Monsanto

1969
ANNUAL REPORT
MONSANTO COMPANY

DSW 020724

FINANCIAL HIGHLIGHTS

(Dollars in Millions, Except Per Share Figures)

	1969	1968 (2)
Earnings a Share:		
Primary	$ 3.28(1)	$ 3.26
Fully converted	3.21(1)	3.20
Cash Dividends a Common Share	1.80	1.65
Income:		
Net sales	$1,938.8	$1,865.1
Interest, dividends, etc.	25.1	18.4
	1,963.9	1,883.5
Costs of Doing Business:		
Raw materials, fuel, supplies, etc.	1,056.7	986.2
Wages and salaries to employes	490.2	454.8
Depreciation, depletion, etc.	163.7	174.3
Taxes (income, property, etc.)	115.0	130.5
Interest expense	21.7	21.5
Minority interests in subsidiaries	.5	.6
	1,847.8	1,767.9
Net Income	116.1(1)	115.6
Cash Dividends Paid	63.1	57.2
Retained for Future Growth	$ 53.0	$ 58.4
Per Cent of Sales:		
Gross profit	26.5%	26.7%
Selling and administrative expenses	11.4	10.6
Research, development, patent, engineering	5.2	4.6
Net income	6.0	6.2
Plant Additions and Replacements	$ 219.9	$ 135.0
Long Term Debt (Exclusive of Current Maturities)	$ 454.0	$ 472.8
Shareowners' Equity	1,204.7	1,154.4
Equity to debt ratio	2.65	2.44
Common Shares (In Millions)	33.1	33.1
Book Value a Common Share	$ 36.25	$ 34.74
Working Capital	$ 509.5	$ 519.7
Current Assets to Current Liabilities Ratio	2.66	2.86
Employes	64,604	62,815
Shareowners — Common Shares	118,156	111,538

(1) Includes $6.7 million, or 20 cents a share (primary) and 18 cents a share (fully converted) from extraordinary credits.
(2) Restated to reflect acquisitions in 1969. See note on page 17.

DSW 020725

TO THE SHAREOWNERS

At the threshold of a new decade, Monsanto took important new steps to meet challenge and change.

In 1969, a number of products with strong potential were marketed for the first time. Certain products of marginal profitability were discontinued. Operating divisions were further restructured into market-oriented business groups. Activities outside the United States continued to get heavy emphasis.

But rising costs and declining selling prices stalled efforts to advance profits.

Consolidated sales, which topped the 1968 total by 4 per cent, were at a record high level of $1,938,838,000. Net income from operations was down 5 per cent to $109,366,000. But extraordinary income increased the total net to $116,107,000, compared to $115,603,000 in 1968.

Primary earnings from 1969 operations were $3.08 a share. Comparable 1968 earnings, adjusted to reflect 1969 acquisitions on poolings-of-interests bases, amounted to $3.26 a share.

If all outstanding convertible issues were converted into common shares, earnings from operations would be $3.03 a share for 1969 and $3.20 a share for 1968.

The 1969 extraordinary income came to $6,741,000 or 20 cents a share. This increased the year's total primary earnings to $3.28 a share ($3.21 a share, assuming full conversion).

(Earnings computations are explained in detail on page 17.)

Most of 1969's extraordinary gain resulted from the sale of two businesses. One business Monsanto sold consisted of U.S. operations involving low-density polyethylene (although high-density polyethylene remains a major Monsanto product). The second business consisted of the bulk of the company's petroleum-additives operations and those of a subsidiary in the United Kingdom. The discontinued products were judged incompatible with Monsanto's long-range profit objectives.

The year-to-year increase in total primary earnings of 2 cents a share is accounted for as follows:

	Earnings a Share		
Year 1968 earnings			$3.26
Reduction in earnings caused by:			
Lower selling prices	$ .26		
Higher selling, administrative, research and development expenses	.57	$ .83	
Additional earnings resulting from:			
Higher sales volume	.46		
Lower raw material prices	.06		
Manufacturing cost savings	.03	.55	
Decrease in operating results		.28	
Other increases in earnings:			
Lower income charges	.04		
Higher investment tax credit of $.05 plus other tax items of $.01	.06	.10	.18
Earnings before extraordinary items			3.08
Extraordinary items increasing earnings			.20(1)
Year 1969 earnings			$3.28

(1) In the 1969 Nine-Month Report to Shareowners, extraordinary items of 9 cents a share were included in "Other increases in earnings."

Italics in the text of this Annual Report identify Monsanto's registered ® trademarks.

CONSOLIDATED 1969 SALES BY PRODUCT GROUPS

	PER CENT OF TOTAL	PER CENT INCREASE (DECREASE) FROM 1968	1964
Man-Made Fibers	26.2	(3)	31
Plastics, Resins and Coatings	23.0	8	32
Phosphates and Detergents	9.4	11	34
Products for Agriculture	8.9	9	74
Intermediates, Plasticizers and Functional Fluids	8.4	(2)	40
Rubber and Oil Chemicals	5.8	1	28
Electronics and Process Controls	5.4	14	101
Petroleum Products	5.1	2	12
Food Ingredients and Fine Chemicals	2.7	4	28
Textile and Paper Chemicals	2.5	9	43
Heavy Chemicals	1.8	0	28
Other Products	.8	—	—
	100.0	4	38

The 1969 merger of Fisher Governor Company into Monsanto resulted in the issuance of Monsanto preferred stock in exchange for Fisher's outstanding common shares. Acquisition of full ownership in London-based Monsanto Chemicals Limited (MCL) was accomplished by issuance of Monsanto Textiles Limited loan stock in exchange for the publicly held one-third interest in MCL. Both new issues are convertible into Monsanto common stock. (More detail appears on page 17.)

Fisher — now operating as Fisher Controls Company, Inc., a Monsanto subsidiary — produces automatic control valves and has headquarters in Marshalltown, Iowa. Pooling Fisher's capabilities with Monsanto's will accelerate development of process-control instruments for industry.

In 1969, Monsanto created its 10th division: the Electronic Products & Controls Division. Fisher is a principal component. In addition, the division markets semiconductor materials, solid-state light and microwave devices and test and measurement instruments.

If Monsanto's carefully designed growth program is to succeed, the company must extend its strengths and science-based capabilities into new businesses related to but differing from its present businesses. Thus the expenditure for research directed toward that goal was increased considerably from the 1968 level. To defend against inflation-caused profit erosion, it was also necessary to put more dollars into the search for process improvements to lower costs.

Marketing expenditures were boosted too, in response to sharpened competition. To maintain or strengthen market positions, marketing efforts had to be more aggressive and more innovative.

It is unfortunate that spending had to be increased so sharply in a year beset by a slowing economy and mounting costs. But the decision was for the long-term benefit of Monsanto and its shareowners. And this must always take precedence over short-term considerations.

A number of products commanded higher prices in 1969. Yet, price attrition again was a serious problem although less so than in the three prior years. Declining selling prices were most prevalent in the area of man-made fibers. But price softness was evident in several other product groups.

Although the 1969 sales increase could not offset the negative factors, the sales record was a good one. In fact, nine of Monsanto's 12 product groups exceeded year-earlier sales totals. Sales beyond U.S. borders, an important source of earnings, rose 8 per cent to $451 million, compared to $416 million in 1968.

The year's capital expenditures of $219,872,000 were 63 per cent greater than the 1968 expenditures of $134,993,000. Monsanto is borrowing $60 million in multiple currencies to finance European investments. Study is under way to determine appropriate financing for domestic needs.

A number of major expansion projects were under way or announced in 1969. Key products involved included *Acrilan* acrylic fiber; *Saflex* polyvinyl butyral sheet (interlayer for laminated safety glass); acrylonitrile for making plastics and fibers; high-density polyethylene; semiconductor materials for electronic devices; chemicals for the manufacture of rubber products; polyester tire yarn; acetic acid and methanol for plastics production; and plasticizers, which enhance the properties of plastics. Construction of the parent company's 47th U.S. plant was almost complete at year's end. Located in Boulder, Colo., it will produce electronic instruments for testing and measuring.

Eliminating pollution of the nation's air and water is a concern Monsanto has long shared with the government and the public. President Nixon has promised all-out government effort to clean the environment and Monsanto plans to have a major role in this activity.

Having been an early leader in fighting pollution, Monsanto has experience which provides opportunity for expansion into a new business area vitally bearing on the public interest. The company now markets a number of pollution-control products and systems and is developing others. In 1969, Monsanto put additional thrust into its total effort by forming Monsanto Enviro-Chem Systems, Inc., as a separate company. This new subsidiary will offer equipment, services and systems to help solve many serious environmental problems while adding to Monsanto's profit potential.

For one development in this area, the Cat-Ox system to remove sulfur dioxide air pollutant from the stack gases of coal-fired boilers, Monsanto received a merit award from Chemical Engineering magazine in 1969.

