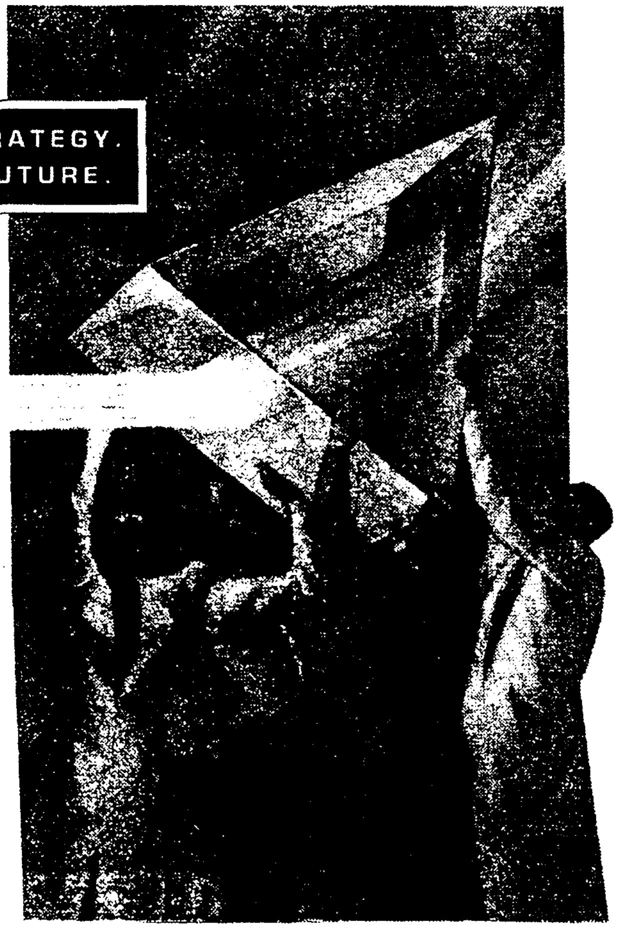
1991 Annual Report

Monsanto

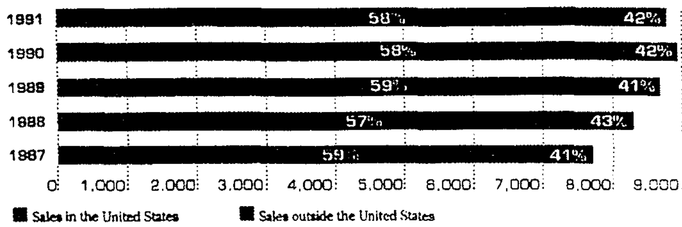
A SOUND STRATEGY.
A STRONG FUTURE.



CONTENTS

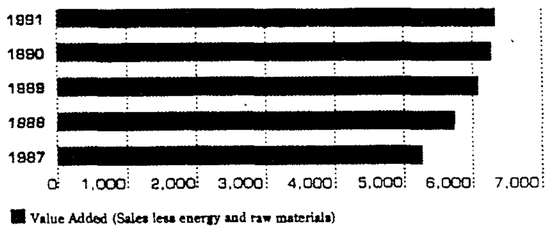
GLOBAL SALES *(Dollars in millions)*

Sales outside of the United States account for almost half of Monsanto's revenues. This mix indicates the importance of global expansion to all five operating units.



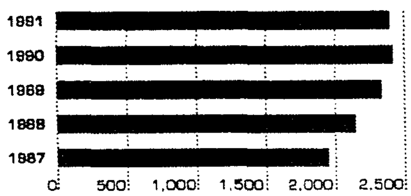
VALUE ADDED *(Dollars in millions)*

Monsanto's high-performance products add value that is reflected in improved earnings. This premium portion of the company's sales is increasing year by year.



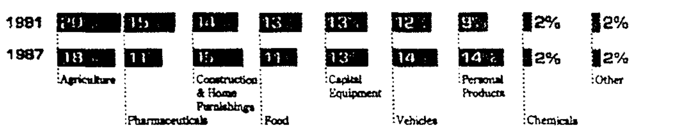
MARKETING, ADMINISTRATIVE AND TECHNOLOGICAL EXPENSES *(Dollars in millions)*

Monsanto's level of marketing, administrative and technological expenses reflects the strong commitment to research and development and the introduction and promotion of new value-added products.



MARKET MIX *(Percent of total sales)*

Monsanto's products are sold into a range of end-use markets, which reduces dependence on sales in any single category in any given year.



ABOUT THE COVER

Channeled through the prism of Monsanto's strategy, the company's operations are directed toward a strong future.

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OPERATIONAL HIGHLIGHTS

(Dollars in millions, except per share)	1991	1990	1989
Net Sales	**$8,864**	$8,995	$8,681
Net Income	**$ 296**	$ 546	$ 679
Per Share:			
Net Income	**$ 2.33**	$ 4.23	$ 5.01
Dividends	**2.045**	1.88	1.65
Shareowners' Equity	**29.72**	32.51	29.79
Depreciation and Amortization	**$ 751**	$ 739	$ 690
Cash Provided by Operations	**$1,180**	$1,104	$1,037
Research and Development Expenses	**$ 627**	$ 612	$ 598
Return on Shareowners' Equity	**7.6%**	13.6%	17.6%
Percent of Total Debt to Total Capitalization	**38%**	35%	33%
Shareowners (year-end)	**60,152**	62,230	61,942
Shares Outstanding (year-end, in millions)	**123**	126	132
Employees (year-end)	**39,281**	41,081	42,179

MONSANTO 1991 OVERVIEW

Net income in 1991 was $296 million, or $2.33 per share, including one-time, aftertax restructuring charges of $325 million, or $2.54 per share. The restructuring was part of the company's decade-long move into value-added products. Excluding the restructuring charges, net income in 1991 would have been the second-best in Monsanto history, at $621 million, or $4.87 per share. Return on shareowners' equity for 1991, also affected by the restructuring charge, was 7.6 percent, down from 13.6 percent in 1990.

Excluding restructuring charges, 1991 net income would have been the second best in Monsanto history

Monsanto Company makes and markets high-value agricultural products; chemical products, including plastics and manufactured fibers; pharmaceuticals; food products, including a low-calorie sweetener and an all natural fat substitute; process control equipment; and other performance materials. In doing so, we're committed to serving the interests of all those worldwide who hold a stake in our company by:

- Aiming for a consistent and superior return on equity for our shareowners;
- Meeting the needs of our customers with the highest standards of value, quality and service;
- Providing our employees with safe and rewarding work in an environment where each has an equal opportunity to succeed; and
- Striving for a lasting and rewarding partnership with our neighbors.

A SOUND STRATEGY. A STRONG FUTURE.

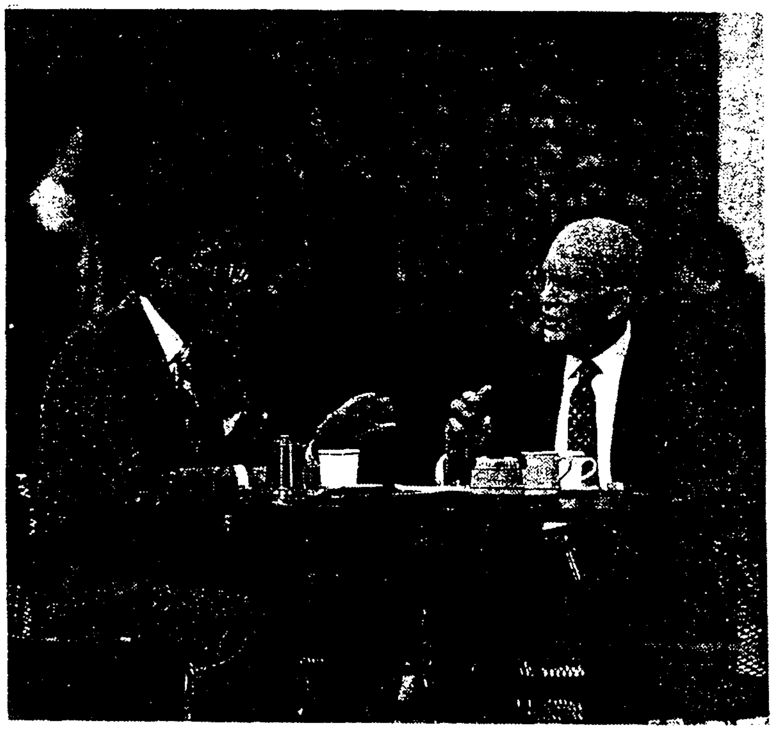
Monsanto Company's strategy proved *durable* in a year of economic difficulty in many world areas. But then, sound corporate strategy *should* work in both good and not-so-good times.

Net income for 1991 was $296 million, or $2.33 per share. However, we continued to exit businesses with inadequate prospects for reaching our principal financial target of a 20 percent return on shareowners' equity. This resulted in a one-time, aftertax restructuring charge of $325 million, or $2.54 per share. Excluding the restructuring charge, net income in 1991 would have been the second-best in Monsanto history — $621 million, or $4.87 per share.

Competitive strength was demonstrated across the current product line. The following milestones are of particular note:

► *Roundup* and *Lasso* herbicides combined for a strong year for the Agricultural Company. Volumes for *Roundup* were up 17 percent. Operating income for the unit was up 22 percent.

► *Saflex* plastic interlayer performed well on a global basis, although North American automotive and construction markets were down. Excluding restructuring charges, the Chemical Company's operating income from continuing businesses would have been ahead of 1990 operating income despite the weak economy. Operating income stayed within the range we had



Maintaining a strong strategy that focuses on future growth and value for shareowners requires continual evaluation, according to Richard J. Mahoney, chairman and chief executive officer (left), and Earle H. Harbison, Jr., president and chief operating officer.

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projected for a recession year: off 28 percent from its high for equivalent products in 1989, the last full non-recession year. The unit also benefited from significantly lower raw material costs.

► Fisher Controls started well through the first half of 1991 and seemed to be defying the slowdown in capital goods spending. But capital markets dropped further in the second half, and operating income slipped below record 1990 results.

► Volumes for *NutraSweet* brand sweetener increased in 1991, with more than 280 new product uses introduced worldwide.

► Searle's operating income was up 83 percent over that in 1990 on a sales increase of $107 million. *Cytotec* ulcer preventive drug continued its steady volume increases, reaching sales of $123 million. While sales of *Calan* brand calcium channel blocker have probably begun to peak in the current product forms, *Cytotec* is expected to have several years of solid growth ahead.

Competitive strength was shown across the current product line.

At the same time, we've invested in the next wave of growth with acquisitions, volume expansions, cost-reduction programs, quality improvements and research and development (R&D) expenditures. These investments, totaling $1.4 billion in 1991, are detailed on pages 6 to 20.

Cash not used for these and other investments was reinvested in share repurchases in 1991. Share repurchases are a measure of our strong cash-generating capabilities and of our confidence in our corporate strategy. In the last five years, we've repurchased almost 24 percent of our shares. It's a practice we expect to continue. Dividends were increased in 1991 for the 19th consecutive year.

Progress on research and development for new products was excellent. Important new herbicides were approved for sale for weed control in turf in the United States and in rice and turf in Japan. We saw commercial-level performance in field trials of our first biotechnology-based crops — cotton and potatoes with built-in defenses against insects, and soybeans and canola tolerant of *Roundup* herbicide.

Share repurchases are a measure of our strong cash generating capabilities and of our confidence in our strategy.

In the Chemical Company, we see good prospects for new products, such as *Flectron* metallized materials, the result of a patented process for combining metals with a host of materials for unique applications.

Fisher Controls introduced several additions to its line of *PROVOX* instrumentation. New V-line rotary control valves are expanding Fisher's presence in a rapidly growing market.

Searle launched new pharmaceuticals in a number of countries. *Maxaquin*, an anti-infective agent, was launched in Mexico, Portugal and Venezuela in 1991. It was also approved in six other countries in 1991 and in the United States in the first quarter of 1992. U.S. approval is still pending for *Ambien*, a treatment for insomnia; and oxaprozin, a treatment for the symptoms of arthritis.

► *On Feb. 26, 1992, we lost the wisdom and counsel of board member Dr. Marguerite Ross Barnett, who died after a brief illness. She was a dynamic and active director who had a keen sensitivity for people. We'll miss her as a colleague and friend.*

We'll also miss the substantial contributions of Dr. Donald C. Carroll, who retired from the board in 1991 after 16 years of distinguished service.

Searle moved 10 drugs into clinical trial testing, including four in broader clinical trials. Two drug candidates that resulted from collaboration between the corporate R&D group and Searle moved to Searle for full development.

In 1991, the U.S. Food and Drug Administration agreed that a new formulation of *Simplesse* all natural fat substitute could be used in a full range of food products. Products using *Simplesse* from a number of food companies are now on the market, and many more are being readied for introduction worldwide.

Monsanto is emerging as a company of powerful product positions, a strong financial position, and leadership in virtually all of its market segments.

Bovine somatotropin (BST), a biotechnology-based protein that supplements the cow's own BST and improves milk productivity, is now being sold. People in Mexico and Brazil are already benefiting from BST, but it remains in a political stall in Europe despite affirmation of its human safety and efficacy by the European Community's Committee for Veterinary Medicinal Products. U.S. approval for sale is still pending.

Investors understandably continue to register concerns about future competition for three of our major products — ***Roundup*** herbicide, ***NutraSweet*** brand sweetener and ***Calan*** brand calcium channel blocker — all of which may face new market entrants. We've had several years to plan for this competition, and our people have prepared well.

Holding customer loyalty, providing the highest-quality products, and achieving superior cost positions are just a few of our ***strategies***. Many of the critical and highly detailed ***tactical*** measures can't be disclosed in advance for obvious competitive reasons. We'll continue to report not so much what ***will happen*** as what ***has*** happened as we ***unfold*** the tactics for these important products. We expect to be measured, as always, by results. Products from competitors are likely to emerge eventually, but so far none have made significant inroads into our markets.

We're continuing to strengthen the positions of our leading products and to cull out those with less potential. We're also successfully introducing new products from our extensive R&D program. The products long predicted are starting to flow.

The momentum our people have demonstrated will continue in 1992, with Monsanto emerging as a company of powerful product positions, leadership in virtually all of our market segments, and a strong financial position that will allow us to capitalize fully on our chosen strategies.

Richard J. Mahoney

Richard J. Mahoney
Chairman and Chief Executive Officer
March 5, 1992

DELIVERING VALUE TO SHAREOWNERS

Monsanto delivers value to shareowners by building on strong products, new investments and a focused portfolio.

By Earle H. Harbison, Jr.
President and Chief Operating Officer

Our essential promise to shareowners is to achieve a superior level of earnings that will ensure the future value of their investment. To fulfill that promise, we must deliver consistent year-to-year financial performance, while investing in new products for the medium term and in new technologies for the long term.

We must plan for all three time periods — near term, medium term and long term — without sacrificing one for the others. At any given time, a snapshot of our program should show a company that is strengthening current products, investing in new products, and focusing its business portfolio. The theory of this program is not complex, but executing it is.

Our execution starts with relentless attention to our existing products. In each of our five operating units, we emphasize value-added products. A value-added product does what its name implies: It adds value for our customers. The result is improved earnings for both Monsanto and our customers.

The rewards from the successful management of these businesses contribute to attractive earnings not only in the near term, but in the medium term and long term as well.

To fulfill our promise to shareowners, we must deliver consistent earnings performance while investing in new products and future technologies.

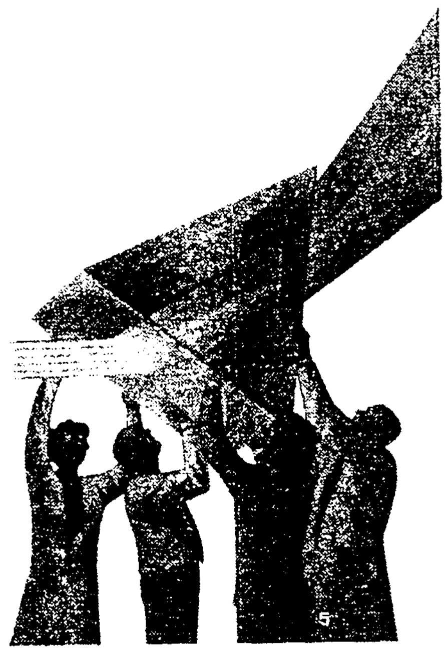
In our agricultural products business, *Roundup* and *Lasso* herbicides are successful products now and will continue to be in the future. A stream of new herbicides and products from biotechnology research will add to our long-term earnings.

In our chemicals business, well-established products, such as *Saflex* plastic interlayer and *Wear-Dated* carpet, undergo constant improvements to maintain their profitability. At the same time, we're developing additional high-performance materials that will provide us with entirely new businesses for the future.

The near- and medium-term performance of our pharmaceutical and food ingredient businesses is built on major branded products such as *NutraSweet* brand sweetener and *Calan* brand calcium channel blocker. Long term, we're counting on promising new products to fuel future growth.

Our process control business maintains near- and medium-term profitability with control valves and *PROVOX* instrumentation that improve the manufacturing, environmental and quality performance of target industries. Long-term profitability is addressed by designing new technologies for even greater management control and productivity in sophisticated process plants.

The following pages present our operating units and their strategies in greater detail. These sections add up to a larger story that demonstrates a sound strategy that is building a strong future.



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MONSANTO AGRICULTURAL COMPANY

Monsanto Agricultural Company concentrates on the continued growth of *Roundup* herbicide, the introduction of new agricultural chemicals, and the development of new products from biotechnology research.

Monsanto Agricultural Company is one of the leading herbicide companies in the world. Its *Roundup* herbicide is a top-selling agricultural product worldwide, and its *Lasso* herbicide is a major corn and soybean weed-control agent in the United States.

In 1991, European patents and the U.S. method-of-use patent expired for *Roundup*. However, another U.S. patent protects glyphosate compounds, including the active ingredient in *Roundup*, into the year 2000.

Strengthening current products: The Agricultural Company positions *Roundup* herbicide for steady growth despite a potentially more competitive environment.

