson's second year on the board, and he is a member of the finance and science and technology committees.

William D. Ruckelshaus, 65, of Seattle, is chairman of Browning-Ferris Industries Inc., a waste management firm, and a principal of the Madrona Investment Group L.L.C. He is a former administrator of the U.S. Environmental Protection Agency. Mr. Ruckelshaus has been a Monsanto director for 12 years. He chairs the board's people committee and is a member of the public policy committee and the special committee regarding agricultural biotechnology matters.

Ages and years of service as of March 1, 1998.

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Dividend Policy

The declaration and payment of quarterly dividends is made at the discretion of Monsanto's board of directors. The dividend is reviewed by the board quarterly. Monsanto has paid quarterly dividends on its common shares without interruption since 1928.

Direct Deposit of Dividends and Dividend Reinvestment Plan

Registered shareowners (shareowners whose stock certificates state that they are the holders of shares in Monsanto) may have their quarterly dividend check deposited directly to their bank account or may reinvest their dividends in common shares of Monsanto. For more information, or to request an enrollment form, please call or write Monsanto's agent, First Chicago Trust Company of New York.

Duplicate Mailings

If you receive duplicate mailings of Monsanto's annual report and would like for us to eliminate the extra copies, please send us your written permission. Duplicate mailings can occur if shares are held in multiple accounts, are registered under different names, or are registered with slight differences in names and addresses. Please send the labels from the copies you don't want or the names of the accounts to Monsanto's agent, First Chicago Trust Company of New York. If you have the account numbers, that's also helpful.

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Page 19 photo: Sandy Creek Covered Bridge, Missouri state historic site.

Additional Shareowner Information

Shareowner, financial and other information about Monsanto is available to you free of charge from several sources throughout the year. These materials include quarterly earnings statements, significant news releases and Forms 10-K and 10-Q, which are filed with the U.S. Securities and Exchange Commission.

There are a number of ways you can access this information:

On the Internet: You can access financial and other information, such as significant news releases, Forms 10-K and 10-Q, and the text of this annual report, on the Internet at **http://www.monsanto.com**

By telephone: You can obtain the additional information listed above through our automated telephone system by dialing (314) 694-5432.

By writing: You can also request these materials by writing:
Monsanto Company - D2000
800 North Lindbergh Boulevard
St. Louis, Missouri 63167
U.S.A.

Additional Information about Monsanto

Monsanto's Sustainable Development Report

You can obtain a copy of Monsanto's sustainable development report on the Internet at **http://www.monsanto.com** or by calling (314) 694-5432.

Monsanto's Diversity Report

Monsanto is an equal opportunity employer. To obtain a copy of Monsanto's diversity report, visit our web site at **http://www.monsanto.com** or call (314) 694-5432.

Annual Meeting

The next annual meeting of the shareowners of Monsanto will be held at 1:30 p.m., Friday, April 24, 1998, at The Field Museum located at Roosevelt Road at Lake Shore Drive, Chicago, Illinois. A formal notice of the meeting, together with a proxy statement, is being mailed to each shareowner.

MTC Listed NYSE Monsanto's stock is traded principally on the New York Stock Exchange. Our stock symbol is MTC.

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