Two problems of major concern to the company may be acted upon by the U.S. government in 1970.

One issue involves rising imports of man-made fibers and their derivatives. Despite a slowing U.S. market, 1969 imports of goods made wholly or partly from man-made fibers exceeded 1968's record volume by 23 per cent, with apparel imports rising 64 per cent. Obviously, the textiles industry, Monsanto's major customer, is being hurt.

The Nixon Administration's attempts to get textile and apparel exporting countries to limit voluntarily their shipments to the United States have been unsuccessful to date. It appears that it will take an aroused Congress to force action, perhaps by legislation.

A second problem facing Monsanto is government restriction on imports of hydrocarbon raw materials for petrochemical production. While U.S. petrochemical producers must buy domestic liquid feedstocks at prices much above world-market prices, the government grants U.S. tariff cuts to overseas competitors using lower-priced raw materials. If U.S. petrochemical producers are permitted to buy world-priced hydrocarbon feedstocks, they will have a more competitive market position. Hopefully, a new government oil program to be announced in 1970 will correct the unfairness of the present situation.

Monsanto was saddened in 1969 by the death of Herbert Hoover Jr., who had served the company with skill and dedication as a director. Mr. Hoover, son of the 31st U.S. president and himself a former U.S. undersecretary of state, was elected to the Board of Directors in 1958 and remained a member until his death.

In November, the board elected two Monsanto officers to its membership. They are H. Harold Bible, vice president, administration, and John R. Eck, vice president, operations. Both are members of the Corporate Management Committee.

A distinguished Monsanto director reached retirement age this month and is leaving the board. He is Charles Allen Thomas, whose service to Monsanto included nine years as president and five as chairman.

Dr. Thomas is a renowned scientist, an eminent business executive and an outstanding civic and educational leader. During his 34-year association with Monsanto, the company benefitted in many ways from his leadership.

The Annual Review mailed with this Annual Report features employes. We think those who read it will share our respect and appreciation for the efforts of Monsanto men and women everywhere.

Sincerely,

Chairman of the Board

President

St. Louis
February 24, 1970

The next annual meeting of the shareowners of the company is to be held at 10 a.m. Thursday, March 26, 1970, at the company's General Offices, 800 N. Lindbergh Blvd., St. Louis County, Mo. A formal notice of the meeting, together with a proxy statement and form of proxy, is being mailed to each shareowner.

DSW 020728

1969 OPERATIONAL HIGHLIGHTS

Most Monsanto activities relate in some way to the manufacture and sale of products. Therefore 1969's more significant developments are discussed here primarily in terms of products and product uses. Information is classified by Monsanto's 12 product groups and treated on a worldwide basis.

MAN-MADE FIBERS

Monsanto's fiber sales dipped 3 per cent.

Sales of *Blue "C"* nylon were much improved in Europe but sharply lower in the United States. Sales of *Acrilan* acrylic fiber gained significantly at home and abroad. *Blue "C"* polyester, which is offered only in domestic markets, had the largest percentage sales increase. Declining U.S. selling prices affected all three fibers, nylon especially.

In 1969, Monsanto benefitted from a sharp upsurge in the popularity of nylon pantyhose. *Actionwear* textured nylon yarn was an early development that helped Monsanto gain a strong position in this relatively new, rapidly expanding market.

Monsanto's new 22N antistatic nylon for apparel use has been well received by makers and wearers of tricot lingerie. Garments made from 22N show little tendency to ride up or cling to the body. The fiber also resists apparent soiling and has good moisture-transport properties that help avoid the hot, sticky feeling associated with most nylon undergarments.

Cadon nylon, a carpet fiber Monsanto introduced in 1968, has been adopted in many grades by leading mills. Available in multidye-level yarns, *Cadon* has improved antistatic and soil-resistant properties. Capacity for *Cadon* was lifted 50 per cent in 1969.

In Dundonald, Scotland, and in Echternach, Luxembourg, Monsanto is adding capacity to produce nylon carpet fibers for European markets.

In acrylic fibers, Monsanto more than held its own against U.S. competitors. Although rising garment and fiber imports caused price pressure in U.S. markets, significant growth was achieved through greater use of the *Wear-Dated* trademark on apparel.

U.S. carpeting sales were retarded by reduced construction of housing and by credit tightening. But these factors were somewhat offset by greater use of carpeting in playrooms and on porches and patios. Monsanto's solution-dyed acrylic fiber for outdoor uses continued to hold a strong position.

It is generally expected that the U.S. government will impose flammability limits on carpet fibers. In 1969, Monsanto introduced a series of flame-retardant acrylics, which are being well received.

Capacity to produce *Acrilan* acrylic fiber was boosted to 225 million pounds annually in Decatur, Ala. The expansion was completed in November.

Overseas expansions involving *Acrilan* were begun in the United Kingdom and within the European Economic Community. The first, which neared completion at year's end, will add 25 million pounds to annual capacity in Northern Ireland. The second is at a new site in Lingen, West Germany. In 1971, production of *Acrilan* is to start there at a yearly rate of 35 million pounds. Expansion of annual capacity to 60 million pounds has been planned.

In 1969, Monsanto's new WD-2 polyester fiber for *Wear-Dated* apparel received good early acceptance. The fiber has a number of improved properties.

Domestically, there has been sharp growth in the market for automobile tires belted with polyester and glass. In fact, such tires have become standard equipment on some U.S. autos. In Decatur, Monsanto is installing equipment to eventually produce 60 million pounds of polyester tire yarn yearly. Start-up is expected by mid-1970.

PLASTICS, RESINS AND COATINGS

Sales of plastics and related products exceeded 1968 levels by 8 per cent. Healthy growth characterized most U.S. markets. Price firming was general.

Performance outside the United States — particularly in Europe, Latin America and the Far East — was excellent as Monsanto served new markets in fast-developing areas of the world.

Despite cutbacks in automotive production, use of *Lustran* ABS polymer in auto parts gained. Monsanto introduced platable ABS materials for making metallized parts. Use of *Lustran* by appliance makers also advanced. In 1969, Monsanto increased domestic ABS capacity and began an ABS expansion in Japan.

DSW 020729

Sales of *Lustrex* polystyrene — used in making packages, housewares and small appliances — rose.

Styrene monomer, a raw material for ABS and polystyrene, was in good demand. Export sales were especially strong. Expansions began in Australia and in the United Kingdom. The latter, which is at the plant of an affiliate company, is based on new Monsanto-developed technology.

Capacity for polyvinyl chloride — used in building products, packages and home furnishings — was boosted by Monsanto in Mexico and by associate companies in Japan and Spain.

There was an increase in sales of high-density polyethylene, used in blow-molded bottles and other engineered products. Capacity to make the plastic was hiked to 180 million pounds annually in Texas City. As reported on page 1, Monsanto sold its low-density polyethylene business in 1969.

Record overseas business helped total sales of *Saflex* polyvinyl butyral sheet, an interlayer for laminated safety glass, stay close to the 1968 level despite a decline in domestic auto production. Expansions in Trenton, Mich., and in Springfield, Mass., boosted Monsanto's capacity to produce the resin from which *Saflex* is made. Capacity to make *Saflex* itself will be increased in Trenton and in Ghent, Belgium, in 1970. And two new production units are scheduled for 1971 start-up.

An associate company in Japan plans to make *Saflex* there. In 1969, the Japanese government approved the necessary technological agreements.

To support phenolic, melamine and urea resin operations, formaldehyde capacity is being increased 20 per cent in Springfield. This will bring Monsanto's total formaldehyde capacity to nearly 500 million pounds a year.

In 1969, Monsanto marketed new melamine-formaldehyde resins for industrial baking finishes. Their expanding applications include coatings for metal coils, and enamels for autos and appliances.

In Texas City, construction continued on units to make methanol and acetic acid — the latter by a low-cost, high-yield process developed by Monsanto. Both are key raw materials from which Monsanto produces phenolic and polyvinyl acetate resins.

Sales of molded and fabricated products for building and other uses topped 1968 levels. Such products are made and marketed domestically and in Canada, Mexico, Spain and the United Kingdom.

Production of polyethylene film and sheet was near capacity as demand increased in agricultural and industrial film applications. Film capacity is being increased at two plants.

In 1969, Monsanto again improved its position as a major supplier of plastic packages.

Growing demand for *Polyflex* polystyrene film and sheet prompted expansions in Ligonier, Ind., in Belgium and in Japan. Sales of "see-through" meat trays (made of *Polyflex*) advanced substantially.

Capacity to make vending cups was boosted in Bridgeview, Ill. Cup sales rose in 1969.

Consumer preference for plastic bottles helped blow-molded containers sell in record volume. The total market continues to grow about 15 per cent annually. The rapid trend to plastic is particularly evident in the cosmetic and pharmaceutical markets.