Since the mid-1980s, the Agricultural Company has marketed *Roundup* herbicide with an eye toward potential post-patent competition for glyphosate-based products. The key strategies have been price elasticity and low-cost manufacturing. By selectively lowering prices in specific markets or countries, the company has steadily increased volumes and built economies of scale.

"In 1991, we continued to lower prices selectively worldwide," says Hendrik A. Verfaillie, vice president and general manager for *Roundup*. "For example, extensive market research suggested that we could lower the price in the United States and gain enough volume to more than offset the price decrease. That's exactly what happened." Volumes for *Roundup* in 1991 increased 17 percent worldwide.

Investing for new growth: *Dimension* herbicide is approved in 1991, while genetically improved plants proceed through field trials.

With *Roundup* already meeting market requirements for a broad range of applications, the Agricultural Company's strategy is to develop new herbicides to fit specific market needs. In 1991, the company gained U.S. approval to market *Dimension* turf herbicide to professional lawn-care applicators.

Dimension can provide season-long control of crabgrass and other annual weeds with one application. It works before or after crabgrass emerges, and it isn't destructive to turf and other plants.

The active ingredient in *Dimension* turf herbicide, dithiopyr, comes from the Agricultural Company's new pyridine class of chemistry. The company is pursuing registration of dithiopyr in a number of markets worldwide. Japan approved it in 1991

▲ Canola is valued for the oil produced from its seeds. Genetically improving canola to tolerate *Roundup* herbicide would open a new market for *Roundup* while saving millions of dollars for canola farmers.

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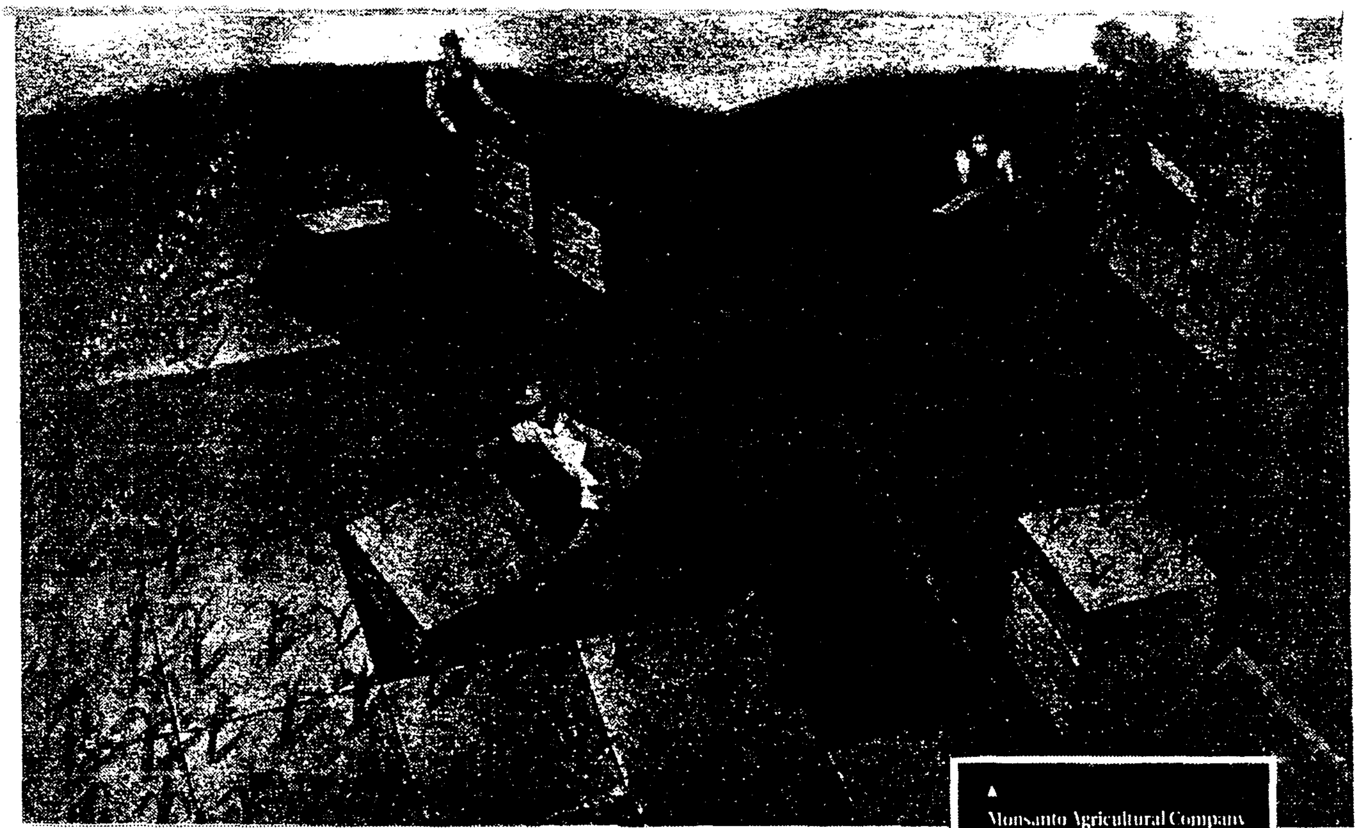


▲ Monsanto Agricultural Company continues to meet the specific needs of modern agriculture. Solutions range from entering new markets for *Roundup* herbicide to developing new families of herbicide chemistry, to inventing new businesses based on biotechnology.

as the active ingredient in five new rice and turf herbicides. Dithiopyr is ultimately expected to reach $100 million in annual sales.

Other important agricultural markets will be tapped by the products of biotechnology. Commercial-level performance was achieved for insect-resistant cotton in a second year of field tests. Applications are being filed with two U.S. government agencies to start the approval process for this product.

Focusing the business portfolio: The animal feed ingredients business no longer fit the Agricultural Company's strategy and was sold in 1991.

Several varieties of canola tolerant to ***Roundup*** herbicide were tested at Canadian research farms in 1991. Canola is valued for the oil from its seeds. ***Roundup*** is a non-selective herbicide, which means that it eliminates both desirable and undesirable plants. Canola farmers currently treat their fields to kill weeds before they plant, then follow up with a selective herbicide to treat those weeds that grow with the crop. By planting canola tolerant to ***Roundup***, farmers could control all emerged weeds with a single application of ***Roundup***. That could save canola growers $100 million a year and open a new market for ***Roundup***.

Other crops field tested in 1991 were virus-resistant tomatoes, insect-resistant potatoes and corn, and soybeans tolerant to ***Roundup***.

To proceed toward commercialization, all new products must demonstrate the potential to make a positive financial difference to the company. The same test applies to existing businesses. In 1991, the company completed the sale of its animal feed ingredients business, which no longer fit strategically.

MONSANTO AGRICULTURAL COMPANY

▲
Robert B. Shapiro, executive vice president of Monsanto Company and president of Monsanto Agricultural Company, with insect-resistant cotton, a high-potential product candidate from biotechnology research.

"Many of the things we've been working on for a long time should be turning from investments to returns on investment."

Monsanto Agricultural Company will move from products applied in pounds per acre to those used in grams per acre, to products as simple as a new seed developed through biotechnology.

Over the next five years, the markets for *Roundup* herbicide are expected to grow. "We have to generate continued growth for *Roundup* and other glyphosate-based products that not only expands our business, but also helps bring down our costs in the face of potential generic competition," says Robert B. Shapiro, executive vice president of Monsanto Company and president of Monsanto Agricultural Company.

"Every time we project our strategy into the future," he adds, "the data confirm that we're on the right track. No competitor can offer the quality, experience, customer trust and value symbolized by our trademark for *Roundup*."

As the Agricultural Company brings new crop protection chemicals to market, each must be more cost-effective than current products or address an unmet need in crop protection, and each must exceed existing environmental and health standards.

To speed approval for new crop chemistries, emphasis within the company is shifting toward expanded development programs. "The pipeline is strong," Shapiro says. "The task now is to get those products to market quickly and effectively."

Outlook: New ideas for products are backed by development plans both for the technology and for the business concepts being taken to market.

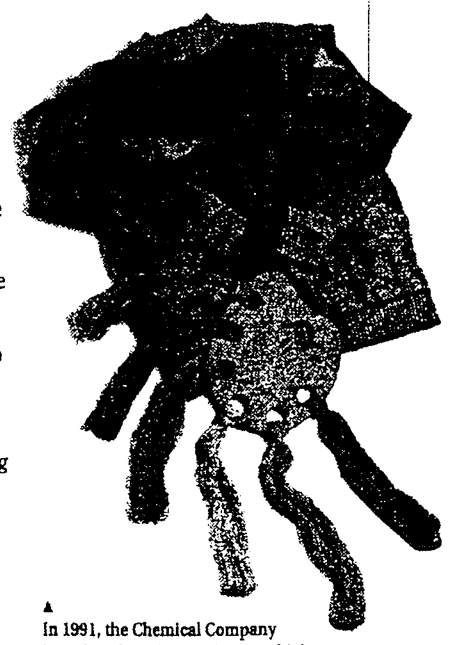
In crop chemicals, the Agricultural Company is moving from products applied in pounds per acre to herbicides used in grams per acre. In plant sciences, the company is developing products as simple as a new seed through biotechnology research.

"Biotechnology is a young field, and there's no shortage of new ideas to pursue," Shapiro says. "We have to make sure we have effective development plans both for the technology and for the business concepts we'll be taking to market.

"These technologies have the potential to transform business structures as well as agricultural practices," adds Shapiro. "We'll be exploring the whole range of commercialization approaches from licensing to partnerships to downstream integration."

MONSANTO CHEMICAL COMPANY

Monsanto Chemical Company restructures as part of its evolution toward a portfolio of high-performance, value-added products.



▲ In 1991, the Chemical Company introduced *HP APPAREL*, a new high-performance acrylic yarn for fashion apparel. This new product enhances the company's position as the No. 1 manufacturer and marketer of acrylic fiber for yarns in U.S. markets.

Monsanto Chemical Company makes performance materials that add value to products in such industries as construction, home furnishings, automotive and personal products. The Chemical Company makes the nylon and acrylic fibers for *Wear-Dated* carpet and the performance plastics for a variety of automotive and home appliance parts. It is the world's largest supplier to detergent manufacturers, the largest producer of rubber chemicals used by tire manufacturers worldwide, and the global leader in putting the "safety" in laminated safety glass with *Saflex* plastic interlayer.

Since its creation in 1986, the Chemical Company has strived for a portfolio of performance materials, rather than commodity petrochemicals. Commodity petrochemicals are priced at a narrow margin above cost. Performance materials are priced according to the contribution they make to the customer's product or process. They're often based on proprietary technology and frequently developed with the customer's active participation.

Focusing the business portfolio: Restructuring helps the Chemical Company reduce costs and better support profitable businesses.

As these types of customer relationships increase, the Chemical Company becomes more knowledge-intensive and less capital- and labor-intensive. This evolution requires adjustments in the organization.

Such an adjustment was announced in 1991, following an in-depth analysis of existing businesses in the Chemical Company. It took the form of a restructuring that includes consolidating some manufacturing operations; closing some older, less efficient plants; reducing the number of employees; and selling several businesses not compatible with the Chemical Company's strategy.

Strengthening current products: Key products grow through investment in manufacturing, product innovations and line extensions.

"The restructuring is part of a larger effort to reduce our cost of doing business," says Robert G. Potter, executive vice president of Monsanto Company and president of Monsanto Chemical Company. "We can no longer incrementally change our basic cost structure.

"For example," he adds, "the restructuring enabled us to shed about 15 percent of our total capital. We can redeploy the resources previously used for

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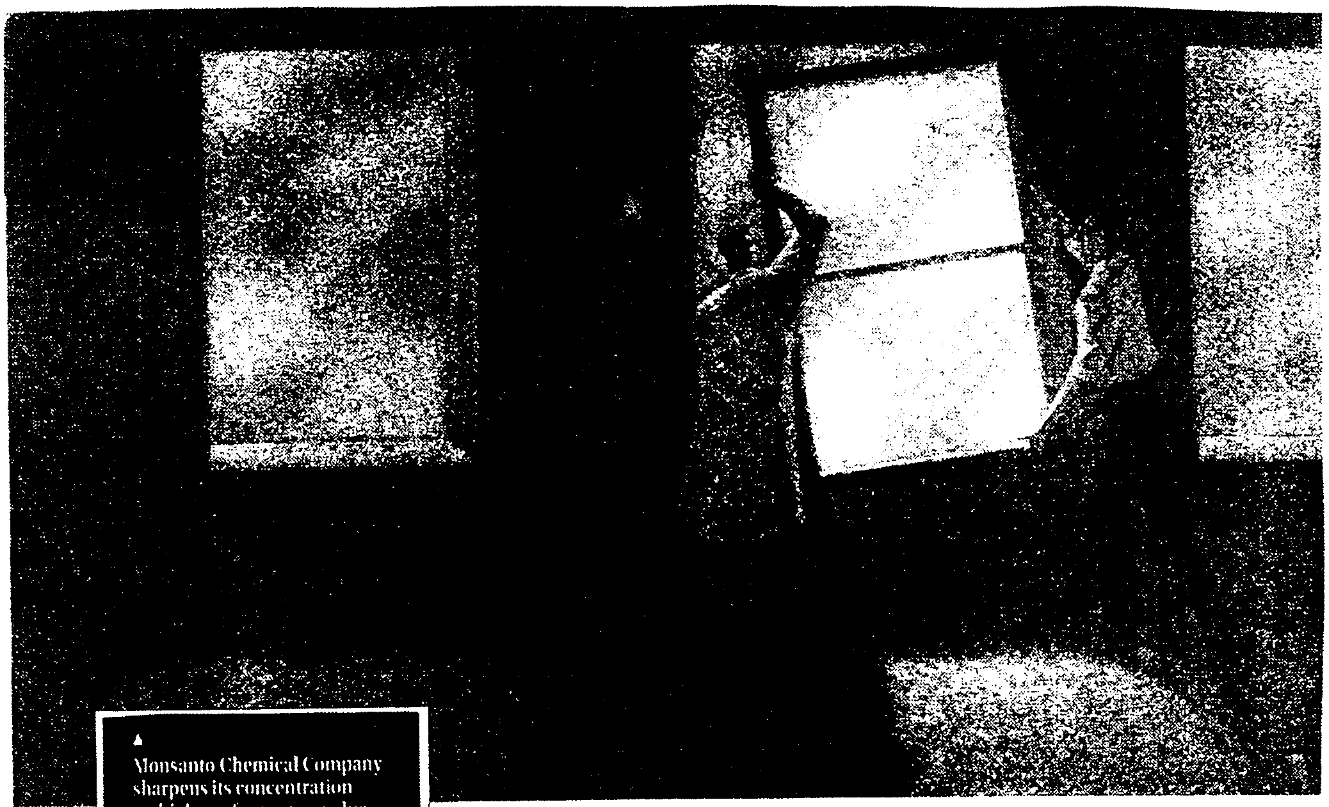

▲
Monsanto Chemical Company sharpens its concentration on high-performance, value-added products that have demonstrated the capability to be No. 1 or a strong No. 2 in their markets.

businesses now being divested into more strategic businesses that are, or could be, No. 1 or No. 2 in their markets."

Acrylic fibers is an example of the kind of business the Chemical Company supports with continuing investment in new product developments and acquisitions. In 1991, the company introduced a high-performance acrylic yarn for fashion apparel. The yarn is pill-resistant and machine washable and dryable. The apparel looks new longer, keeps its shape, and resists shrinkage.

In addition, the Chemical Company acquired *Wintuk* and *Sayelle* acrylic craft yarns from Du Pont following that company's announcement of its withdrawal from the acrylic business. These acquisitions add the top acrylic yarns for hand-knitted sweaters and afghans to the company's market-leading portfolio of specialty acrylic products.

Investing for new growth: The Chemical Company introduces the first of new performance technologies designed to supplement existing businesses.

The Chemical Company's commitment to new performance technologies paid off in 1991 with the introduction of *Flectron* metallized materials. "These products are uniform layers of metals bonded to a supporting material," says Hilliard L. Williams, vice president of technology for the Chemical Company. "Our patented process enables us to put a greater number of metals on a wider variety of fabrics, fibers, plastics and films than any other process."

The first commercial application is a line of metallized fabrics marketed by International Paper. Target customers include designers of offices, hospitals and homes who need to shield electronic equipment from electromagnetic interference.

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MONSANTO CHEMICAL COMPANY

A leaner, more focused Monsanto Chemical Company is expected to repeat its top-level financial performance of the late 1980s.

In 1988, Monsanto Chemical Company had only two products in the commercial phase of its new product pipeline. In 1991, there were 13, and they represented more than $300 million in potential sales by 1995.

"We'll roll out a continual stream of product innovations," says Robert G. Potter, executive vice president of Monsanto Company and president of Monsanto Chemical Company. "Most of them will be technical advantages, new forms of products and other customer-driven improvements to our performance materials.

"We don't have blockbuster introductions," he adds. "Our growth pattern is gradual but continuous, a constant refinement of existing products with an occasional breakthrough."

The restructuring announced in 1991 resulted in a lower cost of doing business, less capital-intensive operations, and a greater ability to continue to outperform the industry. However, roughly half the company's portfolio is involved in cyclical markets such as automotive and housing. The performance of those products will be impeded until the global economy returns to reasonable health.

Outlook: Investment in the future and a tightly focused organization will position the Chemical Company for superior performance in an expanding world economy.

Even in a difficult economy, the Chemical Company will continue to invest in its manufacturing sites. More than one-third of its capital expenditures will be deployed in support of opportunities outside the United States. In 1991, plants for *Saflex* plastic interlayer were completed in São José dos Campos, Brazil, and in Antwerp, Belgium, while a new resins manufacturing unit for *Saflex* in Ghent, Belgium, completed its second year on-line.

Some of the company's best growth potential is in Europe, where revenues exceeded $780 million in 1991. "The vast majority of everything we sell in Europe is produced there," Potter says. "That positions us well for the coming changes in the European Community." Strategic investments also will be made in Asia and Latin America, and in the company's various joint ventures.