An important long-range program to develop high-performance containers for beverages and foods was made public in 1969 when the Coca-Cola Company announced it was testing an experimental Monsanto plastic bottle. This developmental program could lead to an important new business opportunity for Monsanto.

PHOSPHATES AND DETERGENTS

Sales of phosphates, detergent actives and related products were higher by 11 per cent.

Enzymatic detergents gained popularity. In December, the company announced availability of two new detergent enzymes. They remove protein and carbohydrate stains from laundry.

In its first full year of production, the unit producing sodium nitrilotriacetate (NTA) at the Alvin, Tex., plant operated at high levels. NTA is used mainly with sodium phosphates to improve detergent performance. It has other applications in the textile, metal, paper and petroleum industries.

Sales of the two basic detergent intermediates, alkylbenzene and sodium tripolyphosphate, again rose. So did sales of phosphates for food, dentifrice and industrial uses.

Monsanto continued as a major producer of elemental phosphorus. All phosphorus furnaces operated smoothly, with production at record levels.

Dequest organophosphorus compounds were more widely used as scale and corrosion preventives in

COMPARATIVE CONSOLIDATED SALES, INCOME AND EARNINGS A SHARE, ON A QUARTERLY BASIS

	1969	1968(2)	Per Cent Increase *Decrease*
	(In Thousands)		
SALES:			
First quarter	$ 484,288	$ 451,727	7.2
Second quarter	523,563	483,850	8.2
Third quarter	461,508	454,858	1.5
Fourth quarter	469,479	474,711	*1.1*
	$1,938,838	$1,865,146	4.0
INCOME:			
First quarter	$ 34,735	$ 29,138	19.2
Second quarter	37,381	33,537	11.5
Third quarter	22,497	25,596	*12.1*
Fourth quarter	21,494	27,332	*21.4*
	$ 116,107(1)	$ 115,603	.4

	1969(1)		1968(2)	
	Primary	Fully Converted	Primary	Fully Converted
EARNINGS A SHARE:				
First quarter	$ .99	$ .96	$ .82	$ .81
Second quarter	1.07	1.03	.96	.92
Third quarter	.63	.63	.72	.71
Fourth quarter	.59	.59	.76	.76
	$3.28	$3.21	$3.26	$3.20

(1) Including extraordinary net credits aggregating $6,741,000, equivalent to 20 cents a share (primary) and 18 cents a share (fully converted). By quarters, the primary earnings a share were increased by 2 cents, 1 cent, 6 cents and 11 cents, respectively.

(2) Restated to reflect acquisitions in 1969. See note on page 17.

treating industrial water. *Phos-Chek* P/30 fire retardant for paints moved well. And *ACL* chlorine-carrying compound gained in popularity as a disinfectant for swimming pools.

In October, Monsanto had a successful start-up of its patented new solvent-extraction process for purifying crude phosphoric acid made by the wet process. The new technology is feasible for upgrading the acid into raw material from which industrial phosphate salts may be economically produced.

PRODUCTS FOR AGRICULTURE

Sales of these products rose 9 per cent despite a continuing unfavorable market for plant foods.

Strong markets for Monsanto's crop-protection chemicals were primarily responsible for the over-all advance. Two new products — *Lasso* herbicide for weed control in corn and soybeans and a package mix of *Ramrod* herbicide and atrazine for weed control in corn and sorghum — aided the gain.

Aggressive marketing helped *Lasso* win a significant share of the soybean herbicide market. A pre-emergence herbicide available in both liquid and granular form, *Lasso* does not have to be worked into the soil. Nor does the product leave a residue to interfere with succeeding crops. Late in the year, the U.S. Department of Agriculture extended clearance of *Lasso* in liquid form beyond corn and soybeans to include peanuts and certain types of cotton. The broader clearance also qualifies *Lasso* for aerial application, preplant incorporation and use in liquid fertilizers. Sales in 1970 are expected to benefit.

Distinct advantages earned the combination of *Ramrod* and atrazine enthusiastic reception among growers of corn and sorghum. Premixing the two popular weed killers, formerly purchased separately, saves farmers time and trouble.

Most established crop-protection chemicals also sold well. European demand for *Avadex* and *Avadex* BW wild-oat herbicides for use in small-grain crops and sugar beets continued strong. In October, a unit to formulate *Avadex* was completed in Antwerp, Belgium. In Australia and Canada, however, cutbacks in wheat production due to weakened export markets led to slackened demand for *Avadex* BW.

Sales of plant foods were disappointing again in 1969. Fertilizer overproduction kept prices at extremely low levels while overstocked customers held volume down. As a result, sales were below those of 1968. To improve its competitive position, Monsanto shut down obsolete ammonia, urea and nitrogen-solution units in El Dorado, Ark. In an efficiency move, the company began transporting ammonia for ammonium nitrate fertilizer production from the Luling, La., plant to El Dorado by pipeline.

Sales of animal products increased markedly despite intense foreign competition in feed additives. Advances in this area are expected to be achieved through the efforts of wholly owned Farmers Hybrid Companies, Inc. of Hampton, Iowa, a producer of hybrid seed corn and hybrid breeding swine.

INTERMEDIATES, PLASTICIZERS AND FUNCTIONAL FLUIDS

Sales of the group declined 2 per cent.

A user and a supplier of intermediate chemicals, Monsanto made major strides in updating its technology and production units. In St. Louis, for example, rehabilitation and expansion will increase maleic anhydride capacity to 105 million pounds annually. Maleic goes into polyester plastics, farm chemicals and other products. Monsanto completed another maleic expansion in England.

A unit being built at the plant near Alvin, Tex., will boost phenol capacity there to 400 million pounds a year. Phenol is basic in the production of plastics, medicinals and a variety of other products.

An expansion begun in Bridgeport, N.J., will increase Monsanto's total benzyl chloride capacity to 100 million pounds a year. The product is an intermediate for making plasticizers, pharmaceuticals, plastics, bactericides and fungicides.

In 1969, the phthalic anhydride unit completed earlier in Alvin proved inoperable. Consequently, the project had to be abandoned. Under construction in Texas City was a unit to make 130 million pounds of phthalic anhydride a year by another process. Phthalic is a raw material in producing paints, polyester resins and plasticizers.

Plasticizers impart fire-resistance, flexibility and other desirable qualities to plastics. In 1969, the prices of certain high-volume plasticizers dipped to their lowest levels in five years. But demand was firm, except among wire and cable producers, whose own sales were hurt by reduced housing starts.

Phosphate ester units neared completion at year's end in Bridgeport and in Sauget, Ill. The esters give plastics flame retardance. New safety requirements in the building, automotive and textiles industries have heightened demand for the plasticizers.

A 200-million-pound-per-year phthalate ester plasticizer unit being built in Texas City will increase total capacity for this ester by 50 per cent.

Production and packaging of *Skydrol* fire-resistant hydraulic fluid for aircraft began in France. Although the prices of *Skydrol* and competing fluids were generally depressed, Monsanto held its firm position in world markets.

Therminol fire-resistant heat-transfer fluid helped warm the air, water and fuel aboard the S.S. Manhattan as the ship made its historic trip through the Northwest Passage. New uses for *Therminol* aboard ship, on offshore gas-processing platforms and in space-heating applications helped sales.

Pydraul 312 fire-resistant hydraulic fluid for industry gained greater acceptance in die-casting and hot-metal working.

RUBBER AND OIL CHEMICALS

The group's total sales rose 1 per cent.

Monsanto enhanced its position as a supplier of chemicals to the rubber industry, particularly in Europe. Plans were announced to install facilities in Antwerp, Belgium, for producing accelerators to speed rubber vulcanization. The company also announced plans to produce rubber chemicals for the first time in these three countries: Australia, Japan and Spain.

In Akron, Ohio, Monsanto opened its new marketing and research center. Three testing instruments, designed by Monsanto for use by makers of rubber products, were introduced in the year.

As noted on page 1, the company sold its petroleum-additives business late in 1969.

ELECTRONICS AND PROCESS CONTROLS

Sales of this group rose 14 per cent.

Sales of test and measurement instruments gained. More than 25 such instruments were added to the line. Among Monsanto's 1969 innovations were digital read-out instruments employing solid-state numerics instead of conventional gas-discharge tubes.

Silicon sales were sharply higher in 1969, as rapidly expanding markets challenged Monsanto's ability to produce. An expansion in St. Peters, Mo., doubled capacity to produce polished silicon wafers. In 1969, further expansion of silicon capacity began there and in Ruabon, Wales.

Sales of solid-state light devices also rose. Increased desire of industry to utilize light-emitting semiconductors created more applications and greater demand for such devices. Monolithic and discrete light-emitting arrays for film-annotation systems, visible diodes and solid-state numerics moved well. In addition, a visible light-emitting diode was introduced to compete with subminiature incandescent lamps. Facilities were added at Cupertino, Calif., to produce these solid-state light devices.

In January, 1970, the company introduced the first process-control instruments developed through the combined capabilities of Monsanto and its new subsidiary, Fisher Controls Company, Inc. Designed to control continuous processes in the chemical, petroleum and other industries, these instruments will be made and marketed by Fisher.

PETROLEUM PRODUCTS

There was a 2 per cent gain in sales of products such as natural gas, crude oil, gasolines, diesel fuels, motor oils, greases and asphalt-based materials.

Prices of refinery products rose early in the year, following price hikes on crude oil. But most of the retail price increases eroded by year's end. Sales of branded gasoline gained as Monsanto continued to stress marketing through its own *Lion* and *Red Bird* service stations.

Gains in crude-oil production trailed sizable growth in natural-gas production. Dwindling opportunities for exploration in traditional U.S. areas have led to a new emphasis on exploration in other world areas. In 1970, groups in which Monsanto holds interests will do exploratory drilling in the Java Sea and in the Dutch North Sea.

FOOD INGREDIENTS AND FINE CHEMICALS

Sales of this product group advanced 4 per cent.

Vanillin was a major contributor to the gain. Despite price pressure from imports, sales of the vanilla-like flavoring reached record levels. An expansion to double Monsanto's vanillin capacity got under way in Seattle.

Saccharin, a long established nonnutritive sweetener, was under similar price pressure. But its sales, which topped prior records, benefitted from a new U.S. ban on cyclamate sweeteners in foods and soft drinks.

Raw material for the production of fumaric acid was in short supply. Sales of fumaric, which gives tartness to processed foods, consequently suffered.

Bulk aspirin sales were greater than ever.

Four flavor potentiators were introduced to the food industry. They impart improved taste and unique flavors to a variety of foods.

TEXTILE AND PAPER CHEMICALS

Sales of chemicals for the manufacture of textiles and paper were up 9 per cent.

Acrylonitrile, a raw material for acrylic and nylon fibers, continued in strong demand. Consequently production units operated at capacity. In the United Kingdom, construction of an acrylonitrile plant to supply the European market neared completion.

New formulations of *Mersize* paper-sizing agent were introduced for production of paperboard. Their low-foaming characteristics give users increased operational efficiency.

HEAVY CHEMICALS

Sales of heavy chemicals were at the 1968 level.

Capacity to make sulfuric acid was expanded in Everett, Mass., and in Lecheria, Mexico.

Other heavy chemicals, particularly caustic potash and muriatic acid, moved well. Salt production on Cote Blanche Island, La., was at a record high level.

OTHER PRODUCTS

In 1969, *AstroTurf* recreational surface was installed in 13 major sports facilities. Among locations installing *AstroTurf* in 1970 are St. Louis's Busch Memorial Stadium, San Francisco's Candlestick Park and new stadiums in Cincinnati and Philadelphia. There are now 36 major installations of *AstroTurf* completed or under contract.

In 1969, a third unit to make *AstroGrass* landscaping and decorative surfaces was added in Pensacola, Fla. Developmental work was intensified on new action-oriented surfaces expected to have widespread consumer appeal.

Developmental polymer-based composites drew new interest. One such product is *Tytron* heavy-duty flooring. Engineered to compete with terrazzo in heavy-traffic areas, the flooring is lightweight, easy to maintain and wear-resistant.

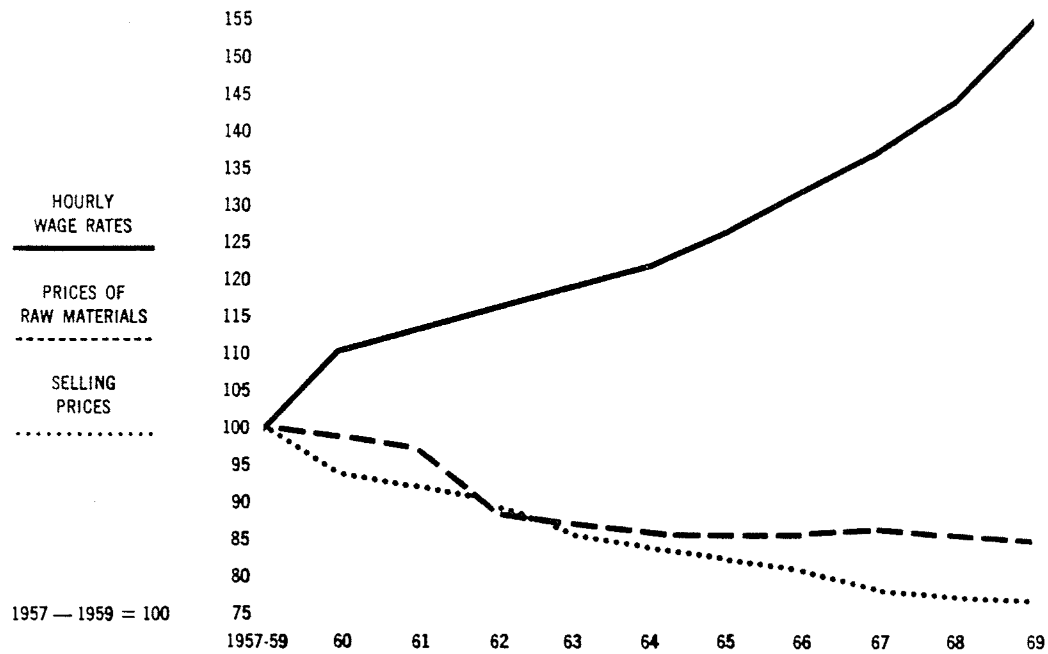
GROSS ADDITIONS TO PROPERTY AND DEPRECIATION

	Property Additions	Depreciation, Obsolescence and Depletion
	(Thousands of Dollars)	
1960	122,100	79,988
1961	155,130	87,778
1962	170,169	98,655
1963	115,686	115,723
1964	219,642	121,385
1965	299,078	134,781
1966	219,557	154,021
1967	166,415	165,160
1968	134,993	174,268
1969	219,872	163,725

DSW 020733

INDEX OF HOURLY WAGE RATES, PRICES OF RAW MATERIALS AND SELLING PRICES

PARENT COMPANY



Cerex spunbonded fabrics, produced directly from molten polymers by a unique Monsanto process, were introduced for industrial applications in 1969. Initial commercial use is in carpet underlay. Other applications as reinforcement for coated materials are being explored. Another interesting material introduced in 1969 is *Durette* fireproof fabric.

In cooperation with Baylor College of Medicine, Monsanto announced successful use of a polyelectrolyte material to monitor the presence of virus in public waters. Capable of alerting public health authorities to viral strains in their communities, these materials also can remove viruses from contaminated water supplies.

Two units to treat liquid waste were completed in 1969 by Monsanto Biodize Systems, Inc. Both are meeting all guarantees and operating above design criteria. Construction began on two more units, and contracts for seven others were signed or under negotiation. Increasing sales are expected in 1970 as more plants move to clean their waste.

Sales of *Brink* mist eliminators for air-pollution control again increased. Besides removing mists from gas streams, the devices recover usable products from the gases.

Technical and process-design phases of Monsanto's Cat-Ox system to remove sulfur dioxide and particulates from power-plant gases were completed. The prototype unit built in 1968 at Portland, Pa., again operated successfully. Legislative pressure on industry will have major influence on the size and growth rate of the market for such systems.

During the year, Monsanto designed and built a 25-ton-per-day prototype plant to dispose of municipal solid wastes. Its technology is being tested to provide the design basis for future plants of this type.

Sales of sulfuric acid plants rose. The company had 22 Monsanto-designed acid plants under construction at year's end. Activities in other process-design fields, including chlorine and detergent plants, also accelerated.

BUSINESS ABROAD

Business beyond U.S. borders continued to gain.

Monsanto is targeting to become a top international company in the 1970s. And an appropriate

DSW 020734

program has been drafted and implemented. It provides for emphasis on product lines in which the company has strong competitive positions; disinvestment in lines which fail to meet minimum profit standards; and diversification into growing, area-oriented businesses offering high profitability.

In 1969, outside the United States, Monsanto had 38 plants in 12 countries, 45 sales offices in 30 countries, 145 sales agents in 96 countries and almost 16,000 employes.

RESEARCH AND DEVELOPMENT

In 1969, as in previous years, Monsanto spent a large share of income on research, development, patent work and basic engineering. Such expenditures rose from $86.3 million in 1968 to $101.5 million in 1969.

Sizable sums went into expanding new Monsanto businesses. There was major investment in exploratory research at the edges of existing technology, especially by the New Enterprise Division, hopefully to build sound bases for future businesses. And additional dollars were spent on research into totally new areas which may offer future opportunities.