"The Chemical Company is categorically dedicated to meeting the corporate target for return on equity," Potter says. "We hit that level in 1986, 1987, 1988 and 1989, before the double blow of a recession and an oil price shock in 1990. We believe that, with the restructuring of our portfolio and our major effort to reduce our cost of doing business, we'll be back to that exceptional level of performance as soon as the world economy regains strength."

▲
Robert G. Potter, executive vice president of Monsanto Company and president of Monsanto Chemical Company, with samples of his company's newest high-performance product, *Flectron* metallized materials.

"We're in fighting trim. I'm optimistic about our people, our portfolio and our ability to outperform our industry peers."

SEARLE

Searle succeeds with an emphasis on research, new product development and a strong presence in the major pharmaceutical markets worldwide.

Searle discovers, develops, manufactures and markets prescription pharmaceuticals in major markets worldwide. Since Monsanto acquired it, Searle has grown from sales of $665 million and an operating loss of $119 million in 1986 to sales of $1.5 billion and operating income of $170 million in 1991. Searle management has achieved these results by concentrating on discovering and developing new products and by building a strong presence in the leading world markets for pharmaceuticals.

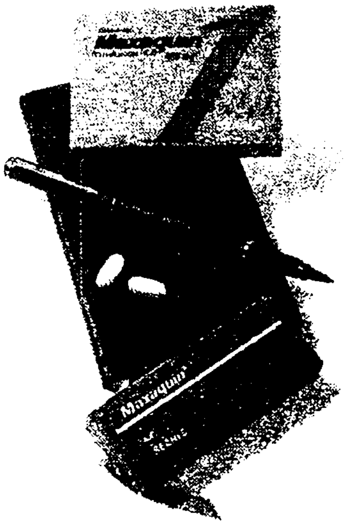
Strengthening current products: Searle builds on the strength of two of its top-selling drugs with research into new formulations and uses.

Searle's *Calan* brand calcium channel blocker is one of the top-selling pharmaceuticals in the United States. Worldwide sales of *Calan* were $508 million in 1991, up 9 percent from 1990. *Calan* has led the company's resurgence, but it no longer holds a proprietary position. To build on the product's strengths, Searle announced a project to develop an enhanced formulation of *Calan* that uses a unique, delayed-release technology. "This product offers the opportunity to extend the success of *Calan* in a way that is medically beneficial," says Joseph T. Curti, M.D., corporate executive vice president of Searle.

Investing for new growth: *Maxaquin* anti-infective agent is the first of four new drugs to receive regulatory approvals.

Cytotec ulcer preventive drug accounted for $123 million in sales in 1991, up 35 percent from 1990 sales, and it has the potential for additional significant growth. To support that growth, the company invested in a massive clinical study designed to assess the ability of *Cytotec* to prevent ulcer complications.

In addition, Searle awarded $10 million in grants to 61 scientists in the United States and Canada for research into prostaglandins and arthritis and related immune disorders. Positive findings could lead to potential new uses for *Cytotec.*



▲
Maxaquin quinolone anti-infective agent offers the advantage of once-a-day dosing. *Maxaquin* was launched or approved in nine countries in 1991 and in the United States in the first quarter of 1992.

At the end of 1991, a number of regulatory agencies worldwide were actively reviewing four important new medications from Searle: *Maxaquin*, an anti-infective agent; *Ambien*, a treatment for insomnia; and *Arthrotec* and oxaprozin, both treatments for the symptoms of arthritis.

In 1991, *Maxaquin* was launched in Mexico, Portugal and Venezuela, and approved for sale in six other countries. U. S. approval for *Maxaquin* was received

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▲ Searle competes in an industry heavily driven by new products. The Searle strategy centers around a new product pipeline that provides a steady stream of pharmaceuticals.

in the first quarter of 1992.

The chief advantage of ***Maxaquin*** over other quinolone anti-infective agents is its once-a-day dosing for all approved indications. A study in the antibiotic field shows that more patients are likely to take their medication as directed with once-a-day dosing.

Focusing the business portfolio: To strengthen its presence in Japan, Searle becomes the largest single shareowner in a major Japanese pharmaceutical company.

Searle continued to build its presence in the major pharmaceutical markets in 1991. These include the United States, the United Kingdom, Japan, Canada, France, Germany and Italy. "The one important market in the world where we do not yet have a significant presence is Japan," says Sheldon G. Gilgore, M.D., chairman and chief executive officer of Searle, "but we're doing what's necessary to get there."

Searle strengthened its presence in Japan by purchasing 12.25 percent of the shares of the pharmaceutical company Hokuriku Seiyaku Co. Ltd. That purchase makes Searle the largest single shareowner in Hokuriku.

"The strategic significance of this relationship is potentially enormous," says Richard U. De Schutter, president of Searle. "Possibilities exist for faster penetration of the Japanese market with a strong co-marketing partner and for potential worldwide licensing of Hokuriku products outside Japan."

Searle also sold some non-strategic product rights in 1991 as part of its ongoing effort to upgrade its product portfolio.

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SEARLE

▲
Sheldon G. Gilgore, M.D., chairman and chief executive officer of Searle, with the mortar and pestle symbol of pharmacy and *Calan* brand calcium channel blocker, Searle's top-selling drug.

"The products we have in the late stages of development will help us meet our objective of introducing at least one new product in a major market annually over the next five years."

A full, new product pipeline will help Searle achieve its goal of becoming a major player in the worldwide pharmaceutical industry by mid-decade.

Over the next five years, Searle intends to become a major player in the worldwide pharmaceutical industry and to achieve sales in the $3 billion range. It intends to reach that goal largely on the strength of new product introductions. The company's objective is to introduce at least one new product in one major pharmaceutical market annually.

Searle expects to get a quick start on its product introduction objective over the next five years with four important new medications that are currently in various approval stages:

▸ *Maxaquin* is a quinolone anti-infective agent with once-a-day dosing awaiting approval in Canada and major European countries. U. S. approval was received in the first quarter of 1992.

▸ *Ambien* is a treatment for insomnia that appears to preserve deep sleep with minimal unwanted aftereffects. Approval is pending in the United States, Canada and the United Kingdom.

▸ *Arthrotec* combines a leading anti-arthritis medication with the protection provided by *Cytotec* ulcer preventive drug against gastroduodenal damage. Approval is pending in Canada and major European countries.

▸ Oxaprozin is a once-a-day treatment for the symptoms of arthritis. Approval is pending in the United States.

As these and other new products enter the market, Searle expects to have at least eight product lines that each generate annual sales of $100 million or more by 1995. In 1991, the company had four; in 1986, it had one.

Outlook: Searle expects to have at least eight product lines with annual sales of $100 million or more by 1995, compared with four in 1991 and one in 1986.

Searle will also concentrate on building a stronger over-the-counter pharmaceutical business during the next five years.

"We have a credible over-the-counter presence in Europe right now," says Sheldon G. Gilgore, M.D., chairman and chief executive officer of Searle. "One of our strategic objectives is to establish a significant over-the-counter presence in the United States and Japan. Our goal is to have it happen sooner rather than later, but it's not easy. Over-the-counter competition is strong."

In the past five years, Searle has become a product-rich company. As new products exit the pipeline over the next five years, others will enter. "We're working now to make sure the pipeline is continually replenished," Gilgore says.

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THE NUTRASWEET COMPANY

The NutraSweet Company focuses on offering the best value to its customers for *NutraSweet* brand sweetener and on being the low-cost manufacturer of aspartame.

The NutraSweet Company manufactures *NutraSweet* brand sweetener, *Equal* tabletop sweetener and *Simplesse* all natural fat substitute. Today, market research indicates that the logo and trademark for *NutraSweet* are recognized by 98 percent of U.S. consumers.

In 1991, the company celebrated the 10th anniversary of *NutraSweet*. With a decade of success under its belt, the company has been fine-tuning its strategy to prepare for U.S. patent expiration of *NutraSweet* in December 1992.

This competitive strategy centers on offering the best value to the customer and on being the low-cost manufacturer of aspartame, the generic name for *NutraSweet*.

Strengthening current products: The celebration of the 10th anniversary of *NutraSweet* brand sweetener marked both a successful past and a challenging future.

As the maker of a branded ingredient whose logo appears on its customers' packaging, the company also creates growth opportunities for customers by stimulating expansion of the healthy food and beverage categories.

"Our soft drink customers are most profitable when they increase volume and subsequently reduce the costs of their product offering," says J. Richard Darnaby, group vice president and general manager at The NutraSweet Company. "We have to be part of their growth in the marketplace and help make them more efficient from a manufacturing standpoint."

On the production side, The NutraSweet Company has both the economies of scale and the process technologies to be the low-cost manufacturer. NutraSweet's manufacturing people also take a partnership approach to working with customers to continually add value to their products.

"We went to several of our customers and asked them what we could do to add value to their operations when they use our product," says Donald J. Minarich, vice president of operations and technology. "They said our product was too dusty and didn't flow well, and they found it was costly to open our 25-kilogram drums."

Investing for new growth: *Simplesse* all natural fat substitute is launched in new food categories, including low-fat spreads, yogurt, cheese and cheese spreads.

In response, the company developed a granular form of *NutraSweet* brand sweetener. It's not as dusty and flows more smoothly. It's now shipped in a package

A new formulation of *Simplesse* all natural fat substitute received U.S. clearance for use in all food categories in 1991. *Simplesse* is a key ingredient used worldwide to reduce fat in foods, including low-fat spreads, yogurt, cheese, cheese spreads and frozen desserts.

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▲ The NutraSweet Company sells its products in more than 50 countries. With new offices in Europe and a European plant under construction, the company is taking steps to increase sales worldwide.

NutraSweet

16 times larger than the drums, which makes it more efficient for major customers.

Seeking to add growth opportunities in the fat substitution category, the company launched the second phase of *Simplesse* all natural fat substitute in 1991.

The first phase was a limited-use petition granted by the U.S. Food and Drug Administration (FDA) in 1990 that focused on the frozen dessert category. Two customers launched products in that category in 1991. Baskin-Robbins Inc., the largest ice-cream chain in the United States and Canada, introduced three fat-free flavors that contain *Simplesse*. Eli's Chicago's Finest Cheesecake also introduced Eli's E'Lights cheesecake, the first baked frozen dessert with *Simplesse* all natural fat substitute.

Focusing the business portfolio: Reorganization improves The NutraSweet Company's customer focus and reduces costs.

The second phase was clearance for use in additional food categories. In 1991, the FDA agreed that a new formulation of *Simplesse* could be used in any food category. Several new products with *Simplesse* were subsequently introduced, including low-fat spreads, yogurt, cheese, cheese spreads and additional frozen desserts.

In a major structural adjustment in 1991, The NutraSweet Company reorganized to align with its markets. The line organization is now divided into the carbonated soft drink/tabletop group and the food ingredients group. This change enables the company to serve its customers better and to reduce costs.

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THE NUTRASWEET COMPANY

Future success for The NutraSweet Company will stem from global expansion, diversified product lines and a potential new sweetener.

▲
Robert E. Flynn, chairman and chief executive officer of The NutraSweet Company, with gumballs symbolic of the 10th anniversary of *NutraSweet* brand sweetener, celebrated in 1991.

"We intend to prove to the world that we can be successful without patent protection."

The next five years will be the proving ground for The NutraSweet Company's ability to prosper without U.S. patent protection for *NutraSweet* brand sweetener. It already competes with generic products in Europe and other world areas. The U.S. patent expires in December 1992.

The NutraSweet Company has prepared for a more competitive market by lowering its manufacturing costs and improving service to its customers. A diversified line of products based on *NutraSweet* will be offered to meet the needs of different customers' production processes. These products will add new value for the customer.

The company also anticipates lower prices for *NutraSweet* brand sweetener post-patent. Lower prices, though, could result in expanded opportunities for *NutraSweet*, as it becomes economically viable for a new range of markets.

Europe is the world's fastest-growing market for *NutraSweet*. Ground was broken in 1991 for a plant to manufacture *NutraSweet* brand sweetener in Gravelines, France. The plant is a joint venture with Ajinomoto Co. Inc., a Japanese food ingredient company and long-time partner of The NutraSweet Company.

"The Gravelines plant will allow us to be more responsive to our customers in Europe," says Nick E. Rosa, group vice president of NutraSweet Europe, "and it will increase our profitability in the European Community."

> Outlook: A new European plant for *NutraSweet* brand sweetener will help The NutraSweet Company serve customers in its fastest-growing market.

The company also is developing its next generation sweetener, called Sweetener 2000. Sweetener 2000 tastes almost identical to sugar, but is about 10,000 times sweeter. Its value lies in large-scale operations, such as carbonated soft drinks. A tiny amount of Sweetener 2000 can replace large volumes of sugar.

"Sweetener 2000 will entirely change the way we look at sweetening," says Michael L. Losee, Ph.D., senior vice president of research and development. "If we get approval to commercialize this product, we're talking about a cost structure that's down to fractions of a penny per pound." In addition to being a low-calorie alternative to sugar, Sweetener 2000 has a tremendous price advantage that will make it a serious mainstream competitor against sugar among the food and beverage companies.

"If all goes well," says Robert E. Flynn, chairman and chief executive officer of The NutraSweet Company, "we view it as a probable commercial product by the end of the decade."

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FISHER CONTROLS INTERNATIONAL

Fisher Controls continues product developments that offer its customers timely information and improved productivity.

The business of Fisher Controls is to manage the processing of material. The material can be anything from broth moving through a soup factory to natural gas moving through a pipeline to a furnace's pilot light. Fisher makes the control equipment that adjusts the amount of material passing through a system, as well as the electronic instrumentation that tells the equipment what to do when.

PROVOX instrumentation is the hub of the automation highways that have evolved in manufacturing plants over the past decade. As plants automated, they built different data bases for production, inventory and process variables. Customers now want all of these data bases to interact. They also want quick, ready access to information so that they can make decisions faster and better.

Strengthening current products: Modifications in *PROVOX* instrumentation are aimed at a new era of open communications among a customer's many data bases.

Recognizing this trend, Fisher Controls made a number of improvements in *PROVOX* in 1991, establishing Fisher as the instrumentation leader in open communications. The company is working closely with computer and software vendors to ensure that their products communicate by design, instead of by cumbersome special arrangements.

"In the past, we designed our system, and the computer and software people designed theirs. We all went our separate ways," says Sandy L. Bailey, marketing director for system introduction. "When we tried to make our systems talk to each other, we found that we had overlaps in some places and gaps in others. Now we're designing a system that brings our world and the computer world together."

Investing for new growth: New products enable Fisher Controls to open new markets and to maintain established market shares.

A compact version of *PROVOX*, *microPROVOX* instrumentation, was introduced in 1991. "We had two objectives," says W. Bruce Johnson, product manager. "One was to increase our business for *PROVOX* by handling small applications for existing customers better. The other was to expand the customer base to add those customers whose needs don't justify a large-scale system."

Fisher also introduced *ROC 364* remote operations controller to perform monitoring and control functions away from the plant site.

Fisher Controls' *ROC 364* monitors and controls remote or isolated sites in the oil and gas industry. *ROC 364* is an example of Fisher's ability to provide electronic control devices wherever they are needed.

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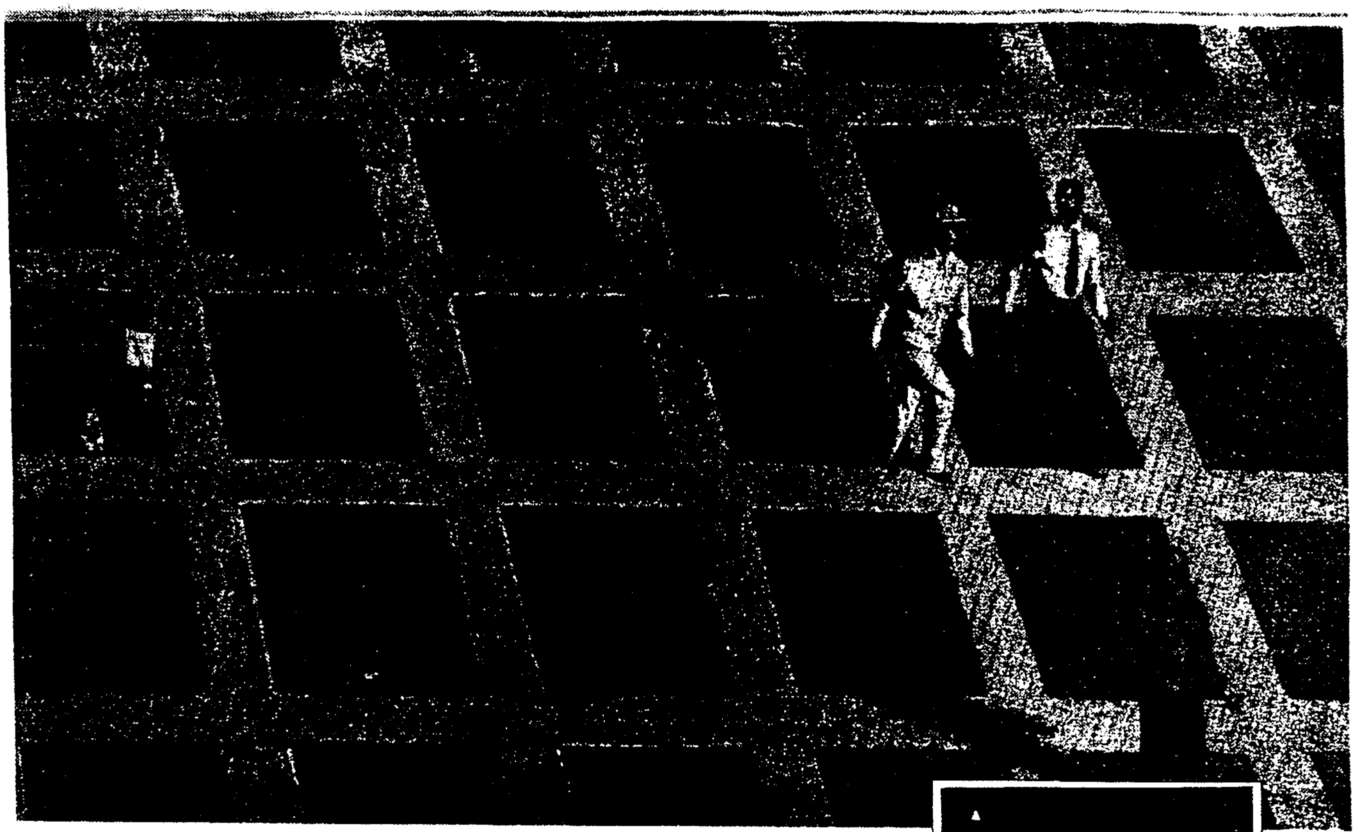

▲
Fisher Controls is working to break down barriers among all the systems involved in running a modern process plant. The goal is a free flow of timely information that will mark the beginning of a new era of productivity in manufacturing.