In 1969, 19 major new products were introduced, some in a variety of models or forms. Many are mentioned elsewhere in this report.

To support established businesses, research was directed toward the quest for lower-cost processes and improved models of existing products.

In 1969, Monsanto received 529 U.S. patents and 1,286 patents in other countries.

Both the Central Research Department and wholly owned Monsanto Research Corporation (MRC) contributed significantly to Monsanto's environmental-control efforts. Central Research has work under way to provide fundamental support to newly formed Monsanto Enviro-Chem Systems, Inc. New approaches to reducing or eliminating some major air and water pollution problems are under study.

MRC — which operates Mound Laboratory in Miamisburg, Ohio, for the Atomic Energy Commission (AEC) — utilized its expertise to assist in the greatest space adventure of the decade — the Apollo 11 and 12 moon flights. A unique nuclear heating system designed and fabricated for Apollo 11 protected scientific instrumentation from the cold lunar night. Another plutonium 238 capsule, fueled and fabricated at Mound for Apollo 12, is the energy source for the first atomic-fueled electrical power generator left on the moon.

Seventeen patent applications have been filed in the field of reinforced composites as a result of the joint project with Washington University under a contract with the U.S. Department of Defense. Reinforced composites are expected to make possible the construction of stronger, lighter-weight aircraft.

PERSONNEL

The 1969 recruiting effort was unusually successful. More than 900 professional personnel joined the company. Approximately 1,500 managerial or professional employes participated in formal training programs to accelerate development of critical job skills or management techniques.

SHAREOWNERS OF RECORD

	1969		1968		1967		1966		1965	
	Number of Share-owners	Number of Shares	Number of Share-owners	Number of Shares	Number of Share-owners	Number of Shares	Number of Share-owners	Number of Shares	Number of Share-owners	Number of Shares
Men	39,918	4,799,621	36,605	4,834,777	37,094	5,004,713	32,301	4,583,590	32,084	4,610,890
Women	34,062	3,919,326	32,963	3,897,063	32,811	3,961,870	29,983	3,837,791	29,211	3,872,397
Joint Accounts	26,502	1,441,638	24,929	1,326,692	24,541	1,282,708	19,030	952,801	18,431	897,004
Charitable Institutions	425	175,112	451	181,040	511	200,787	508	206,202	488	204,768
Educational Institutions	103	65,984	125	139,198	147	202,529	143	208,153	128	197,391
Estates and Trusts	13,064	1,725,115	12,644	1,726,361	12,363	1,771,876	10,429	1,795,397	9,770	1,723,319
Insurance Companies	166	895,333	184	1,207,856	228	1,317,139	267	1,279,902	270	1,322,827
Brokers and Nominees	2,138	18,818,762	2,041	18,649,909	1,999	18,186,175	1,900	18,429,055	1,800	17,853,952
All Others	1,778	1,247,471	1,596	1,046,024	1,669	1,034,208	1,377	1,015,932	1,356	951,809
Total	118,156	33,088,362	111,538	33,008,920	111,363	32,962,005	95,938	32,308,823	93,538	31,634,357

In 1969, 68 per cent of Monsanto shareowners held fewer than 100 shares.

DSW 020735

Despite a difficult economic climate, 19 new union contracts were successfully negotiated and an existing contract was extended. Twelve of the new contracts were for three-year periods; five were for two years; two were for one year. Strikes occurred in Anniston, Ala.; Ligonier, Ind.; Trenton, Mich.; and Yardville, N.J. None was of extended duration.

Accident prevention was again emphasized in all operations. Although the injury frequency exceeded 1968's record-breaking low, Monsanto continued as an industry leader in safety, domestically and abroad.

Responding to the need for greater corporate involvement in urgent social problems, Monsanto continued to cooperate with the National Alliance of Businessmen by providing jobs and training opportunities for disadvantaged groups.

Several key management changes took place in 1969. Among these were the elections of four divisional general managers to vice presidencies: Anthony J. A. Bryan, Dr. Louis Fernandez, Dr. Richard S. Gordon and Howard L. Minckler.

Fernandez also moved from general manager of the Inorganic Chemicals Division to general manager of the Textiles Division. Cecil P. Cunningham succeeded him as Inorganic's general manager.

Edmond S. Bauer was named general manager of the Agricultural Division, succeeding Robert R. Rumer, who resigned. And Richard K. Flitcraft became general manager of the new Electronic Products & Controls Division.

ACCOUNTANTS' OPINION

HASKINS & SELLS
CERTIFIED PUBLIC ACCOUNTANTS

515 OLIVE STREET
SAINT LOUIS 63101

Monsanto Company:

We have examined the accompanying consolidated financial statements (pages 12 through 19) of Monsanto Company and its subsidiary companies for the year ended December 31, 1969. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, such financial statements present fairly the financial position of Monsanto Company and its subsidiaries at December 31, 1969 and the results of their operations and source and application of their funds for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

February 9, 1970

Haskins & Sells

DSW 020736

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STATEMENT OF CONSOLIDATED FINANCIAL

ASSETS

	1969	1968
	(In Thousands)	
Current Assets:		
Cash	$ 30,816	$ 26,116
Marketable securities, at cost which approximates market	21,744	88,850
Net receivables	390,321	347,767
Inventories	373,915	336,862
	816,796	799,595
Investments and Miscellaneous Assets, at Cost or Less:		
Investment in and advances to associates	14,113	12,190
Miscellaneous investments and receivables	81,707	67,781
	95,820	79,971
Property, Plant and Equipment, at Cost	2,470,799	2,344,632
Less accumulated depreciation and depletion, etc.	1,399,371	1,298,057
Net property	1,071,428	1,046,575
Deferred Charges	28,188	30,587
	$2,012,232	$1,956,728

The above statement should be read in conjunction with pages 17, 18 and 19 of this report.

POSITION AT DECEMBER 31, 1969 AND 1968

LIABILITIES

	1969	1968
	(In Thousands)	
Current Liabilities:		
Accounts payable and accruals	$ 240,298	$ 217,723
Income taxes	39,957	49,244
Current portion of long term debt (less $1,000,000 debentures in treasury in 1968)	27,001	12,926
	307,256	279,893
Notes, Debentures, etc. — Less Current Portion Above	454,035	472,816
Other Liabilities and Deferred Credits:		
Deferred income taxes	31,599	38,167
Miscellaneous	11,519	8,759
	43,118	46,926
Minority Interests in Subsidiary Companies	3,142	2,746
Shareowners' Equity:		
Preferred stock — authorized, 10,000,000 shares without par value, issuable in series; outstanding, 2,302,810 shares in 1969 and 2,292,350 shares in 1968, stated value $2.24 each, $2.75 dividend, cumulative, convertible and redeemable; involuntary liquidation preference, $35 a share, or an aggregate of $80,598,350 in 1969 and $80,232,250 in 1968	5,158	5,135
Common stock — authorized, 50,000,000 shares, par value $2 each; outstanding, 33,088,362 shares in 1969 and 33,080,199 shares in 1968	66,177	66,161
Paid-in surplus	583,290	583,715
Retained earnings	550,056	499,336
	1,204,681	1,154,347
	$2,012,232	$1,956,728

DSW 020738

STATEMENT OF CONSOLIDATED INCOME

	1969	1968	Increase Decrease
	(In Thousands)		
Net Sales	$1,938,838	$1,865,146	$73,692
Cost of Goods Sold	1,425,355	1,367,888	57,467
Gross Profit	513,483	497,258	16,225
Less:			
Selling and administrative expenses	221,105	197,265	23,840
Research, development, patent and engineering expenses	101,479	86,281	15,198
	322,584	283,546	39,038
Operating Profit	190,899	213,712	*22,813*
Income Charges — Net	8,060	10,184	*2,124*
Income Before Income Taxes	182,839	203,528	*20,689*
Provision for Income Taxes:			
Current	80,041	89,433	*9,392*
Deferred (credit)	(6,568)	(1,508)	*5,060*
	73,473	87,925	*14,452*
Income Before Extraordinary Credits	109,366	115,603	*6,237*
Extraordinary Credits — Net, Including Applicable Income Taxes of $3,859,000	6,741		6,741
Net Income	$ 116,107	$ 115,603	$ 504
Earnings a Common Share:			
Primary:			
Before extraordinary items	$3.08	$3.26	*$.18*
Including extraordinary items	3.28	3.26	.02
Fully converted:			
Before extraordinary items	3.03	3.20	*.17*
Including extraordinary items	3.21	3.20	.01

The above statement should be read in conjunction with pages 17, 18 and 19 of this report.

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STATEMENTS OF CONSOLIDATED PAID-IN SURPLUS AND RETAINED EARNINGS

	1969	1968
	(In Thousands)	
PAID-IN SURPLUS		
Balance at Beginning of Year:		
As previously reported	$579,304	$581,134
Adjustments — see note on page 17	4,411	4,035
As restated	583,715	585,169
Additions:		
Excess of amounts received over the stated or par value of shares of preferred and common capital stock issued under stock option plans	407	1,636
Credits resulting from exercise of stock options of subsidiary company prior to acquisition	665	376
	584,787	587,181
Deductions:		
Pro-rata portion of excess of cost over par value of shares of common capital stock in treasury, issued to effect the acquisition, in pooling of interests transactions, of equities in subsidiary companies (see Retained Earnings below)	1,497	3,466
Balance at End of Year	$583,290	$583,715
RETAINED EARNINGS		
Balance at Beginning of Year:		
As previously reported	$480,482	$431,618
Adjustments — see note on page 17	18,854	15,222
As restated	499,336	446,840
Addition — Net Income for the Year	116,107	115,603
	615,443	562,443
Deductions:		
Dividends on capital stock of parent company:		
Preferred — at the annual rate of $2.75 a share	2,180	
Common — $1.80 a share in 1969 and $1.65 a share in 1968	58,993	54,032
	61,173	54,032
Dividends of subsidiary companies prior to acquisition	1,941	3,146
Pro-rata portion of excess of cost over par value of shares of common capital stock in treasury issued to effect the acquisition, in pooling of interests transactions, of equities in subsidiary companies (see Paid-in Surplus above)	2,391	5,929
Other (credit)	(118)	
	65,387	63,107
Balance at End of Year	$550,056	$499,336

The above statements should be read in conjunction with pages 17, 18 and 19 of this report.

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MONSANTO COMPANY AND SUBSIDIARIES

CONSOLIDATED SOURCE AND APPLICATION OF FUNDS

	TOTAL	1969	1968	1967	1966	1965
	(In Thousands)					
Source of Funds:						
From operations:						
Net income	$ 593,816	$116,107	$115,603	$111,704	$120,409	$129,993
Non-cash charges to income:						
Depreciation, depletion, etc.	791,955	163,725	174,268	165,160	154,021	134,781
Goodwill write-off	6,075				6,075	
	1,391,846	279,832	289,871	276,864	280,505	264,774
Outside financing:						
4½%-4¾% promissory notes	100,000				25,000	75,000
4½% sinking fund debentures	25,000					25,000
Subsidiary company prior to acquisition	9,000			2,250	6,750	
Foreign subsidiaries	52,182	12,600	1,600		5,206	32,776
Net book value of fixed assets retired	53,067	24,365	11,758	8,696	7,346	902
Common and preferred shares issued under options	14,300	962	2,137	563	2,396	8,242
Other — net	*20,778*	*13,554*	*6,231*	*4,372*	*4,833*	8,212
	1,624,617	304,205	299,135	284,001	322,370	414,906
Application of Funds:						
Dividends on common shares	259,688	58,993	54,032	51,347	50,507	44,809
Dividends on preferred shares	2,180	2,180				
Dividends of subsidiaries prior to acquisition	13,609	1,941	3,146	2,953	2,850	2,719
Plant additions and replacements	1,039,915	219,872	134,993	166,415	219,557	299,078
Retirement of long term debt	89,775	17,306	19,418	31,692	9,963	11,396
Increase in working capital[(1)]	252,537	66,319	29,564	49,407	57,884	49,363
Increase — *decrease* in cash and securities	*33,087*	*62,406*	57,982	*17,813*	*18,391*	7,541
	$1,624,617	$304,205	$299,135	$284,001	$322,370	$414,906

(1) Exclusive of cash and securities and current portion of long term debt.
The years 1965 through 1968 have been restated as described on page 17 of the Financial Review.
Italics indicate deduction.

FINANCIAL REVIEW

Basis of Consolidation, etc.

The accompanying financial statements consolidate all domestic and foreign subsidiaries in which Monsanto Company (the "Company") directly or indirectly has more than a 50 per cent interest.

In August 1969, the Company issued 2,299,710 shares of its $2.75 preferred stock for all of the outstanding common stock of Fisher Governor Company in a pooling of interests transaction. The Company also acquired equities in 1969 in three relatively small domestic companies in exchange for 86,368 shares of Monsanto treasury common stock and 71,279 newly issued shares of Monsanto common stock, all of which were accounted for as pooling of interests transactions. Additionally, through its wholly-owned subsidiary, Monsanto Textiles Limited, the Company in 1969 acquired the remaining 33⅓ per cent publicly held ordinary shares of Monsanto Chemicals Limited in exchange for 5 per cent convertible loan stock of Monsanto Textiles Limited. The loan stock is guaranteed by Monsanto Company and is convertible into Monsanto common stock beginning in 1972 at the initial conversion price of $55 a share. Monsanto Chemicals Limited's preference stock held by the public was exchanged for nonconvertible loan stock of Monsanto Textiles Limited.

The accompanying financial statements have been restated to reflect retroactively the operations of the companies acquired in poolings of interests, including the remaining 33⅓ per cent minority interest in Monsanto Chemicals Limited. Financial statements prior to December 31, 1968, however, have not been restated to include the operations of the three minor subsidiaries acquired in 1969, as the effect of such restatement would not be material.

Depreciation, Obsolescence, Depletion

Charges against income for depreciation, obsolescence and depletion amounted to $163,725,000, of which $159,969,000 was depreciation and obsolescence, and $3,756,000 depletion. In 1968, such charges were $170,667,000 and $3,601,000.

The use of the sum of the years digits method for computing depreciation on most of new assets acquired since 1954 was continued in 1969. The excess of depreciation provided by this method over straight line depreciation was $17,817,000 in 1969 and $22,925,000 in 1968. For income tax purposes only, the Company in 1962 adopted the guideline lives established for machinery and equipment by the United States Treasury Department. In addition, there are other timing differences which affect taxable income and enter into the determination of pretax accounting income in different periods. Net income is not affected by such differences since an amount equivalent to their tax effect is either charged or credited, as the case may be, to income through the provision for deferred taxes.

Doubtful Accounts and Allowances

The reserves for doubtful accounts and allowances were $15,413,000 at December 31, 1969 and $14,390,000 at the end of 1968.

Earnings a Common Share

The primary earnings a share of common stock are based on the number of common shares outstanding at the end of each year plus the number of shares issuable upon the conversion of the convertible loan stock of Monsanto Textiles Limited and the exercise of outstanding stock options. Net income used in this computation is after deduction of dividends on the $2.75 preferred stock but before deduction of interest (less tax) on the convertible loan stock of Monsanto Textiles Limited.

The fully converted earnings a share are based on the number of shares used in the determination of primary earnings, plus the number of common shares issuable upon conversion of the $2.75 preferred stock and upon conversion of the debentures of Monsanto International Finance Company. Net income used in this computation is before deduction of dividends on the $2.75 preferred stock and before deduction of interest (less tax) on the convertible loan stock of Monsanto Textiles Limited and on the debentures of Monsanto International Finance Company.

Employes' Bonus

The provision for employes' bonus in 1969 was $1,669,000, compared with $3,134,000 in 1968. On February 9, 1970, bonus awards aggregating $1,883,600 were made to 11 officers and 933 other employes. Awards granted in 1969 totaled $3,985,200.

Equity in Associates

The equity in the unaudited 1969 net income of 50 per cent-owned companies was $1,940,000 compared with $1,271,000 in 1968. Dividends of $508,000 were received from these companies in 1969 and $501,000 in 1968. The equity in the unaudited net assets of such companies at December 31, 1969 was $16,876,000, which exceeded the carrying value of the investment therein of $14,113,000 by $2,763,000.

Equity in Foreign Subsidiaries

The Company's equity in the net assets of foreign subsidiary companies was $232,895,000 at December 31, 1969 and $203,107,000 at the end of 1968.

Extraordinary Credits — Net

The extraordinary net credits of $6,741,000 result from the sales of the Company's domestic low density polyethylene resin business and the bulk of the petroleum additives business of the Company and an English subsidiary, aggregating $4,732,000, from income tax benefits of $1,148,000 from loss carry forwards of certain foreign subsidiary companies, and from other items aggregating $861,000.

Income Taxes

The Company's federal income tax returns have been examined for all years through 1963. Examination by the Internal Revenue Service of the return for the year 1964 has been largely completed, and returns for the years 1965 and 1966 are presently under examination. It is believed that adequate provision has been made in the accounts for any additional taxes that may be assessed.

The Revenue Act of 1964 provided for a credit against federal income taxes equal to approximately 7 per cent of expenditures for machinery and equipment purchased and placed in service during the year. The Company has consistently followed the practice of reducing its provisions for current income taxes by the amount of its investment credits, which aggregated $6,765,000 in 1969 and $5,016,000 in 1968. The investment credit was terminated as of April 18, 1969 by the Tax Reform Act of 1969. Due to transitional rules, however, such termination did not materially reduce the amount of credit available for the year 1969.