"We designed *ROC 364* primarily for applications in the oil and gas industry," says Carter B. Cartwright, market manager. "But the equipment has applications in many industries. *ROC 364* has been used on an air force base for jet fuel management, at mines for water control, and in the food industry. The opportunities for *ROC 364* are numerous because customers can readily tailor this product to their specific needs."

Focusing the business portfolio: Restructuring and the sale of Permea Inc. tighten Fisher Controls' focus on its core businesses.

In control valves, the V-line rotary valve family was introduced in 1991. This expands the business potential for Fisher Controls, because most of its valve business has traditionally come from sliding stem valves. The product was first designed for the pulp and paper industry.

"In recent years, we started to see strong competitive pressures on our traditional control valve business from non-traditional suppliers of rotary valve products," says Julie A. Leach, business director for power and pulp and paper.

Fisher developed the V-line rotary valve family to meet this competition and to open new markets. "We've always supplied a full line of valves for mill operations in the pulp and paper industry," Leach says. "The new V-line rotary family allows us to expand our coverage into pulping operations."

With an eye toward streamlining the product portfolio and focusing on its process management strengths, Fisher Controls restructured part of its process instrumentation business in 1991 and sold its Permea Inc. gas separation subsidiary.

FISHER CONTROLS INTERNATIONAL

▲
Larry W. Solley, chairman and chief executive officer of Fisher Controls International, with a control valve representing his company's global leadership in this market.

"The enterprise of the 1990s will see a drive toward integrating all systems to allow customers to use and access data fully for new levels of productivity."

Fisher Controls is changing the way modern process plants operate, which in turn is leading to new growth for Fisher.

Fisher Controls is applying new technologies that within five years will change the way process plants operate. Process plants are found in the chemical, power, oil and gas, pulp and paper, food and beverage, and pharmaceutical industries — all part of Fisher's customer base.

Currently, these plants are managed with instrumentation systems that monitor, communicate and control electronic signals in all parts of the plant. The final control link must always convert the electronic signal to a pneumatic signal because the hundreds of control valves in a process plant are activated by air.

Fisher Controls, with its *PROVOX* instrumentation, is one of several companies that compete for a share of the automated control room business. However, Fisher is the only one of those companies that has a significant control valve business, and Fisher is the worldwide leader in automatic control valves.

"We're developing the technology to replace the pneumatic control on our valves with digital electronics," says Larry W. Solley, chairman and chief executive officer of Fisher Controls. "The result will be smart valves.

"Smart valves are the final link in the drive to put all our devices on one electronic highway communicating directly with the control room," he adds. "That will open new opportunities for managing modern process plants."

By combining smart valves with *PROVOX* instrumentation, Fisher will gain unique opportunities for growth. Changes in these product lines are a response to customers' needs for faster, better decision making.

> Outlook: Fisher Controls targets its new growth in select industries where it has an established position.

"We see customers worldwide seeking new ways to achieve quality, environmental and productivity improvements," Solley says. "We've targeted the industries where we have an established position and an acknowledged expertise. When we get our valves digitally communicating with *PROVOX*, and *PROVOX* is integrated with other systems in the plant, it will be possible to access data as never before. This will open new horizons for our customers."

Fisher looks to these new horizons as the catalyst for achieving its financial goals. "We're currently feeling the effects of the recession," Solley says, "but we've taken actions that allow us to manage our assets better. When the economy grows stronger, we'll be back on track to meet the corporate objective for return on equity."

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FINANCIAL SECTION CONTENTS

Unless otherwise indicated by the context, "Monsanto" means Monsanto Company and consolidated subsidiaries, and "the Company" means Monsanto Company only. All dollars are in millions, except per share data.

MANAGEMENT REPORT

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

Management also is 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 data. 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 December 31, 1991, is effective and adequate to accomplish the above described objectives.

Richard J. Mahoney
Chairman and
Chief Executive Officer

Francis A. Stroble
Senior Vice President and
Chief Financial Officer

February 28, 1992

AUDIT COMMITTEE REPORT

The Audit Committee is composed of five non-employee members of the Board of Directors and met four times in 1991. It 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 approves in advance all significant audit and non-audit services provided by such auditors. As ratified by shareowner vote at the 1991 annual meeting, Deloitte & Touche were appointed as independent auditors to examine, and express an opinion as to the fair presentation of, the consolidated financial statements. This opinion follows.

The Audit 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 financial reporting. The Committee encourages the internal auditors and Deloitte & Touche to communicate directly with the Committee.

The Audit 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.

Buck Mickel
Chairman, Audit Committee

February 28, 1992

INDEPENDENT AUDITORS' OPINION

To the Shareowners of Monsanto Company:

We have audited the accompanying statement of consolidated financial position of Monsanto Company and Subsidiaries as of December 31, 1991 and 1990, and the related statements of consolidated income, shareowners' equity and cash flow for each of the three years in the period ended December 31, 1991. 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 at December 31, 1991 and 1990, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1991, in conformity with generally accepted accounting principles.

Deloitte & Touche

Deloitte & Touche
St. Louis, Missouri

February 28, 1992

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STATEMENT OF CONSOLIDATED INCOME

(Dollars in millions, except per share)	1991	1990	1989
Net Sales	**$8,864**	$8,995	$8,681
Cost of goods sold	**5,125**	5,366	5,035
Gross Profit	**3,739**	3,629	3,646
Marketing expenses	**1,195**	1,270	1,154
Administrative expenses	**578**	523	516
Technological expenses	**711**	692	672
Amortization of intangible assets	**239**	235	226
Restructuring expense — net	**446**		
Operating Income	**570**	909	1,078
Interest expense	**(169)**	(179)	(182)
Interest income	**65**	52	57
Other income (expense) — net	**(24)**	27	62
Income Before Income Taxes	**442**	809	1,015
Income taxes	**146**	263	336
Net Income	**$ 296**	$ 546	$ 679
Earnings per Share	**$ 2.33**	$ 4.23	$ 5.01

The above statement should be read in conjunction with pages 44 through 49 of this report.

KEY FINANCIAL STATISTICS	1991	1990	1989
Percent Change From Prior Year:			
Net Sales	**(1)%**	4%	5%
Gross Profit	**3**	—	10
Operating Income	**(37)**	(16)	13
Net Income	**(46)**	(20)	15
Earnings per Share	**(45)**	(16)	21
As a Percent of Net Sales:			
Gross Profit	**42**	40	42
Marketing, Administrative and Technological Expenses	**28**	28	27
Research and Development Expenses	**7**	7	7
Operating Income	**6**	10	12
Net Income	**3**	6	8
Effective Income Tax Rate	**33**	33	33
Return on Shareowners' Equity	**7.6**	13.6	17.6

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MONSANTO OPERATING RESULTS WERE REASONABLY STRONG

In 1991, Monsanto's operating performance was reasonably strong considering the depressed economic climate in several of Monsanto's major markets. Strong performance by most of Monsanto's key products and a continued focus on strategic strengths were the hallmarks in 1991. Monsanto's performance is now far less dependent on economic conditions than in the early 1980s due to the change in the business portfolio mix.

RESTRUCTURING AFFECTS 1991 FINANCIAL RESULTS

In October 1990 and June 1991, the Board of Directors approved restructuring steps to strengthen the Agricultural Products, Chemicals and Fisher Controls units and the corporate staff for the future. Net income for 1991 declined 46 percent because of the $325 million, $2.54 per share, after-tax restructuring charge. This charge, principally affecting the Chemicals unit, was recorded for the shutdown and consolidation of various facilities, reductions in employment, and the sale of certain businesses that are not consistent with Monsanto's long-term strategic goals. Earnings per share were 45 percent lower in 1991.

NET SALES WERE SECOND-BEST IN HISTORY

Despite the decision to dispose of various non-strategic businesses, the lack of economic recovery in the United States and a slowdown in the European economy, net sales for 1991 were down only slightly from that of the prior year and still were the second-best in Monsanto's history. Modest sales volume growth in continuing businesses was more than offset by the lack of sales for businesses divested or planned for divestment. Average selling prices were marginally lower than those in 1990. Net sales in markets outside the United States represented 42 percent of Monsanto's total net sales in 1991.

Net sales for Pharmaceuticals, Agricultural Products and NutraSweet increased, while net sales for Fisher Controls were about the same as in the prior year. Net sales for Chemicals declined. Pharmaceuticals net sales growth was led by the *Calan* family of calcium channel blockers, up 9 percent; *Cytotec* ulcer preventive drug, up 35 percent; and *Canderel* tabletop sweetener, which is made with *NutraSweet* brand sweetener, up 11 percent. Net sales for Agricultural Products grew as weather conditions improved in most key markets. In addition, 1991 strategic price reductions in certain countries for *Roundup* glyphosate-based herbicide generated higher sales volume. Glyphosate sales volume increased 17 percent worldwide. NutraSweet's sales volume increased 5 percent, while selling prices decreased. Fisher Controls experienced lower 1991 sales volume; however, this decline was compensated for by higher average selling prices. Chemicals net sales for 1991 were lower as a result of discontinued product lines and lower demand caused by the depressed North American automotive industry, the delayed U.S. economic recovery and a slowdown in the European economy.

OPERATING RESULTS MIXED

Operating income declined 37 percent in 1991. However, excluding the $446 million pretax restructuring charge, operating income would have increased about 12 percent. Operating results in 1991 were helped by lower raw material costs and improved sales volume and mix from continuing products. The effect of Chemicals lower manufacturing capacity utilization reduced earnings when compared with 1990.

Agricultural Products and Pharmaceuticals operating income increased in 1991, while operating results declined for Chemicals, Fisher Controls and NutraSweet. Agricultural Products operating income benefited from higher sales volume, lower manufacturing costs and cost savings from restructuring actions implemented in late 1990. Operating income for Pharmaceuticals increased in 1991, primarily because of strong volume growth in key products, higher average selling prices and gains from the divestiture of non-strategic product rights. The profit improvement was partially offset by the December 1990 divestiture of several consumer products to a third party under a prior agreement. Chemicals incurred an operating loss compared with operating income in 1990, because of its restructuring expense. Operating results for Chemicals were helped by lower petrochemical-based raw material costs and hurt by the effect of lower sales volume, lower selling prices, and lower manufacturing capacity utilization. NutraSweet operating income benefited from higher sales volume, but was adversely affected by lower selling prices.

Fisher Controls reported its second-best year; however, operating income was down because of recessionary pressures on volume and a shift in product mix.

Marketing expenses decreased 6 percent in 1991, because of lower advertising and promotional expenses. Administrative expenses increased in 1991, in part because of higher 1991 incentive compensation.

"Other income (expense) — net" in 1991 decreased, principally because the prior year included higher gains from divestitures.

PRINCIPAL FINANCIAL TARGET REMAINS 20 PERCENT RETURN ON SHAREOWNERS' EQUITY

Management's principal financial target is to reach and sustain a 20 percent return on shareowners' equity (ROE). Although the 1991 restructuring charge resulted in ROE declining to 7.6 percent in 1991 from 13.6 percent in 1990, management believes the target is appropriate.

PRODUCT DEVELOPMENT AND COMMERCIALIZATION ARE TOP PRIORITY

New product development and commercialization continue to be the most important strategic priority for Monsanto. Research and development expenditures were $627 million in 1991, 7 percent of net sales, a level that reflects management's strong, long-term commitment to research and development. A major investment continues to be the discovery and development of pharmaceutical and agricultural products. Research in existing product technology and new applications also continues across all business units. University collaborations and product licensing are an integral part of Monsanto's research program. The result is that Monsanto has many potential products in the research and development pipeline, several of which should be commercialized over the next few years.

PRIOR YEAR REVIEW

Net income in 1990 declined 20 percent and earnings per share decreased 16 percent compared with that of 1989. The decline in net income was caused by dramatically higher costs for petrochemical-based raw materials during the latter part of the year, extreme weather conditions in key world agricultural markets and, to a lesser extent, depressed automotive and construction industries in North America. However, Pharmaceuticals, Fisher Controls and NutraSweet had record performances in 1990. Although benefiting from Monsanto's treasury stock purchase program, ROE was lower than that of 1989.

Net sales in 1990 of $9 billion, up 4 percent from 1989, were the highest in Monsanto's history. Sales volume increased 2 percent. The selling price increase was entirely due to the effect of translating non-U.S. dollar denominated sales into a generally weaker U.S. dollar. Net sales in markets outside the United States continued to be significant, 42 percent of Monsanto's 1990 total net sales.

Monsanto's worldwide sales growth was led by Pharmaceuticals. Net sales of the *Calan* family of calcium channel blockers grew 28 percent, and net sales of *Cytotec* ulcer preventive drug grew 52 percent. Fisher Controls net sales increased with higher selling prices and sales volume. Sales volume of NutraSweet increased, while average selling prices decreased. Sales volumes of Agricultural Products were hurt by adverse weather conditions. In addition, selling price reductions for *Roundup* glyphosate-based herbicide were implemented, principally in Europe. Despite the effect of adverse weather conditions, worldwide sales volume of *Roundup* was slightly above that of 1989. Chemicals net sales were about level with the prior year. Chemicals benefited from continued strong European business, but was hurt by lower demand caused by the depressed North American automotive and construction industries.

Operating income declined 16 percent in 1990. Operating results were helped by improvements in sales volume and mix. However, higher raw material and other manufacturing costs, the effect of lower manufacturing capacity utilization and a 10 percent increase in marketing expenses reduced earnings compared with those of 1989. The higher marketing expenses were concentrated on NutraSweet's *Simplesse* all natural fat substitute and *Simple Pleasures* frozen dairy dessert and on Pharmaceuticals product launches.

Agricultural Products operating income declined, as the modest sales volume growth in glyphosate herbicides did not compensate for the reduction in selling prices for those products. In addition, Agricultural Products operating income was hurt by the effect of low use of new manufacturing capacity and higher raw material costs. Chemicals operating income was hurt by increased costs of petroleumbased raw materials, lower sales volume and the effect of lower manufacturing capacity utilization. Pharmaceuticals operating income improved primarily as a result of continued sales volume growth. Fisher Controls operating income surged 48 percent as a result of selling price improvements, strong customer demand and improved production turnaround of booked orders. NutraSweet operating income increased slightly, as the benefit of higher sales volume was reduced by costs associated with new product introductions and lower average selling prices.

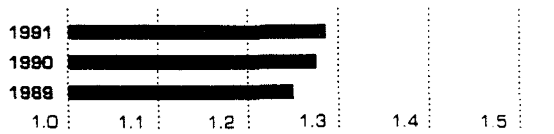
"Other income (expense) — net" decreased in 1990, due primarily to higher 1990 currency losses and higher losses from affiliated companies in which Monsanto does not have management control. Gains from divestitures in 1990 were comparable to those of the prior year. A $45 million pretax gain — $31 million aftertax, or $0.24 per share — was realized on the sale of certain assets of a Monsanto joint venture in Japan, the principal divestiture in 1990.

ANALYSIS OF CHANGE IN EARNINGS PER SHARE — BETTER (WORSE)

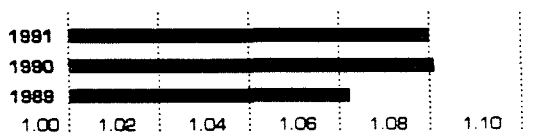
	1991 vs. 1990	1990 vs. 1989
Sales-Related Factors:		
Selling prices	$ (0.19)	$ 0.72[1]
Sales volume and mix	0.43	0.77
Total Sales-Related Factors	0.24	1.49
Cost-Related Factors:		
Raw material costs	0.98	(0.57)
Manufacturing capacity utilization	(0.26)	(0.38)
Other manufacturing costs	(0.02)	(0.74)
Marketing, administrative and technological expenses	(0.24)	(0.70)
Total Cost-Related Factors	0.46	(2.39)
Other Factors:		
Restructuring — net	(2.54)	
Divestitures	(0.18)	0.11
Total Other Factors	(2.72)	0.11
Operating Income	(2.02)	(0.79)
Interest expense	0.05	0.02
Interest income	0.06	(0.02)
Other income (expense) — net	(0.25)	(0.17)
Change in income taxes	0.22	(0.03)
Change in shares outstanding	0.04	0.21
Change in Earnings per Share	$ (1.90)	$ (0.78)

[1] *Increase was entirely due to the effect of translating non-U.S. dollar denominated sales into a generally weaker U.S. dollar.*

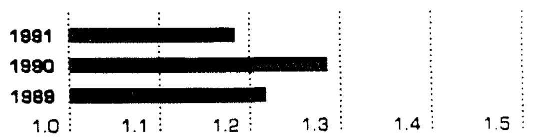
SALES VOLUME INDEX *(1986 - 1.0)*



SELLING PRICE INDEX *(1986 - 1.0)*



RAW MATERIAL COST INDEX *(1986 - 1.0)*



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OPERATING UNIT SEGMENT DATA

	Net Sales			Operating Income (Loss)[1]			Research and Development		
	1991	1990	1989	1991	1990	1989	1991	1990	1989
Agricultural Products	$1,711	$1,676	$1,717	$400	$327	$ 432	$140	$151	$162
Chemicals	3,740	4,035	4,065	(154)	297	497	105	115	104
Fisher Controls	928	927	852	84	95	64	17	17	17
NutraSweet	954	933	869	173	183	180	41	41	39
Pharmaceuticals	1,531	1,424	1,178	170	93	6	259	228	218
Biotechnology Product Discovery				(57)	(52)	(47)	57	52	47
Corporate				(46)	(34)	(54)	8	8	11
Total	$8,864	$8,995	$8,681	$570	$909	$1,078	$627	$612	$598

	Total Assets			Capital Expenditures			Depreciation and Amortization		
	1991	1990	1989	1991	1990	1989	1991	1990	1989
Agricultural Products	$1,592	$1,668	$1,489	$ 93	$134	$ 148	$104	$124	$106
Chemicals	3,162	3,163	2,993	300	340	300	272	260	247
Fisher Controls	631	647	634	37	39	29	37	35	31
NutraSweet	1,155	1,296	1,344	58	113	49	233	218	215
Pharmaceuticals	2,342	2,085	1,814	96	112	71	94	87	79
Biotechnology Product Discovery	51	59	54	5	8	6	9	13	10
Corporate	294	318	276	2	4	4	2	2	2
Total	$9,227	$9,236	$8,604	$591	$750	$ 607	$751	$739	$690

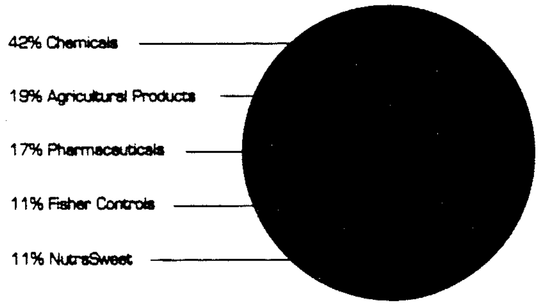
[1]Operating income in 1991 was affected by the restructuring program as follows:

	Income (Expense)
Operating Unit:	
Agricultural Products	$ 30
Chemicals	(478)
Fisher Controls	7
Corporate	(5)
Total	$ (446)

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 manage working capital, control costs, improve productivity and raise selling prices where government regulations and competitive conditions permit. In addition, it is estimated that the current cost of replacing certain assets is greater than their historical cost presented in the financial statements. Accordingly, the depreciation expense reported in the Statement of Consolidated Income would be greater if the expense were stated on a current cost basis.

Sales between operating units were not significant. Certain corporate expenses, primarily those related to the overall management of Monsanto, were not allocated to the operating units or geographic areas. Corporate assets principally include certain miscellaneous receivables and investments.

1991 NET SALES *(Percent by operating unit)*



The principal factors that accounted for the operating units' performance in 1991 and 1990, 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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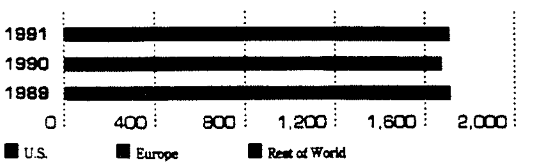
AGRICULTURAL PRODUCTS

	1991	1990	1989
Net Sales:			
Crop chemicals	$ 1,551	$ 1,508	$ 1,558
Animal feed ingredients	160	168	159
Total	$ 1,711	$ 1,676	$ 1,717
Operating Income	400	327	432

The Agricultural Products operating unit is a leading worldwide producer and marketer of herbicides, including *Roundup, Lasso, Far-Go, Avadex* and *Machete* herbicides. More than half of the unit's herbicide net sales are made to markets outside the United States. Weather conditions in the agricultural markets throughout the world affect sales volume.

AGRICULTURAL PRODUCTS NET SALES *(Dollars in millions)*



During 1990 and 1991, the Agricultural Products unit was restructured. The restructuring included the reorganization of the operating unit along product lines and the decision to sell the animal feed ingredients business. Reductions in employment also occurred through an early retirement incentive and other programs. Restructuring costs of $108 million were deferred in 1990 and expensed in 1991 when the animal feed ingredients business was sold at a gain, which exceeded the deferred restructuring costs. An overall pretax gain of $30 million resulted from the Agricultural Products restructuring and is included in 1991 operating income. Operating income for the subsequently divested animal feed ingredients business was $30 million, $30 million and $26 million for 1991-1989, respectively.

Agricultural Products operating income grew substantially in 1991, as weather conditions improved in certain key country markets. Lower raw material and other manufacturing costs, along with cost savings resulting from the restructuring, also helped to improve operating income. Net sales in 1991 increased 2 percent, while operating income improved 22 percent. Excluding the restructuring gain, operating income would have increased about 13 percent from 1990. The principal factors for the change in operating income were:

	1991 vs. 1990 Better (Worse)
Selling prices	$ (31)
Sales volume and mix	48
Raw material and other manufacturing costs	53
Restructuring	30
Divestitures	(38)
Other	11
Change in operating income	$ 73

Despite a poor farm economy in Australia, Southeast Asia and Canada and poor weather in Australia and, in the second half of 1991, Western Europe, worldwide sales volume of glyphosate herbicide increased 17 percent, benefiting from improved weather conditions in the United States and certain other key country markets. Reductions in selling prices, principally in the United States, on most glyphosate products and new formulations continued to benefit glyphosate sales volume by making the herbicide cost-effective for weed control for a broader range of crop, industrial and residential uses.

Profitability on *Lasso* herbicide increased significantly because of the combination of improved cost management and a selling price increase, partially offset by a decrease in sales volume. Market share for *Lasso* herbicide declined slightly during 1991.

Net sales and profitability of *Avadex* herbicide decreased in 1991 due primarily to the poor farm economy in Canada.

Total manufacturing capacity utilization for Agricultural Products was 61 percent and 60 percent in 1991 and 1990, respectively.

Biotechnology-produced bovine somatotropin (BST), a naturally occurring protein that has been shown in research studies to enhance the efficiency of milk production in dairy cows, is awaiting approval by the U.S. Food and Drug Administration (FDA). Expenditures for BST, while slightly less than those in the prior year, continued to affect financial results adversely.

In 1990, Agricultural Products net sales and operating income decreased 2 percent and 24 percent, respectively, as compared with that of 1989. Droughts in Europe and California, extremely wet weather in the southern United States, and a freeze in Florida that damaged the citrus crop combined to limit the growth in 1990 sales volume of glyphosate herbicides to a modest increase. Operating income in 1990 declined, because the sales volume growth

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in glyphosate herbicide did not compensate for the ongoing selling price reductions for this product. In addition, operating income was hurt by the effect of low use of expanded plant capacity and higher raw material costs.

Net sales for *Lasso* herbicide decreased 5 percent in 1990. Selling prices increased for *Lasso* herbicide, but sales volume declined 13 percent. Sales volume of *Lasso* declined because of a shift in the timing of customer purchases and a slight drop in market share. Net sales of *Avadex* herbicide decreased 17 percent in 1990 because of adverse weather in North America, a poor farm economy in Canada and poor economic conditions in the former Soviet Union.

OUTLOOK AGRICULTURAL PRODUCTS

Patents protecting glyphosate herbicide in various countries expired during 1991, while compound per se patent protection for the active ingredient in *Roundup* herbicide continues in the United States into the year 2000. Management expects that continued strategic selling price reductions will continue to increase demand for glyphosate herbicide, and manufacturing process patents that are important to Monsanto's cost position will maintain our competitive position after the expiration of the other patents.

Agricultural Products has a significant number of new products in the research and development pipeline and some that are currently in the initial stages of commercialization. The focus continues to be on a number of chemical and biotechnology related products. In 1991, *Dimension* herbicide, for the effective control of crabgrass, received regulatory approval for sale in the United States. In addition, several new products for weed control in turf and rice production received regulatory approval for sale in Japan. These newly approved products are based on dithiopyr, a compound from Monsanto's new pyridine class of proprietary chemistry.

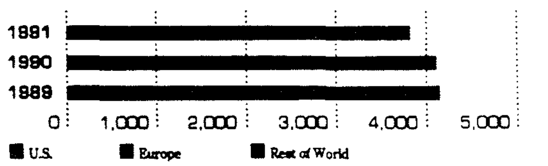
BST will have significant value to the dairy industry through the reduction of milk production costs, but it continues to meet opposition from certain groups. BST has been approved in eight countries, but not yet in the United States. Management believes BST will be approved in the United States. However, if U.S. approval is not received, a material charge to earnings could result. Monsanto is continuing to maintain the technical and commercial capabilities needed to secure regulatory approvals and to launch the product.

CHEMICALS

	1991	1990	1989
Net Sales:			
Fibers	**$ 974**	$ 971	$ 986
Performance products	**648**	668	644
Plastics	**710**	850	855
Resins	**683**	660	646
Rubber and process chemicals	**482**	530	525
Engineered products	**145**	137	134
Discontinued products	**98**	219	275
Total	**$ 3,740**	$ 4,035	$ 4,065
Operating Income (Loss)	**(154)**	297	497

The Chemicals operating unit produces a wide range of chemicals, plastics, fibers and other products listed in the table above. The unit's principal strengths are nylon carpet fiber, high-performance plastics, *Saflex* plastic interlayer, detergent ingredients, phosphates and rubber chemicals.

CHEMICALS NET SALES *(Dollars in millions)*



A significant part of the restructuring approved by Monsanto's Board of Directors in June 1991 affected the Chemicals unit. The restructuring steps include the shutdown and consolidation of various facilities, the reorganization of some businesses and the decision to dispose of certain non-strategic businesses.

Reductions in employment also occurred through an early retirement incentive and other programs. A pretax restructuring charge of $478 million resulted in the 1991 operating loss for Chemicals. Net sales in the table above have been restated to conform to the new organizational structure.

Chemicals net sales for 1991 were 7 percent below 1990, principally as a result of discontinued product lines and lower sales volumes of continuing businesses. An analysis of the change in operating income is provided on the following page:

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	1991 vs. 1990 Better (Worse)
Selling prices	$ (33)
Sales volume and mix	(30)
Manufacturing capacity utilization	(52)
Raw material costs	181
Restructuring	(478)
Other	(39)
Change in operating income	$ (451)

Sales volumes of continuing businesses in 1991 were down, a reflection of the lack of U.S. economic recovery, the lowest North American automotive production level since 1983, and the slowdown in the European economy. Raw material costs were lower in 1991 following the resolution of the Middle East crisis. The cost of petrochemical-based raw materials had temporarily escalated because of the Middle East crisis during the latter part of 1990. Cost containment programs also benefited operating income in 1991. Capacity utilization, an important factor for Chemicals profitability, was 75 percent in 1991, versus 78 percent in 1990.

Fibers net sales in 1991 were about the same as those of 1990 despite a slowdown in the North American housing market and lower selling prices. This strong performance is primarily due to increased sales of *Acrilan* acrylic fiber. Fibers profitability benefited from reductions in the cost of raw materials.

Performance products net sales were below those of the prior year, principally due to the weak U.S. economy. However, detergent ingredient sales benefited from the introduction of new concentrated laundry detergents by customers.

Plastics net sales in 1991 were below those of 1990. However, worldwide profitability of plastics improved year-to-year as a result of lower raw material prices. Sales volumes and prices were lower in 1991, principally in North America and Europe. In December 1990, the thermoplastic elastomer business, which had net sales in 1990 of $96 million, was merged with Exxon Chemical Company's elastomer concentrates business. Monsanto's share of the operating results of this joint venture (called Advanced Elastomer Systems, L.P.) is reported in "Other income (expense) — net" in the Statement of Consolidated Income, and it is excluded from Chemicals operating income.

Sales volume of *Saflex* plastic interlayer, the largest resin product, increased in 1991 reflecting the global nature of the business. Sales volume in North America declined because of the low automotive production level and weakness in the construction industry.

Rubber chemicals net sales were affected by the depressed North American and European economies and the turmoil in the former Soviet Union. Rubber chemicals benefited from lower raw material costs in 1991.

In 1990, Chemicals net sales were essentially level with those of the prior year, but operating income was down 40 percent from 1989's record performance. Net sales were adversely affected by the soft automotive and commercial construction sectors of the North American economy. Chemicals net sales in Europe and Asia-Pacific remained strong. The effect of translating non-U.S. dollar denominated sales into a generally weaker U.S. dollar increased net sales $100 million.

Operating income in 1990 was hurt by significant increases in the cost of petrochemical-based raw materials during the latter part of 1990, which occurred because the crisis in the Middle East caused the rapid escalation of world oil prices. To a lesser extent, operating income was hurt by lower sales demand for plastics and resins used in the North American automotive industry, and for plastics, resins and fibers used in the construction industry. Average raw material costs increased about 6 percent during 1990. The lower customer demand resulted in reduced manufacturing capacity utilization. Operating profit margin declined to 7 percent, compared with 12 percent in 1989.

OUTLOOK CHEMICALS

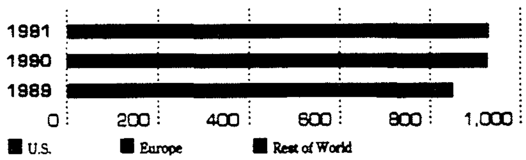
Chemicals outlook for 1992 is difficult to predict primarily because of the slow U.S. economic recovery, the relatively low North American automotive production level and the slowdown in the European economy. Continued lack of consumer confidence could hinder a solid recovery in Chemicals. Maintaining market share for strategic products with good cost positions and new product development and enhancement will continue as a focus of Chemicals. Active management of environmental compliance activities is a major focus.

FISHER CONTROLS

	1991	1990	1989
Net Sales:			
Final control systems	$510	$490	$436
Instrumentation	197	222	208
Other	221	215	208
Total	$928	$927	$852
Operating Income	84	95	64

Fisher Controls is a leading worldwide producer of process control equipment, which includes industrial valves and regulators, *PROVOX* electronic process control instrumentation, and service and repair operations.

FISHER CONTROLS NET SALES *(Dollars in millions)*



During 1991, Fisher Controls divested its Permea gas separations systems business as a part of a restructuring of the unit. A pretax gain of $7 million resulted from the overall Fisher Controls restructuring and is included in 1991 operating income. An analysis of the change in operating income is provided below:

	1991 vs. 1990 Better (Worse)
Selling prices	$ 32
Sales volume and mix	(37)
Restructuring	7
Other	(13)
Change in operating income	$ (11)

Fisher Controls net sales in 1991 were essentially the same as the prior year. However, the impact of the recession became pronounced in the second half of the year and resulted in operating income declining 12 percent. Excluding the restructuring gain, operating income declined 19 percent from that of 1990. A modest decline in sales volume, a shift in sales mix and higher manufacturing costs combined to more than offset the benefit of higher 1991 selling prices. Final control systems net sales were up 4 percent, while instrumentation net sales fell 11 percent. The effects of the North American recession on capital goods spending, combined with a weakening European economy, adversely affected 1991 results.

In 1990, Fisher Controls recorded a strong performance. Operating income rose 48 percent on net sales growth of 9 percent. Selling price improvements, strong customer demand in the process industries and improved production turnaround of booked orders contributed to this growth. Final control systems net sales were up 12 percent, and instrumentation net sales were up 7 percent compared with those of 1989.

OUTLOOK - FISHER CONTROLS

Fisher Controls business is primarily dependent on worldwide capital expenditures in major process industries, such as chemical, oil and gas, power, and pulp and paper. The spending in these markets typically lags the general economy by six to nine months. As a result, Fisher Controls experienced a delayed slowdown in incoming orders in 1991 directly attributable to the continued North American recession and the slowdown in Europe. Although the backlog of orders entering 1992 is higher than a year earlier, 1992 performance will depend upon the speed at which the economy recovers.

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NUTRASWEET

	1991	1990	1989
Net Sales	**$ 954**	$ 933	$ 869
Operating Income	**173**	183	180

The NutraSweet Company manufactures and markets *NutraSweet* brand sweetener, which is sold worldwide; *Equal* tabletop sweetener, which is sold in the United States; *Simplesse* all natural fat substitute; and *Simple Pleasures* frozen dairy dessert. Sales of *NutraSweet* brand sweetener in the European market are made by a 50 percent-owned European joint venture and therefore are not included in NutraSweet net sales and operating income. NutraSweet's share of the European joint venture's earnings are reflected in "Other income (expense) — net" in the Statement of Consolidated Income. More than 90 percent of NutraSweet net sales were in the U.S. market.

NutraSweet net sales in 1991 increased 2 percent from 1990, while operating income fell 5 percent. The effect of 5 percent higher sales volume was partially offset by the lower selling prices. Operating income was reduced by the one-time costs of $10 million associated with various reorganizing actions taken during 1991. An analysis of the change in operating income is provided below:

	1991 vs. 1990 Better (Worse)
Sales volume and mix	**$ 29**
Other	**(39)**
Change in operating income	**$ (10)**

In 1990, net sales were up 7 percent, and operating income grew 2 percent compared with 1989. The higher operating income from a 14 percent sales volume increase for NutraSweet was mostly negated by lower selling prices and launch costs associated with *Simplesse* all natural fat substitute and *Simple Pleasures* frozen dairy dessert.

OUTLOOK NUTRASWEET

While continuing to expand, worldwide markets for low calorie, low fat ingredients are becoming increasingly competitive.

Although December 1992 marks the expiration of NutraSweet's major United States aspartame patent, the prospects for *NutraSweet* brand sweetener remain good. Competition is probable both from generic aspartame producers and from new sweeteners (subject to FDA approval). Nonetheless, NutraSweet has built important competitive advantages over the last ten years that should serve the company well. These include proprietary low cost manufacturing processes, state of the art manufacturing facilities, strong brand identity, and the possibility of a breakthrough new sweetener, which was announced in 1991.

This probable competition from generic aspartame producers and others will lower selling prices over time, thereby adversely affecting operating income and cash flow. However, operating income in 1993 and beyond will benefit from lower annual amortization expense of $173 million because of the expiration of the aspartame use patent.

The United States will remain the principal market for *NutraSweet* brand sweetener in 1992, but efforts to develop international markets will continue. NutraSweet, through a European joint venture, has invested in a new manufacturing facility in France, which is scheduled to begin production in 1993.

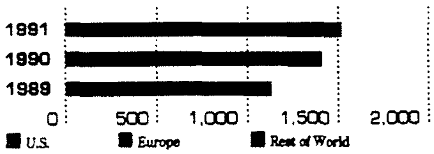
In 1992, it is expected that *Simplesse*, the company's all natural fat substitute, will be more broadly marketed in the United States for use in multiple food categories. Key customer product launches began in the second half of 1991, and more are anticipated in 1992. However, *Simplesse* faces a challenging market in which competition continues to intensify.