Inventory Valuation

Inventories are stated at the lower of cost or market, determined generally on the first-in, first-out basis. Annual rate of turnover was 4.0 in 1969 and 4.2 in 1968.

Leases

The Company has a number of lease agreements covering the use of transportation and other equipment, certain buildings, and retail outlets, which are generally cancellable without penalty. For the most part, the agreements are short term, with a few extending up to 20 years. The annual rental for leases having a life of more than three years amounts to approximately $15,000,000.

Legal Proceedings

The staff of the Federal Trade Commission is presently investigating the Fisher Governor merger. The Company cannot predict whether the Commission will issue a complaint challenging the merger or the outcome of any litigation that might ensue.

The Company and its subsidiaries are also defendants in a number of lawsuits and patent infringement actions. While the results of litigation cannot be predicted, management, based upon advice of Company counsel, believes that the final outcome of such litigation will not materially adversely affect the financial position or operations of Monsanto and its consolidated subsidiaries.

Liabilities — Contingent

The Company and its subsidiaries were contingently liable as guarantors of bank loans and for customers' receivables discounted aggregating approximately $12,500,000 at December 31, 1969 and $13,000,000 at the end of 1968.

Long Term Debt

The long term debt of the Company and its subsidiaries at December 31, 1969 and 1968, exclusive of current maturities, was as follows:

	1969	1968
	(In Thousands)	
Parent company:		
4½%-4¾% promissory notes, due 1970/1975 (see note below)	$ 85,000	$100,000
2.65% debentures, due 1971	16,000	17,000
3⅝% sinking fund debentures, due 1972	7,000	7,500
3½% promissory notes, due 1972	9,912	15,712
4¾%-6% bank loan, due 1976	5,724	6,816
4½% notes, due 1976	2,720	2,920
4¾% promissory notes, due 1993	100,000	100,000
3¾% income debentures, due 2002	91,000	91,000
4¼% income debentures, due 2008	50,000	50,000
Monsanto International Finance Company:		
4½% guaranteed sinking fund debentures, due 1985	25,000	25,000
Monsanto Textiles Limited (English subsidiary):		
Bank loans (½% over bank rate) due 1969	—	4,174
Bank loans (1% over bank rate) due 1970/1974	11,970	—
5% guaranteed loan stock due 1982/1986	25,920	25,920
5% guaranteed loan stock due 1992/1997	3,600	3,600
6¼% guaranteed loan stock due 1992/1997	3,600	3,600
Monsanto Chemicals Limited (English subsidiary):		
6% debentures, due 1977/1982	5,601	5,867
5% debentures, due 1982	6,710	6,922
Monsanto Cie S.A. (a Luxembourg subsidiary):		
4¾% bank loans due 1970-1971	2,004	4,008
Monsanto Mexicana S.A.:		
10.5% bank loan due 1970/1973	960	1,280
Other subsidiaries	1,314	1,497
Total	$454,035	$472,816

Note: The Credit Agreement covering the 4½%-4¾% promissory notes was amended on July 15, 1969 to provide that, at the option of Monsanto Company, an aggregate of up to $55,000,000 of the notes due in quarterly installments beginning May 15, 1970 and ending November 15, 1972 may be repaid in equal quarterly installments beginning February 15, 1975 and ending November 15, 1976. If this option is exercised, the interest rate on that portion of the loan will be ½% above the prime rate.

Monsanto International Finance Company Debentures

The $25 million of 4½ per cent sinking fund debentures due 1985 of Monsanto International Finance Company, which are fully guaranteed by Monsanto Company, are currently convertible into Monsanto common stock at $89 a share, subject to further adjustment under certain conditions.

Pension Plans

The Company and its subsidiaries have several pension plans covering substantially all of their employes, including certain employes in foreign countries. The total pension expense for the years 1969 and 1968 was approximately $30,068,000 and $27,701,000, respectively. The expense includes, as to certain of the plans, amortization of unfunded actuarial liability generally over a period of 30 years. It is the policy to fund pension cost accrued. The actuarially computed value of vested benefits for the plans of the parent company and certain domestic subsidiaries as of December 31, 1969 was approximately equal to the related pension funds.

Preferred Stock

The $2.75 preferred stock is convertible at any time into Monsanto common stock at the initial rate of 1.12 shares of common stock for each share of preferred stock, subject to adjustment in certain events under antidilution provisions. The $2.75 preferred stock may be redeemed at any time on or after August 12, 1974 at $73 a share, which amount is also the voluntary liquidation preference.

Repairs

Repairs and maintenance charges included in operating expenses were $121,971,000 in 1969 and $114,422,000 in 1968.

Shares Reserved

At December 31, 1969 there were 28,700 shares of $2.75 preferred stock reserved for stock options, and 4,487,642 shares of common stock reserved for the following purposes:

	Shares
Conversion of $2.75 preferred stock	2,579,147
Stock option plans	1,156,325
Conversion of convertible loan stock of Monsanto Textiles Limited	471,272
Conversion of debentures of Monsanto International Finance Company	280,898
Total	4,487,642

Stock Options

The status of the authorized common shares of the stock option plans for key employes and the changes occurring during the year were:

	1960 Plan	1964 Plan	1969 Plan
Outstanding 1/1/69	155,348	581,306	—
Unoptioned 1/1/69	—	7,698	—
Authorized during year	—	—	950,000
Optioned during year	—	20,680	758,350
Exercised during year	7,763	400	—
Expired during year	4,056	353,963	—
Terminated during year	8,779	15,542	1,000
Outstanding 12/31/69	134,750	232,081	757,350
Unoptioned 12/31/69	—	—	192,650

Under the above three key plans, 944 options were outstanding, at prices, after adjustment for stock dividends, ranging from $34.04 to $97.18 a share, or a weighted average of $48.06 a share.

Upon merger of Fisher Governor Company into Monsanto Company, the outstanding stock options granted by Fisher under its plans were assumed by Monsanto by substitution for each share of Fisher common stock subject to such options one share of Monsanto's $2.75 preferred stock. The status of the shares under these plans and the changes occurring during the period were:

Outstanding 8/12/69	31,800
Unoptioned 8/12/69	None
Exercised during period	3,100
Outstanding 12/31/69	28,700

Under these plans, 74 options were outstanding, at prices ranging from $20.45 to $46.50 a share, or a weighted average of $36.75 a share.

DSW 020744

HISTORICAL STATEMENT OF

(In millions)

ASSETS

	1969	1968	1967	1966	1965	10 YEARS AGO 1959	25 YEARS AGO 1944
Current Assets:							
Cash	$ 30.8	$ 26.1	$ 25.7	$ 28.9	$ 35.0	$ 34.0	$10.7
Marketable securities	21.8	88.9	31.3	45.9	58.2	122.3	2.5
Net receivables	390.3	347.8	324.5	308.2	275.7	120.4	11.2
Inventories	373.9	336.8	313.4	300.9	277.2	132.0	15.5
	816.8	799.6	694.9	683.9	646.1	408.7	39.9
Investments, etc.	95.8	80.0	78.9	86.9	87.3	62.8	4.8
Property:							
Land	30.3	35.8	34.7	33.5	28.9	15.0	2.5
Buildings	381.6	368.9	364.0	338.2	297.0	159.3	15.0
Machinery and equipment	1,933.4	1,812.7	1,773.3	1,677.3	1,540.9	724.9	53.5
Phosphate deposits	11.8	11.6	11.4	10.6	10.0	6.9	1.1
Producing oil and gas properties	103.8	107.2	102.4	100.0	97.9	76.6	—
Undeveloped oil and gas leaseholds	9.9	8.4	7.3	7.4	7.6	10.0	—
Accumulated depreciation, etc.	*1,355.1*	*1,253.1*	*1,153.3*	*1,022.0*	*896.6*	*391.3*	*35.4*
Accumulated depletion	*44.3*	*45.0*	*42.2*	*40.0*	*38.8*	*25.6*	*.3*
Net property	1,071.4	1,046.5	1,097.6	1,105.0	1,046.9	575.8	36.4
Deferred Charges	28.2	30.6	36.1	30.1	34.2	11.9	.6
	$2,012.2	$1,956.7	$1,907.5	$1,905.9	$1,814.5	$1,059.2	$81.7

(1) After deduction of tax notes of $13.8 million.
Italics indicate deduction.
The years 1965 through 1968 have been restated as described on page 17 of the Financial Review.