PHARMACEUTICALS

	1991	1990	1989
Net Sales	$ 1,531	$ 1,424	$ 1,178
Operating Income	170	93	6

Searle is a research-based, worldwide pharmaceutical business concentrating on drugs for the treatment of cardiovascular, gastrointestinal, immuno-inflammatory, central nervous system and infectious diseases.

PHARMACEUTICALS NET SALES *(Dollars in millions)*



Pharmaceuticals net sales increased 8 percent in 1991 when compared to 1990. The improvement reflected continued growth for *Cytotec* ulcer preventive drug, the *Calan* family of calcium channel blockers for hypertension and angina, and *Canderel* tabletop sweetener (which is marketed by Searle outside the United States and by NutraSweet in the United States under the brand name *Equal*), as well as higher selling prices. Net sales for *Calan*, sold primarily in the North American market, were $508 million, 9 percent higher than 1990 sales. Worldwide sales for *Cytotec* were $123 million, up 35 percent from 1990. Net sales of *Canderel* outside the United States were $147 million in 1991, up 11 percent from 1990. Comparisons to 1990 also were affected by the December 1990 divestiture of most of Searle's consumer products business outside the United States to a third party, under the terms of a 1985 agreement related to the Company's acquisition of Searle. Sales of these consumer products were $52 million in 1990.

Pharmaceuticals continued to make dramatic gains in operating results in 1991, bolstered principally by continued sales growth. Operating income in 1991 also benefited from the sale of certain non-strategic product rights.

Pharmaceuticals operating income increased 83 percent in 1991. The principal factors for the change in operating income were:

	1991 vs. 1990 Better (Worse)
Selling prices	$ 25
Sales volume and mix[1]	79
Marketing, administrative and technological expenses	(20)
Other	(7)
Change in operating income	$ 77

[1] *Includes $36 million income for higher 1991 product rights sales and an approximate $30 million reduction in earnings associated with consumer products transferred to a third party at the end of 1990.*

In 1991, Pharmaceuticals net sales and operating income increased in the United States, principally because of sales growth of *Cytotec* ulcer preventive drug and the *Calan* family of calcium channel blockers for hypertension and angina. Net sales for *Calan*, *Cytotec* and other products in the United States were reduced by $30 million for rebates to state Medicaid programs mandated under the 1990 Omnibus Budget Reconciliation Act. In Europe, Pharmaceuticals net sales and operating income were level with the prior year, as the transfer of certain consumer products to a third party noted earlier offset sales volume increases.

Improved participation in the Japanese pharmaceuticals market has been and continues to be an important focus for Searle. Toward that end, Searle increased its ownership interest in its Japanese subsidiary in 1990 and, in September 1991, purchased 12.25 percent of the shares of Hokuriku Seiyaku Co. Ltd., a Japanese pharmaceuticals firm. Searle also acquired, in 1991, its partner's interest in a French joint venture.

Pharmaceuticals continues to invest significantly in research and development (R&D). Pharmaceuticals R&D expenditures were 17 percent and 16 percent of the unit's net sales in 1991 and 1990, respectively. This spending level demonstrates the commitment to product discovery and development that is aimed at securing sound long-term financial performance for Pharmaceuticals.

Pharmaceuticals net sales were up 21 percent in 1990 as compared with that of the prior year. Sales volume improved about 15 percent. Net sales for *Calan* increased 28 percent, to $467 million, reflecting the strong demand for the 180-milligram dose introduced in 1990. Worldwide sales for *Cytotec* ulcer preventive drug were $91 million, up 52 percent from 1989. *Kerlone*, a new beta blocker for the treatment of high blood pressure, was launched in the United States. In addition, net sales in 1990 included full-year results for a German pharmaceuticals company acquired in October 1989. This acquisition increased year-to-year Pharmaceuticals net sales $58 million in 1990. Sales in 1990 of *Canderel* tabletop sweetener outside the United States were $132 million, up 18 percent from 1989.

Pharmaceuticals operating income reached $93 million in 1990, compared with $6 million in 1989, driven principally by the increased sales level. The 1990 sale of non-strategic product lines in Italy and France contributed to the gain in operating income. Costs were incurred for the launch of *Kerlone* and other product development activities.

OUTLOOK - PHARMACEUTICALS

Calan participates in an increasingly competitive market for antihypertensive drugs characterized by frequent new product introductions and the potential for generic competition. This increased competition could adversely affect the future sales and profits of *Calan*. Searle is developing a formulation of *Calan* with proprietary delayed release technology that could further enhance the product's competitive position.

In 1991, Searle launched *Maxaquin*, the first once-a-day anti-infective drug in the quinolone class, in Mexico, Portugal and Venezuela. In addition, *Maxaquin* was approved by regulatory authorities in six other countries in 1991 and in the United States in the first quarter of 1992. It is awaiting approval in Canada and some European markets. Other new products are expected to emerge in the near term from Searle's developmental pipeline, including a new product for the treatment of arthritis called *Arthrotec*. *Arthrotec* is a combination of Searle's *Cytotec* ulcer preventive drug and diclofenac, the

OUTLOOK PHARMACEUTICALS *(continued)*

world's best-selling arthritis medication. *Arthrotec* is pending regulatory approval in Canada and major European markets. *Ambien*, the first of a new class of sleeping aids, and oxaprozin, a non-steroidal anti-inflammatory drug, are pending approval by the U.S. Food and Drug Administration. *Ambien* is also awaiting regulatory approval in Canada and the United Kingdom.

Products currently in various stages of scientific development include products to treat abnormal heart rhythms; pain; anxiety disorders; Alzheimer's disease and age-associated memory impairment; psoriasis and ulcerative colitis; thrombosis; acquired immune deficiency syndrome (AIDS) and other viral diseases. A collaborative discovery program with Washington University in St. Louis continues, encompassing almost 40 research projects. Another collaboration with Oxford University in the United Kingdom is pursuing a newly emerging technology related to the role of body sugars in biological processes. This technology could help to unlock the mechanisms of many diseases.

BIOTECHNOLOGY PRODUCT DISCOVERY

The mission of Biotechnology Product Discovery is to generate a continuous pipeline of proprietary product opportunities and new technologies essential to success in the areas of human health, plant-related agriculture and chemical products. For human health care, Monsanto applies biotechnology to provide target proteins for the development of novel pharmaceutical chemicals. The strategy for plant-related agriculture is to isolate novel genes, the products of which are expressed in genetically transformed plants providing unique agronomic characteristics. The chemical research programs provide novel high-performance chemicals and unique approaches to manufacturing processes and waste minimization. When product leads and new technologies are refined and clarified, they are transferred to the operating units for further development and commercialization.

GEOGRAPHIC DATA

	Net Sales to Unaffiliated Customers			Operating Income (Loss)			Total Assets		
	1991	1990	1989	1991	1990	1989	1991	1990	1989
United States	$ 5,636	$ 5,685	$ 5,590	$ 459	$ 639	$ 721	$ 6,084	$ 6,348	$ 6,169
Europe-Africa	1,937	1,995	1,800	120	235	282	2,189	2,061	1,657
Asia-Pacific	621	561	546	27	42	60	586	495	388
Canada	366	413	430	24	32	50	163	169	150
Latin America	304	341	315	(38)	17	23	215	271	254
Interarea Eliminations				24	(22)	(4)	(304)	(426)	(290)
Corporate				(46)	(34)	(54)	294	318	276
Total	$ 8,864	$ 8,995	$ 8,681	$ 570	$ 909	$1,078	$ 9,227	$ 9,236	$ 8,604

The data above are prepared on an "entity basis," which means that net sales, operating income and assets of a legal entity are assigned to the geographic area where the legal entity is located (for example, a sale from the United States to Latin America is reported as a U.S. 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 and were:

	1991	1990	1989
World area shipped from:			
United States	$ 786	$ 813	$ 817
Europe-Africa	103	140	180
Canada	17	13	11
Latin America	5	19	35
Asia-Pacific	5	1	11
Interarea Eliminations	(916)	(986)	(1,054)
Total	$ —	$ —	$ —

Following is a reconcilation of ex-U.S. operating income and total assets to the net income and net assets of consolidated ex-U.S. subsidiaries.

	1991	1990	1989
Operating income	$ 133	$ 326	$ 415
Interest and other income (expense) — net	(3)	(30)	30
Income taxes	(52)	(97)	(151)
Net Income of Consolidated Ex-U.S. Subsidiaries	$ 78	$ 199	$ 294
Total operating assets	$ 3,153	$ 2,996	$ 2,449
Total liabilities	1,258	1,125	983
Net Assets of Consolidated Ex-U.S. Subsidiaries	$ 1,895	$ 1,871	$ 1,466

The reported operating income for the individual geographic areas does not include the full profitability generated by sales of Monsanto products imported from other locations, principally from the United States. Direct export sales from the United States to non-U.S. third party customers were $543 million, $491 million and $467 million for 1991-1989, respectively.

Sales and operating income for the geographic segments do not include the financial results from those joint venture companies in which Monsanto does not have management control, the largest of which are in Latin America and Asia-Pacific. Monsanto's share of the income or loss of these companies is reflected in "Other income (expense) — net" in the Statement of Consolidated Income (income of $2 million for Latin America and income of $2 million for Asia-Pacific in 1991). Monsanto's share of these unconsolidated net sales in 1991 was $136 million for Latin America and $132 million for Asia-Pacific.

Geographic area operating income in 1991 was affected by the restructuring program as follows:

	Income (Expense)
United States	$ (298)
Europe-Africa	(86)
Asia-Pacific	(4)
Canada	(6)
Latin America	(47)
Corporate	(5)
Total	$ (446)

QUARTERLY DATA

		First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
Net Sales	**1991**	**$ 2,223**	**$ 2,473**	**$ 2,042**	**$ 2,126**	**$ 8,864**
	1990	2,286	2,367	2,140	2,202	8,995
Gross Profit	**1991**	**949**	**1,104**	**836**	**850**	**3,739**
	1990	987	1,060	801	781	3,629
Operating Income (Loss)	**1991**	**289**	**(41)**	**184**	**138**	**570**
	1990	327	371	142	69	909
Net Income (Loss)	**1991**	**166**	**(52)**	**116**	**66**	**296**
	1990	194	247	74	31	546
Earnings (Loss) per Share	**1991**	**1.31**	**(0.42)**	**0.91**	**0.53**	**2.33**
	1990	1.47	1.90	0.59	0.27	4.23
Dividends per Share	**1991**	**0.485**	**0.52**	**0.52**	**0.52**	**2.045**
	1990	0.425	0.485	0.485	0.485	1.88
Common Stock Price						
1991	**High**	**62 1/2**	**69 3/4**	**76**	**71 7/8**	**76**
	Low	**46**	**56 1/2**	**64 1/2**	**57 1/8**	**46**
1990	High	60 1/8	55 1/4	52	49 1/2	60 1/8
	Low	51 1/4	46 1/2	38 3/4	39 5/8	38 3/4

Monsanto's net income is historically higher during the first half of the year primarily because of the concentration of generally more profitable Agricultural Products sales in the first half of the year.

The net loss for the second quarter of 1991 included net restructuring expense of $325 million. Second quarter 1990 net income included a gain of $31 million resulting from the divestiture of certain assets of a joint venture in Japan. Fourth quarter 1990 net income included gains from divestitures totaling $20 million.

STATEMENT OF CONSOLIDATED FINANCIAL POSITION

(Dollars in millions, except per share)	At December 31,	
Assets	1991	1990
Current Assets:		
Cash and cash equivalents	$ 189	$ 204
Trade receivables, net of allowances of $37 in 1991 and $35 in 1990	1,594	1,498
Miscellaneous receivables and prepaid expenses	330	370
Deferred income tax benefit	249	171
Inventories	1,349	1,270
Total Current Assets	3,711	3,513
Property, Plant and Equipment:		
Land	113	112
Buildings	1,301	1,254
Machinery and equipment	6,054	5,779
Construction-in-progress	434	475
Total property, plant and equipment	7,902	7,620
Less accumulated depreciation	4,540	4,128
Net Property, Plant and Equipment	3,362	3,492
Investments in Affiliates	248	248
Intangible Assets, net of accumulated amortization of $1,480 in 1991 and $1,259 in 1990	1,290	1,425
Other Assets	616	558
Total Assets	$ 9,227	$ 9,236

Liabilities and Shareowners' Equity		
Current Liabilities:		
Accounts payable	$ 579	$ 584
Wages and benefits	256	237
Income and other taxes	166	95
Miscellaneous accruals	837	692
Short-term debt	337	582
Total Current Liabilities	2,175	2,190
Long-Term Debt	1,877	1,652
Deferred Income Taxes	512	640
Other Liabilities	1,009	665
Shareowners' Equity:		
Common stock (authorized, 200,000,000 shares, par value $2)		
Issued 164,394,194 shares in 1991 and 1990	329	329
Additional contributed capital	726	714
Treasury stock, at cost (41,466,707 shares in 1991 and 38,616,140 shares in 1990)	(1,797)	(1,563)
Reserve for ESOP debt retirement	(250)	
Accumulated currency adjustment	187	188
Reinvested earnings	4,459	4,421
Total Shareowners' Equity	3,654	4,089
Total Liabilities and Shareowners' Equity	$ 9,227	$ 9,236

The above statement should be read in conjunction with pages 44 through 49 of this report.

FINANCIAL POSITION REMAINED STRONG

Monsanto's financial position remained strong in 1991, as evidenced by Monsanto's current "A" or better debt rating. Financial resources were adequate to support existing businesses and to fund new business opportunities.

Working capital was higher at year-end 1991 due principally to the recession resulting in higher trade receivables and inventories. In addition, the strong cash flow resulted in reduced short-term debt. Accrued liabilities increased in 1991 due to the restructuring program.

Intangible assets continued to decline in 1991, due principally to amortization of the NutraSweet aspartame patent, which had a recorded value of $173 million at year-end 1991. Net property, plant and equipment decreased in 1991, as $591 million of capital additions were less than depreciation and the write-down of property divested or to be divested under the restructuring program.

As mentioned in the Notes to Financial Statements on pages 46 and 48, Monsanto has not yet adopted Statement of Financial Accounting Standards (SFAS) No. 109, the new income tax accounting standard, or SFAS No. 106, the accounting standard for postretirement benefits other than pensions.

Long-term debt at year-end 1991 was $225 million higher than that of the prior year-end, mainly because of the guarantee of the employee stock ownership plan (ESOP) debt discussed below.

Monsanto uses financial markets worldwide for its financing needs and has available various short- and medium-term bank credit facilities, which are discussed in the Notes to Financial Statements (pages 46 and 47). These credit facilities provide the financing flexibility 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. Important factors in establishing that rating are the ratio of total debt to total capitalization, which was 38 percent, and the interest coverage ratio, which was 3.2 in 1991.

In October 1991, Monsanto's Board of Directors approved the establishment of an ESOP. In January 1992, the ESOP purchased from Monsanto $250 million of common stock that will be used to match employee contributions under the Company's existing savings and investment plan. A more detailed description of the ESOP is provided in the Notes to Financial Statements on pages 47 and 48.

Monsanto's commitments and contingencies are described in the Notes to Financial Statements on page 49.

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. Based on the cost and availability of insurance and the likelihood of a loss, management decides the amount of insurance coverage to purchase from unaffiliated companies and the appropriate amount of risk to retain. Since 1985, Monsanto's liability insurance has been on the "claims made" policy form. Management believes that the current levels of risk retention are appropriate and are consistent with those of other companies in the various industries in which Monsanto operates. Monsanto's liquidity, financial position and profitability are not expected to be affected materially by the current levels of risk retention.

Monsanto's return on shareowners' equity (ROE) was 7.6 percent in 1991. Excluding the $325 million aftertax restructuring expense, ROE would have been over 15 percent. Monsanto's principal financial target is a sustained ROE of 20 percent or greater. The ROE and other key financial statistics are presented in the table below.

KEY FINANCIAL STATISTICS	1991	1990	1989
Return on Shareowners' Equity (ROE) (Net income divided by average shareowners' equity)	7.6%	13.6%	17.6%
Working Capital (Current assets less current liabilities)	$ 1,536	$ 1,323	$ 1,326
Current Ratio (Current assets divided by current liabilities)	1.7	1.6	1.7
Trade Receivables — Days Sales Outstanding (Fourth quarter trade receivables divided by fourth quarter net sales times 30 days)	67	63	61
Inventory Turnover Ratio (Cost of goods sold divided by inventory)	3.8	4.2	4.2
Interest Coverage (Income before interest expense and income taxes divided by total interest cost)	3.2	4.8	5.9
Cash Provided by Operations/Total Debt	53%	49%	52%
Total Debt/Total Capitalization(1)	38%	35%	33%

(1) *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)	1991	1990	1989
Increase (Decrease) in Cash and Cash Equivalents			
Operating Activities:			
Net income	**$ 296**	$ 546	$ 679
Add income tax expense	**146**	263	336
Income before income taxes	**442**	809	1,015
Adjustments to reconcile to Cash Provided by Operations:			
Income tax payments	**(240)**	(244)	(294)
Items that did not use cash:			
Depreciation and amortization	**751**	739	690
Restructuring expense — net	**446**		
Other	**41**	2	26
Working capital changes that provided (used) cash:			
Accounts receivable	**(113)**	(189)	(131)
Inventories	**(144)**	(75)	(90)
Accounts payable and accrued liabilities	**(40)**	142	(48)
Other	**5**	54	(17)
Non-operating pretax gains from asset disposals	**(11)**	(86)	(61)
Other items	**43**	(48)	(53)
Cash Provided by Operations	**1,180**	1,104	1,037
Investing Activities:			
Property, plant and equipment purchases	**(591)**	(750)	(607)
Acquisition and investment payments	**(239)**	(201)	(211)
Investment and property disposal proceeds	**385**	100	307
Cash Used in Investing Activities	**(445)**	(851)	(511)
Financing Activities:			
Net change in short-term financing	**(245)**	77	(50)
Long-term debt proceeds	**317**	523	261
Long-term debt reductions	**(291)**	(351)	(196)
Treasury stock purchases	**(296)**	(326)	(335)
Dividend payments	**(258)**	(242)	(221)
Other financing activities	**23**	17	47
Cash Used in Financing Activities	**(750)**	(302)	(494)
Increase (Decrease) in Cash and Cash Equivalents	**(15)**	(49)	32
Cash and Cash Equivalents:			
Beginning of year	**204**	253	221
End of year	**$ 189**	$ 204	$ 253

The above statement should be read in conjunction with pages 44 through 49 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 $171 million, $166 million and $171 million, for the years 1991-1989, respectively.

During 1991, Monsanto established an employee stock ownership plan (ESOP). In conjunction with the ESOP, Monsanto guaranteed $200 million of ESOP notes and debentures.

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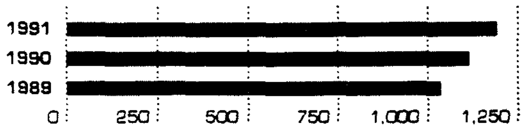
Monsanto's cash flow for the three-year period of 1991-1989 is shown in the Statement of Consolidated Cash Flow on the preceding page.

CASH FLOW REMAINED STRONG

Cash flow remained strong in 1991, with cash provided by operations at $1,180 million. Cash from operations was generated principally by Chemicals, Agricultural Products and NutraSweet. Monsanto's operations have historically generated sufficient cash to fund existing businesses, growth-related research and investments. Management expects cash provided by operations, supplemented by periodic borrowings, to be adequate to fund future requirements.

CASH PROVIDED BY OPERATIONS *(Dollars in millions)*



Investment and property disposals in 1991 generated $385 million of cash. The principal proceeds in 1991 were related to the sale of various businesses associated with the restructuring, including the animal feed ingredients and Permea gas separations businesses; in 1990, to the sale of certain assets of a joint venture in Japan; and in 1989, to the divestiture of the Electronic Materials and the analgesics businesses.

Major uses of cash for the period 1991-1989 included capital expenditures, treasury stock purchases and dividends. The investment in a Japanese pharmaceuticals firm in 1991 and the acquisition of a German pharmaceuticals company in 1989 were also major uses of cash. Monsanto's 1991 capital expenditures focused on improved technology, capacity expansions and environmental projects, and totaled $591 million.

Long-term debt proceeds in 1991 included $100 million in 30-year fixed-rate debentures and $194 million from the issuance of medium-term notes. These proceeds were used principally to refinance other borrowings. In 1990, long-term debt proceeds included $193 million of commercial paper to be refinanced on a long-term basis; $132 million of 30-year variable-rate industrial development bonds; and $156 million of medium-term notes.

MONSANTO MAINTAINS STRONG ENVIRONMENTAL COMMITMENT

Monsanto is subject to various laws and governmental regulations concerning environmental matters, product safety and employee health. It is anticipated that increasingly stringent requirements will be imposed upon Monsanto and industry in general. Monsanto is dedicated to a long-term environmental protection program that reduces emissions of hazardous materials into the environment, as well as to the remediation of identified existing environmental concerns. In 1988, management committed to a 90 percent reduction in toxic air emissions by the end of 1992, a goal that will require the development and installation of new technology and additional capital expenditures. Reduction of 58 percent was accomplished through 1990. Compilation of data for 1991 is not complete; however, further reduction has been achieved. The cost to accomplish this target is not expected to materially affect operating results. Some of these projects will lower operating costs and improve operating efficiency.

Expenditures in 1991 were approximately $70 million for environmental capital projects and approximately $260 million for operation and maintenance of environmental protection facilities. Monsanto estimates that during 1992 and 1993 approximately $85-150 million per year will be spent on additional capital projects for environmental protection.

Monsanto periodically receives notices from the Environmental Protection Agency (EPA) that it is a potentially responsible party (PRP) under Superfund. Currently, Monsanto has been designated by the EPA as a PRP at 80 Superfund sites. Monsanto's future remediation expenses at these and other sites will be affected by a number of uncertainties, including 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 PRPs at most sites.

Monsanto spent $35 million in 1991 for remediation of waste disposal sites. Most of these expenditures relate to the Chemicals unit, and similar or greater amounts can be expected in future years. Monsanto's policy is to accrue these costs in the accounting period in which the responsibility is established and the cost is estimable. At December 31, 1991, Monsanto's Statement of Consolidated Financial Position included an accrued liability of $245 million for the

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remediation of identified waste disposal sites. Because of the uncertainties associated with remediation activities, Monsanto's future expenses to remediate these sites could be as much as an additional $300 million. These potential future expenses would be expected to be incurred over the balance of the decade. While the costs and results of remediation of waste disposal sites cannot be predicted with certainty, management believes that, with future developments in remediation technology and evolving government policies toward evaluation of risks and benefits, Monsanto's liquidity and profitability in any one year will not be materially affected.

COMMON STOCK PURCHASE PROGRAM CONTINUES

In 1991, Monsanto purchased 4.4 million shares at a cost of $296 million. Since June 1987, Monsanto has purchased 37.1 million shares at a cost of $1,753 million. Management believes the stock purchase program represents a sound economic investment for Monsanto's shareowners. Stock purchases favorably affect earnings per share and aid in the achievement of management's 20 percent return on equity target.

DIVIDENDS INCREASE FOR THE 19TH CONSECUTIVE YEAR

Monsanto has paid dividends on its common shares without interruption or reduction since 1928, and has increased the dividend per share in each of the past 19 years. Dividend payout for 1991 was 22 percent of cash provided by operations and 87 percent of net income. Monsanto's dividend policy reflects a desired long-term payout percentage based on Monsanto's expectations of future growth and profitability levels. In any individual year, additional consideration is given to expected financial position and results, working and fixed capital needs, scheduled debt repayments and economic conditions, including inflation.

Monsanto's common stock is traded principally on the New York Stock Exchange and is listed on the exchanges in Tokyo and seven European cities. The number of shareowners of record as of February 28, 1992, was 59,687, and the high and low common stock prices on that date were $67 3/4 and $66 1/2.

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STATEMENT OF CONSOLIDATED SHAREOWNERS' EQUITY

(Dollars in millions, except per share)	1991	1990	1989
Common Stock:			
Balance, January 1	$ 329	$ 164	$ 164
Par value of stock issued in two-for-one stock split		165	
Balance, December 31	$ 329	$ 329	$ 164
Additional Contributed Capital:			
Balance, January 1	$ 714	$ 877	$ 874
Employee stock plans	12	2	3
Par value of stock issued in two-for-one stock split		(165)	
Balance, December 31	$ 726	$ 714	$ 877
Treasury Stock:			
Balance, January 1	$(1,563)	$(1,244)	$ (952)
Shares purchased (4,395,900; 6,707,900 and 6,548,800 shares in 1991-1989, respectively)	(296)	(326)	(335)
Shares issued under employee stock plans (1,545,333; 193,072 and 1,177,322 shares in 1991-1989, respectively)	62	7	43
Balance, December 31	$(1,797)	$(1,563)	$(1,244)
Reserve for ESOP Debt Retirement:			
ESOP formation	$ (250)		
Balance, December 31	$ (250)		
Accumulated Currency Adjustment:			
Balance, January 1	$ 188	$ 24	$ 52
Translation adjustments	(3)	171	(17)
Income taxes	2	(7)	(11)
Balance, December 31	$ 187	$ 188	$ 24
Reinvested Earnings:			
Balance, January 1	$ 4,421	$ 4,120	$ 3,662
Net income	296	546	679
Dividends	(258)	(242)	(221)
Common stock purchase rights redemption		(3)	
Balance, December 31	$ 4,459	$ 4,421	$ 4,120

The above statement should be read in conjunction with pages 44 through 49 of this report.

KEY FINANCIAL STATISTICS

		1991	1990	1989
Stock Price[1]	High	$ 76	$ 60 1/8	$ 62 1/8
	Low	46	38 3/4	40 1/4
	Year-end	67 7/8	48 1/4	57 3/4
Per Share	Dividends	2.045	1.88	1.65
	Shareowners' Equity	29.72	32.51	29.79
Average Daily Share Trading Volume (thousands of shares)		359	425	426

[1] *Based on daily reported high and low stock prices.*

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SIGNIFICANT ACCOUNTING POLICIES

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

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, and Monsanto's share of these companies' income or loss is included in "Other income (expense) — net" in the Statement of Consolidated Income.

CURRENCY TRANSLATION

Most of Monsanto's ex-U.S. entities' financial statements are translated into U.S. dollars using current exchange rates. Unrealized currency 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, principally Brazil, 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 and Belgian franc. Other important currencies include the Brazilian cruzeiro, Canadian dollar, French franc, German mark, Italian lira and Japanese yen. Currency restrictions are not expected to have a significant effect on Monsanto's cash flow, liquidity or capital resources.

Currency option contracts are utilized to manage currency exposure for anticipated transactions (e.g., export sales for the following year). Currency option and forward contracts are utilized to manage other currency exposures. At December 31, 1991 and 1990, Monsanto had currency forward and option contracts to purchase $240 million and $136 million, respectively, and sell $714 million and $372 million, respectively, of other currencies, principally the British pound sterling, Japanese yen and German mark. *Gains and losses on contracts that are designated and effective as hedges are deferred and recognized in the period of the exposure being hedged. Gains and losses on other currency forward and option contracts are included in net income immediately.* Monsanto is subject to loss in the event of non-performance by the counterparties to these contracts.

PRINCIPAL ACQUISITIONS AND DIVESTITURES

In September 1991, Monsanto purchased 12.25 percent of the shares of Hokuriku Seiyaku Co., a Japanese pharmaceuticals firm. The investment is included in "Other Assets" and is recorded at cost.

In June 1990, certain assets of a Monsanto joint venture in Japan were sold. Monsanto recognized a pretax gain of $45 million, $31 million aftertax gain and $0.24 per share, on the sale of these assets.

During 1989, Searle acquired Heumann Pharma GmbH & Co., a German pharmaceuticals firm. The acquisition was accounted for using the purchase method. In addition, Monsanto sold its analgesics business for a pretax gain of $56 million, $36 million aftertax gain and $0.27 per share. Also in 1989, Monsanto sold its Electronic Materials business.

RESTRUCTURING

In 1990, the Board of Directors approved a restructuring of the Agricultural Products operating unit. The restructuring actions included the reorganization of the operating unit along product lines and the decision to sell the animal feed ingredients business. In line with these actions, reductions in employment occurred through an early retirement incentive and other programs. Restructuring costs of $108 million were deferred in 1990 and expensed in 1991 when the animal feed ingredients business was sold at a gain, which exceeded the deferred restructuring costs.

In June 1991, the Board of Directors approved additional restructuring steps to strengthen the Chemicals unit for the future, as well as the Agricultural Products and Fisher Controls units and Corporate staff. The additional steps, principally in the Chemicals unit, included the shutdown and consolidation of various facilities and the sale of certain businesses that did not meet Monsanto's long-term strategic direction. In September 1991, Fisher Controls completed the sale of its Permea gas separation systems business.

The components of "Restructuring expense — net" (including the write-off of 1990 deferred restructuring costs for the Agricultural Products unit) in the Statement of Consolidated Income were:

Shutdown and consolidation of various facilities	$ 425
Cost of employee reductions	219
Other costs	64
Gains on sale of various businesses	(262)
Total	$ 446

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Net income in 1991 was reduced by $325 million, or $2.54 per share, from the effect of this restructuring. Product sales of businesses targeted for divestiture in this restructuring were excluded from Monsanto's net sales after June 30, 1991. Product sales of these businesses in 1991-1989 included in Monsanto's net sales were $277 million, $415 million and $400 million, respectively.

DEPRECIATION AND AMORTIZATION

	1991	1990	1989
Depreciation	$ 484	$ 465	$ 438
Amortization of intangible assets	239	235	226
Obsolescence	28	39	26
Total	$ 751	$ 739	$ 690

Property, plant and equipment is recorded at cost. The cost of plant and equipment is depreciated over weighted average periods of 22 years for buildings and 11 years for machinery and equipment, using the straight-line method.

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

	Estimated Remaining Life*	1991	1990
Goodwill	31	$ 733	$ 679
Patents	3	279	482
Other intangible assets	17	278	264
Total		$ 1,290	$ 1,425

**Weighted average, in years, at December 31, 1991.*

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 (5 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 product rights and trademarks) is amortized over their estimated useful lives.

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, raw material and manufacturing overhead based on practical capacity. The cost of certain inventories (56 percent at December 31, 1991) is determined using the last-in, first-out (LIFO) method, generally reflecting the effects of inflation or deflation on cost of goods sold sooner than other inventory cost methods. The cost of other inventories generally is determined using the first-in, first-out (FIFO) method.

The components of inventories were:

	1991	1990
Finished goods	$ 868	$ 781
Goods in process	383	349
Raw materials and supplies	445	555
Inventories, at FIFO cost	1,696	1,685
Excess of FIFO over LIFO cost	(347)	(415)
Total	$ 1,349	$ 1,270

Inventories at FIFO cost approximate current cost.

INCOME TAXES

The components of income before income taxes were:

	1991	1990	1989
United States	$ 312	$ 513	$ 570
Outside United States	130	296	445
Total	$ 442	$ 809	$ 1,015

The components of income tax expense (benefit) were:

	1991	1990	1989
Current:			
U. S. federal	$ 243	$ 123	$ 138
U. S. state	26	18	18
Outside United States	70	96	142
	339	237	298
Deferred:			
U. S. federal	(154)	24	26
U. S. state	(21)	1	3
Outside United States	(18)	1	9
	(193)	26	38
Total	$ 146	$ 263	$ 336

Deferred taxes result from timing differences in the recognition of revenue and expense for tax and financial statement purposes. The source of these timing differences and the tax effect of each were:

	1991	1990	1989
Depreciation and obsolescence	$ (12)	$ 10	$ 25
Restructuring	(146)	19	16
Pensions	4	7	10
State income taxes	(21)	1	3
Other	(18)	(11)	(16)
Total	$ (193)	$ 26	$ 38

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

	1991	1990	1989
U. S. federal statutory rate	34%	34%	34%
Benefits attributable to:			
U. S. export earnings	(6)	(2)	(2)
Puerto Rico operations	(2)	(2)	(2)
Sale of investments	(2)	—	—
Higher tax rates outside the United States	4	—	—
Non-deductible goodwill	2	1	1
Other	3	2	2
Effective Income Tax Rate	33%	33%	33%

Income and remittance taxes have not been recorded on $684 million of undistributed earnings of subsidiaries, either because any taxes on dividends would be offset substantially by foreign tax credits or because Monsanto intends to indefinitely reinvest those earnings.

Monsanto has not yet adopted Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes." This statement, which will have no effect on cash flow, changes the method of calculating deferred income taxes and must be adopted in or before 1993. Monsanto expects that adoption of this new income tax accounting standard will result in a reduction in its deferred income taxes.

SHORT-TERM DEBT AND CREDIT ARRANGEMENTS

Short-term debt was:

	1991	1990
Notes payable:		
Banks	$ 75	$ 58
Commercial paper	66	272
Bank overdrafts	125	134
Current portion of long-term debt	71	118
Total	$ 337	$582

	1991	1990
Weighted average interest rates of notes payable at December 31:		
Banks[1]	14.2%	14.9%
Commercial paper	4.9%	8.5%

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

Monsanto has aggregate short-term loan facilities of $472 million, under which loans totaling $75 million were outstanding at December 31, 1991. Interest on these loans is related to various bank rates. Monsanto's worldwide unused short-term loan facilities were $397 million at December 31, 1991.

LONG-TERM DEBT

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

	1991	1990
Industrial development bond obligations, rates in 1991 ranging from 4.85% to 11.9%, due 1993 to 2021	$ 371	$ 363
Medium-term notes, rates in 1991 ranging from 7.9% to 9.45%, due 1993 to 2005	364	196
Commercial paper to be refinanced on a long-term basis, rate in 1991 of 4.9%	43	193
9 ⅜% notes due 1996	150	150
8 ½% sinking fund debentures due 2000	104	106
7.09% and 8.13% amortizing ESOP notes and debentures due 2000 to 2006, guaranteed by the Company	200	
8 ⅜% sinking fund debentures due 2008	141	145
8 ⅞% debentures due 2009	99	99
11 ⅜% sinking fund debentures due 2015	145	200
8.7% debentures due 2021	100	
Other	160	200
Total	$ 1,877	$ 1,652

Maturities and sinking fund requirements on long-term debt are $71 million, $99 million, $72 million, $109 million and $251 million for 1992-1996, respectively.

Interest rate swap options (interest options) are utilized to manage interest expense. At December 31, 1991 and 1990, Monsanto had sold interest options with an aggregate notional principal amount of $351 million and $207 million, respectively, related to existing debt. Three interest options, sold in 1991, would effectively refinance, at 8 1/2 percent, $150 million of 9 3/8 percent notes in the period 1993 through 1996. Another interest option would effectively convert $99 million of 8 7/8 percent debentures to commercial paper rates in the period 1994 through 2000. Additional interest options would effectively convert $102 million of variable rate debt to fixed rates ranging from 8 7/8 percent to 9 1/8 percent in the period 1992 to 2000. ***Premiums from the sale of interest options are amortized over the related debt period. Interest differentials to be paid or received are accrued as interest rates change over the related debt period.***

A $750 million intermediate-term credit facility expires in 1996. There were no borrowings under this facility at December 31, 1991. The credit facility is used to support the issuance of commercial paper ($109 million outstanding at December 31, 1991). Interest on amounts borrowed under this agreement would likely be at money market rates. Covenants under this credit facility restrict maximum borrowings. It is not anticipated that future borrowings will be limited by these restrictions.

PENSION BENEFITS

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

	1991	1990	1989
Service cost for benefits earned during the year	**$ 70**	$ 67	$ 63
Interest cost on projected benefit obligation	**274**	242	227
Assumed return on plan assets*	**(284)**	(273)	(251)
Amortization of unrecognized net gain	**(34)**	(47)	(40)
Total	**$ 26**	$ (11)	$ (1)

**Actual return (loss) on plan assets was $730 million, $(85) million and $658 million in 1991-1989, respectively.*

Pension benefits are determined based on the 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, considering benefits earned and expected to be earned in the future, anticipated future returns on pension plan assets and income tax and other regulations.

Assumptions used for the principal plans in 1991-1989 were:

Discount rate	8 1/2%
Assumed long-term rate of return on plan assets	8 1/2%
Annual rates of salary increase (for plans that base benefits on final compensation level)	6 1/2%

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

	1991	1990
Plan Assets at Fair Value	$ 3,967	$ 3,460
Actuarial present value of plan benefits:		
Vested	**$ 2,857**	$ 2,628
Non-vested	**123**	135
Accumulated benefit obligation	**2,980**	2,763
Effect of projected future salary increases	**415**	407
Projected Benefit Obligation	$ 3,395	$ 3,170
Excess of plan assets over projected benefit obligation	**$ 572**	$ 290
Less:		
Unrecognized initial net gain	**287**	320
Unrecognized prior service costs	**(204)**	(190)
Unrecognized subsequent net gain	**654**	286
Accrued Net Pension Liability	**$ 165**	$ 126

The accrued net pension liability was included in:

	1991	1990
Other assets	**$ 75**	$ 74
Other liabilities	**240**	200
Accrued Net Pension Liability	**$ 165**	$ 126

Projected benefit obligations and plan assets included in the above table for the principal U.S. plans were approximately $3,010 million and $3,565 million, respectively, at December 31, 1991. Plan assets consist principally of common stocks and U.S. government and corporate obligations. Because the Company's pension plans are well-funded, contributions to the Company's principal plans were neither required nor made in 1991-1989.

EMPLOYEE SAVINGS PLANS

For some employee savings plans, employee contributions are matched in part by Monsanto. Matching contributions charged to expense for such plans were $34 million, $34 million and $32 million in 1991-1989, respectively. In October 1991, Monsanto established an employee stock ownership plan (ESOP). The ESOP issued $200 million of 7.09 percent amortizing notes and 8.13 percent amortizing

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debentures guaranteed by Monsanto, and the ESOP borrowed $50 million from Monsanto. The unpaid balance of ESOP borrowings are included in "Reserve for ESOP debt retirement" in Shareowners' Equity and the unpaid balance of notes and debentures guaranteed by Monsanto are included in "Long-term Debt" in the Statement of Consolidated Financial Position. In January 1992, the ESOP used the proceeds of the loans to purchase 3.7 million shares of common stock from Monsanto, a portion of which will be allocated each year to employee savings accounts as matching contributions. The proceeds from the issuance of common stock to the ESOP are being used primarily for the purchase of an equivalent number of common shares under a treasury stock purchase program. Dividends on the common stock owned by the ESOP will be used to repay the ESOP borrowings.

OTHER POSTRETIREMENT BENEFITS

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.

At December 31, 1991, approximately 26,000 active employees were eligible upon retirement to participate in these programs. In addition, approximately 18,000 individuals retired from active service were eligible to participate in these programs. *These other postretirement benefits are not funded and are expensed as benefits are paid.* The 1991-1989 expense recorded for other postretirement benefits was $54 million, $45 million and $39 million, respectively.

The Financial Accounting Standards Board has issued Statement of Financial Accounting Standards No. 106, "Employers' Accounting for Postretirement Benefits Other Than Pensions." This statement, which will have no effect on cash flow and must be adopted in or before 1993, changes the method of accounting for other postretirement benefits by requiring that the cost be accrued by the date employees become eligible for the benefits. In accordance with the statement, the estimated obligation for other postretirement benefits may be recognized as expense in the year of adoption or may be accrued on a straight-line basis over a 20-year period. Monsanto is considering modifications to some of its medical benefits programs for future retirees. Monsanto currently expects to implement the new statement in 1993 and expects the obligation to approximate $1.0 - 1.2 billion at the time of adoption. It is anticipated that the obligation will be recognized as expense in the year of adoption. Once adopted, Monsanto's annual expense for these other postretirement benefits is estimated to be two to three times the expense currently being recognized.

STOCK OPTION PLANS

Key officers and employees have been granted Monsanto stock options under the Company's 1974, 1984 and 1988 Management Incentive Plans, the Searle Monsanto Stock Option Plan (Searle Plan) and the NutraSweet/Monsanto Stock Plan (NutraSweet Plan). Information about the status of such stock options is presented below.

	Shares		Price
	Exercisable	Outstanding	per Share
December 31, 1989	2,631,468	6,404,798	$13.08 - $61.44
1990:			
Granted		1,087,417	41.13 - 54.94
Exercised		(335,076)	13.08 - 47.09
Expired		(105,610)	13.08 - 54.94
December 31, 1990	3,360,357	7,051,529	15.69 - 61.44
1991:			
Granted		3,628,172	50.56 - 74.25
Exercised		(1,612,380)	15.69 - 58.00
Expired		(189,879)	43.53 - 62.13
December 31, 1991	4,125,193	8,877,442	19.33 - 74.25

Under the 1988 Management Incentive Plans, the Searle Plan and the NutraSweet Plan, 8,231,678 shares remain available for grant.

Prior to 1991, stock appreciation rights (SARs) were granted to certain Monsanto officers in tandem with stock options under the plans, including retroactive grants for unexercised options. In 1991, the SAR grants were canceled and unexercised SARs held by current officers were forfeited.

EARNINGS PER SHARE

Earnings per share were computed using the weighted average number of common shares and common share equivalents outstanding each year (127,126,216; 129,107,666 and 135,496,104 in 1991-1989, respectively). Common share equivalents (1,437,179; 676,393 and 1,073,554 in 1991-1989, respectively) consist primarily of common stock issuable upon exercise of outstanding stock options. Earnings per share assuming full dilution were not significantly different from the primary amounts.

CAPITAL STOCK

At December 31, 1991, there were 17,109,120 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 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 each right will entitle its holder 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, each right will entitle its holder to purchase, for $450, common shares of the acquiring company 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, each right will entitle its holder (other than such person or members of such group) 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-for-one basis. At any time prior to the acquisition of such a 20 percent position, the Company can redeem each right for 1 cent. The Board of Directors is also authorized to reduce the 20 percent thresholds referred to above to not less than 10 percent. The rights expire in the year 2000.

In connection with this dividend declaration, the Board of Directors also authorized the redemption in February 1990 of the then existing Common Stock Purchase Rights at their redemption price of 5 cents per right.

COMMITMENTS AND CONTINGENCIES

Commitments, principally in connection with uncompleted additions to property, were approximately $151 million at December 31, 1991. Excluding the ESOP notes and debentures, Monsanto was contingently liable as guarantor of bank loans and for discounted customers' receivables totaling approximately $229 million and $209 million at December 31, 1991 and 1990, respectively. Future minimum payments under non-cancellable operating leases and unconditional inventory purchases are $170 million; $148 million; $70 million; $46 million and $37 million for 1992-1996, respectively, and $197 million thereafter.

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

	1991	1990
U. S. agricultural product distributors	$ 141	$ 150
European agricultural product distributors	176	90
Pharmaceutical distributors worldwide	332	283

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

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 product liability, government regulation, including environmental issues, and other issues. Certain of these actions seek damages in very large amounts. While the results of litigation cannot be predicted with certainty, management believes, based upon the advice of Company counsel, that the final outcome of such litigation will not have a material adverse effect on Monsanto's consolidated financial position.

SUPPLEMENTAL DATA

Supplemental income statement data were:

	1991	1990	1989
Raw material and energy costs	$ 2,571	$ 2,741	$ 2,659
Employee compensation and benefits	2,316	2,184	2,045
Current income and other taxes	640	533	562
Rent expense	143	145	119
Technological expenses:			
Research and development	627	612	598
Engineering, commercial development and patent	84	80	74
Total Technological Expenses	711	692	672
Interest expense:			
Total interest cost	193	208	204
Less capitalized interest	(24)	(29)	(22)
Net Interest Expense	169	179	182
Currency gains (losses) including equity in affiliates' currency gains and losses	(10)	(45)	(31)

SEGMENT INFORMATION

Certain operating unit segment data and geographic data for 1991-1989 appear on pages 28 and 36 and are integral parts of the accompanying financial statements. The principal product lines included in each operating unit are shown in the operating unit segment data.

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FINANCIAL SUMMARY

(Dollars in millions, except per share)	1991(1)	1990(2)	1989(3)	1988	1987(4)
Operating Results					
Net Sales	$ 8,864	$ 8,995	$ 8,681	$ 8,293	$ 7,639
Operating Income	570	909	1,078	955	734
As a Percent of Net Sales	6%	10%	12%	12%	10%
Net Income	296	546	679	591	436
As a Percent of Net Sales	3%	6%	8%	7%	6%
Return on Shareowners' Equity	7.6%	13.6%	17.6%	15.4%	11.4%
Earnings per Share	$ 2.33	$ 4.23	$ 5.01	$ 4.14	$ 2.82
Year-End Financial Position					
Total Assets	$ 9,227	$ 9,236	$ 8,604	$ 8,461	$ 8,455
Working Capital	1,536	1,323	1,326	1,117	1,203
Property, Plant and Equipment:					
Gross	$ 7,902	$ 7,620	$ 6,937	$ 6,926	$ 6,730
Net	3,362	3,492	3,173	3,146	3,076
Long-term Debt	$ 1,877	$ 1,652	$ 1,471	$ 1,408	$ 1,564
Shareowners' Equity	3,654	4,089	3,941	3,800	3,901
Current Ratio	1.7	1.6	1.7	1.6	1.7
Percent of Total Debt to Total Capitalization	38%	35%	33%	34%	35%
Other Data					
Property, Plant and Equipment Purchases	$ 591	$ 750	$ 607	$ 590	$ 505
Depreciation and Amortization	751	739	690	703	679
Interest Expense	169	179	182	174	172
Research and Development Expenses	627	612	598	575	557
Income Taxes	146	263	336	302	237
Cash Provided by Operations	1,180	1,104	1,037	1,304	902
Stock Price:					
High	$ 76	$ 60 1/8	$ 62 1/8	$ 46 1/4	$ 50 1/8
Low	46	38 3/4	40 1/4	36 3/4	28 1/2
Year-end	67 7/8	48 1/4	57 3/4	40 7/8	41 1/2
Price/Earnings Ratio on Year-end Stock Price	29	11	12	10	15
Per Share:					
Dividends	$ 2.045	$ 1.88	$ 1.65	$ 1.475	$ 1.375
Shareowners' Equity	29.72	32.51	29.79	27.60	26.32
Shareowners (year-end)	60,152	62,230	61,942	66,066	68,032
Shares Outstanding (year-end, in millions)	123	126	132	138	148
Employees (year-end)	39,281	41,081	42,179	45,635	49,734

(1) *Net income for 1991 includes net restructuring expense of $325 million, $2.54 per share.*

(2) *Net income for 1990 includes $56 million, $0.43 per share, in gains resulting from divestitures, including the divestiture of certain assets of a joint venture in Japan.*

(3) *Net income for 1989 includes a $36 million, $0.27 per share, gain on the sale of the analgesics business.*

(4) *Net income for 1987 includes net restructuring income of $18 million, $0.12 per share.*

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EXECUTIVE AND OTHER OFFICERS

Chairman and Chief Executive Officer
Richard J. Mahoney*

President and Chief Operating Officer
Earle H. Harbison, Jr.*

Executive Vice Presidents
Robert G. Potter*
Nicholas L. Reding*
Robert B. Shapiro*

Senior Vice President and Chief Financial Officer
Francis A. Stroble*

Senior Vice President, Secretary and General Counsel
Richard W. Duesenberg*

Vice Presidents
Barry Blitstein
Earl N. Brasfield
Robert A. Clausen
Leonard A. Cohn
Grant W. Denison, Jr.
A. Nicholas Filippello, Ph.D.
Martin J. Kallen
Thomas H. Lafferre
Michael E. Miller*
Philip Needleman, Ph.D.*
Richard A. Overton
Michael A. Pierle
David L. Sliney
Virginia V. Weldon, M.D.*

Vice President and Controller
Bruce R. Sents

Vice President and Treasurer
Juanita H. Hinshaw

Chairman and Chief Executive Officer, The NutraSweet Company
Robert E. Flynn*

Chairman and Chief Executive Officer, G.D. Searle & Co.
Sheldon G. Gilgore, M.D.*

Chairman and Chief Executive Officer, Fisher Controls International, Inc.
Larry W. Solley*

**Executive officers as defined by the Securities and Exchange Commission.*

MONSANTO ADVISORY DIRECTORS

Michael E. Miller
St. Louis
Vice President, Administration,
Monsanto Company
Age: 50
Advisory Director: 1 year

Philip Needleman, Ph.D.
St. Louis
Vice President, Research and Development,
Monsanto Company
Age: 53
Advisory Director: 1 year

Robert G. Potter
St. Louis
Executive Vice President, Monsanto Company;
President, Monsanto Chemical Company
Age: 52
Advisory Director: 6 years

Nicholas L. Reding
St. Louis
Executive Vice President,
Environment, Safety, Health and Manufacturing,
Monsanto Company
Age: 57
Advisory Director: 10 years

Robert B. Shapiro
St. Louis
Executive Vice President, Monsanto Company;
President, Monsanto Agricultural Company
Age: 53
Advisory Director: 1 year

Francis A. Stroble
St. Louis
Senior Vice President and Chief Financial Officer,
Monsanto Company
Age: 61
Advisory Director: 10 years

Virginia V. Weldon, M.D.
St. Louis
Vice President, Public Policy,
Monsanto Company
Age: 56
Advisory Director: 1 year

BOARD OF DIRECTORS

Richard J. Mahoney
St. Louis
Chairman and Chief Executive Officer,
Monsanto Company
Age: 58
Monsanto Director: 13 years

Joan T. Bok
Westborough, Massachusetts
Chairman,
New England Electric System
Age: 62
Monsanto Director: 5 years

Earle H. Harbison, Jr.
St. Louis
President and Chief Operating Officer,
Monsanto Company
Age: 63
Monsanto Director: 6 years

Robert M. Heyssel, M.D.
Baltimore
President and Chief Executive Officer,
The Johns Hopkins Health System and
The Johns Hopkins Hospital
Age: 63
Monsanto Director: 3 years

Philip Leder, M.D.
Boston
Chairman, Department of Genetics,
Harvard Medical School;
Senior Investigator,
Howard Hughes Medical Institute
Age: 57
Monsanto Director: 2 years

Howard M. Love
Pittsburgh
Retired Chief Executive Officer,
National Intergroup, Inc.
Age: 61
Monsanto Director: 14 years

Frank A. Metz, Jr.
Armonk, New York
Senior Vice President, Finance and Planning, and
Chief Financial Officer,
International Business Machines Corporation
Age: 58
Monsanto Director: 2 years

Buck Mickel
Greenville, South Carolina
Chairman and Chief Executive Officer,
R.S.I. Holdings, Inc.;
Retired Vice Chairman,
Fluor Corporation;
Retired Chairman,
Daniel International Corporation, a Fluor subsidiary
Age: 66
Monsanto Director: 17 years

John S. Reed
New York
Chairman,
Citicorp and Citibank, N.A.
Age: 53
Monsanto Director: 7 years

William D. Ruckelshaus
Houston
Chairman and Chief Executive Officer,
Browning-Ferris Industries, Inc.;
Former Administrator,
U.S. Environmental Protection Agency
Age: 59
Monsanto Director: 7 years

John B. Slaughter, Ph.D.
Los Angeles
President, Occidental College;
Former Director,
National Science Foundation
Age: 58
Monsanto Director: 9 years

Admiral Stansfield Turner
(U.S. Navy, Retired)
McLean, Virginia
Lecturer and Writer;
Former Olin Professor of National Security,
U.S. Military Academy at West Point;
Former Director, U.S. Central Intelligence and
Central Intelligence Agency
Age: 68
Monsanto Director: 11 years

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COMMITTEES OF THE BOARD

Audit Committee
Buck Mickel, *Chairman*
Joan T. Bok
Robert M. Heyssel, M.D.
William D. Ruckelshaus
John B. Slaughter, Ph.D.

Corporate Social Responsibility Committee
Admiral Stansfield Turner, *Chairman*
Joan T. Bok
William D. Ruckelshaus
John B. Slaughter, Ph.D.

Executive Committee
Richard J. Mahoney, *Chairman*
Earle H. Harbison, Jr.
John B. Slaughter, Ph.D.

Executive Compensation and Development Committee
Howard M. Love, *Chairman*
Frank A. Metz, Jr.
Buck Mickel

Finance Committee
John S. Reed, *Chairman*
Richard J. Mahoney
Frank A. Metz, Jr.

Nominating Committee
Buck Mickel, *Chairman*
Howard M. Love
Frank A. Metz, Jr.

Pension and Savings Funds Committee
Admiral Stansfield Turner, *Chairman*
Earle H. Harbison, Jr.
Robert M. Heyssel, M.D.
Philip Leder, M.D.

SHAREOWNER INFORMATION

Annual Meeting
The next annual meeting of the shareowners of Monsanto Company will be held at 1:45 p.m., Friday, April 24, 1992, in K Building at the company's world headquarters, 800 North Lindbergh Boulevard, St. Louis, Missouri. A formal notice of the meeting, together with a proxy statement, is being mailed to each shareowner.

10-K Report and Corporate Data Book
Monsanto Company's 1991 Form 10-K Report filed with the Securities and Exchange Commission, and the 1991 Corporate Data Book, which both contain additional information relating to Monsanto, can be obtained by contacting:

Investor Relations Department
Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167
(314) 694-1000

Environmental Annual Review
Monsanto Company's Environmental Annual Review can be obtained by contacting:

Corporate Communications Department
Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167
(314) 694-1000

Stock Symbol — MTC

Stock Exchanges/Bourses

Amsterdam	London
Brussels	New York
Chicago (options)	Paris
Frankfurt	Tokyo
Geneva	Zurich

Transfer Agent and Registrar
The First National Bank of Boston
Box 644
Boston, Massachusetts 02102-0644

Printed with soy-based inks on recycled paper with 10 percent post-consumer waste.

Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167

Bulk Rate
U.S. Postage
PAID
St. Louis, MO
Permit No. 2935

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