DSW 020745

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AND SUBSIDIARIES

CONSOLIDATED FINANCIAL POSITION

(In millions)

LIABILITIES

	1969	1968	1967	1966	1965	10 YEARS AGO 1959	25 YEARS AGO 1944
Current Liabilities:							
Accounts payable and accruals......	$ 240.3	$ 217.7	$ 197.6	$ 205.7	$ 209.3	$ 79.2	$ 8.5
Income taxes........................	40.0	49.3	52.2	64.8	62.8	53.6	(1)1.1
Current portion of long term debt....	27.0	12.9	11.2	17.2	9.8	12.3	—
	307.3	279.9	261.0	287.7	281.9	145.1	9.6
Notes, Debentures, etc................	454.0	472.8	492.4	520.3	500.8	299.1	—
Other Liabilities and Deferred Credits:							
Deferred income taxes..............	31.6	38.2	39.7	42.7	43.8	33.6	—
Miscellaneous......................	11.5	8.7	9.4	7.2	9.8	3.0	4.5
	43.1	46.9	49.1	49.9	53.6	36.6	4.5
Minority Interests in Subsidiaries.....	3.1	2.7	2.0	3.6	3.1	21.6	2.8
Shareowners' Equity:							
Preferred stock.....................	5.2	5.1	5.1	5.0	5.0	—	21.0
Common stock......................	66.2	66.2	65.9	64.6	63.3	53.4	12.7
Paid-in surplus.....................	583.3	583.7	585.2	555.0	528.1	230.5	12.9
Retained earnings..................	550.0	499.4	446.8	419.8	378.7	272.9	18.2
	1,204.7	1,154.4	1,103.0	1,044.4	975.1	556.8	64.8
	$2,012.2	$1,956.7	$1,907.5	$1,905.9	$1,814.5	$1,059.2	$81.7

DSW 020746

HISTORICAL STATEMENT OF CONSOLIDATED INCOME

(In millions except per share earnings)

	1969	1968	1967	1966	1965	10 YEARS AGO 1959	25 YEARS AGO 1944
Net Sales	$1,938.8	$1,865.1	$1,705.3	$1,679.0	$1,526.5	$875.0	$96.1
Cost of Goods Sold	1,425.3	1,367.9	1,255.8	1,219.2	1,073.7	614.4	71.9
Gross Profit	513.5	497.2	449.5	459.8	452.8	260.6	24.2
Less:							
Selling and administrative	221.1	197.2	179.6	172.8	163.5	74.2	6.7
Research, development, patent and engineering	101.5	86.3	84.2	76.0	69.9	35.9	2.2
	322.6	283.5	263.8	248.8	233.4	110.1	8.9
Operating Profit	190.9	213.7	185.7	211.0	219.4	150.5	15.3
Income Charges — Net	8.1	10.2	8.9	8.4	4.6	5.7	(1.6)
Income Before Income Taxes	182.8	203.5	176.8	202.6	214.8	144.8	16.9
Provision for Income Taxes	73.4	87.9	71.5	82.2	84.8	70.0	11.8
Income Before Extraordinary Credits	109.4	115.6	105.3	120.4	130.0	74.8	5.1
Extraordinary Credits — Net	6.7	—	6.4	—	—	—	—
Net Income	$ 116.1	$ 115.6	$ 111.7	$ 120.4	$ 130.0	$ 74.8	$ 5.1
Earnings a Common Share(1):							
Primary:							
Before extraordinary items	$3.08	$3.26	$2.96	$3.48	$3.86	$2.80	$.37
Including extraordinary items	3.28	3.26	3.15	3.48	3.86	2.80	.37
Fully converted:							
Before extraordinary items	3.03	3.20	2.92	3.40	3.73	2.80	.37
Including extraordinary items	3.21	3.20	3.10	3.40	3.73	2.80	.37

(1) Adjusted for splits.
The years 1965 through 1968 have been restated as described on page 17 of the Financial Review.

DSW 020747

OTHER DATA

(In millions except where italicized)

	1969	1968	1967	1966	1965	10 YEARS AGO 1959	25 YEARS AGO 1944
Plant additions and replacements......	$ 219.9	$ 135.0	$ 166.4	$ 219.6	$299.1	$ 76.9	$ 6.0
Depreciation, depletion, etc............	$ 163.7	$ 174.3	$ 165.2	$ 154.0	$134.8	$ 76.4	$ 7.2
Dividends a common share............	*$1.80*	*$1.65*	*$1.60*	*$1.60*	*$1.45*	*$1.00*	*$.25*
Book value a common share[1]........	*$36.25*	*$34.74*	*$33.31*	*$32.17*	*$30.67*	*$20.86*	*$3.84*
Common shares[1]...................	33.1	33.1	33.0	32.3	31.6	26.7	11.4
Preferred shares......................	2.3	2.3	2.3	2.3	2.3	—	.2
Working capital........................	$ 509.5	$ 519.7	$ 433.9	$ 396.2	$364.2	$263.6	$30.3
Long term debt (less current maturities)................................	$ 454.0	$ 472.8	$ 492.4	$ 520.3	$500.8	$299.1	—
Shareowners' equity..................	$1,204.7	$1,154.4	$1,103.0	$1,044.4	$975.1	$556.8	$64.8
Employes[2]..........................	*64,604*	*62,815*	*62,073*	*60,697*	*58,817*	*34,889*	*11,523*
Shareowners:							
Common............................	*118,156*	*111,538*	*111,363*	*95,938*	*93,538*	*78,675*	*10,560*
Preferred...........................	*3,621*	—	—	—	—	—	*3,270*

(1) Adjusted for splits.
(2) Includes Monsanto employes in plants operated for U. S. Government (1,837 in 1969).
The years 1965 through 1968 have been restated as described on page 17 of the Financial Review.

DSW 020748

MONSANTO'S WORLDWIDE INTERESTS

Included among Monsanto's member companies around the world are those appearing in the following list. Per cent ownerships, in some cases rounded to the nearest whole number, are noted parenthetically.

UNITED STATES: Fisher Controls Company, Inc. (100%) manufactures and markets automatic control equipment. Subsidiaries in Canada and Mexico.

George Lueders & Co., Inc. (100%) manufactures essential oils, flavors and fragrances.

Monsanto Enviro-Chem Systems, Inc. (100%) was formed to develop and market engineered pollution-abatement systems. Works in conjunction with **Leonard Construction Company** (100%), a design and construction firm, and **Monsanto Biodize Systems, Inc.** (80%), which develops and markets plants for removing water pollutants from industrial and municipal wastes.

Monsanto International Finance Company (100%) was formed to obtain funds abroad to help finance overseas expansion.

Monsanto Research Corporation (100%) conducts research for government agencies and for Monsanto; produces nuclear sources; operates a government-owned laboratory for the Atomic Energy Commission.

CANADA: Monsanto Canada Ltd. (100%) manufactures chemicals and plastics raw materials.

Plax Canada Ltd. (50%) produces plastic blownware.

MEXICO: Monsanto Mexicana S.A. (100%) produces chemicals, plastics raw materials and building products. A subsidiary makes plastic consumer products.

CENTRAL AND SOUTH AMERICA

ARGENTINA: Monsanto Argentina *S.A.I.C.* (100%) manufactures chemicals and plastics raw materials.

COLOMBIA: Fabrica de Hilazas Vanylon S.A. (49%) produces nylon 6 yarns.

PANAMA: Chemstrand Overseas S.A. (100%) and **Monsanto Overseas S.A.** (100%) handle certain investments outside the United States.

VENEZUELA: Monsanto Venezuela, Inc. (100%) produces petroleum.

EUROPE AND MIDDLE EAST

BELGIUM: Monsanto Europe S.A. (100%) manufactures plastics and chemicals in Belgium and conducts marketing activities throughout Europe.

FRANCE: Societe Monsanto (100%) makes plastics raw materials and plastic containers.

ISRAEL: Israel Chemical Fibres Ltd. (60%) manufactures *Acrilan* acrylic fiber.

LUXEMBOURG: Monsanto Cie S.A. (100%) manufactures nylon-6,6 yarns.

SPAIN: Alscondel S.A. (50%) makes consumer products of plastics. A subsidiary produces chemicals and plastics raw materials.

UNITED KINGDOM: Lansil Ltd. (100%) produces acetate flake and yarn, textile fabrics and apparel.

Monsanto Chemicals Ltd. (100%) manufactures chemicals, electronics materials, plastics and plastics raw materials. Major subsidiaries produce plastics for construction and packaging.

Monsanto Textiles Ltd. (100%) manufactures *Acrilan* acrylic fiber and nylon 6,6 yarns.

ASIA AND AUSTRALIA

AUSTRALIA: Australian Petrochemicals Ltd. (55%) manufactures raw material for plastics and rubber.

Monsanto Australia Ltd. (100%) makes chemicals and plastics raw materials. An associate produces fluorocarbons.

HONG KONG: *Monsanto Far East Ltd.* (100%) *supervises marketing of chemicals and plastics in the Asia-Pacific area outside Japan and Australia.*

JAPAN: Mitsubishi Monsanto Chemical Company (50%) manufactures chemicals, plastics and plastics raw materials.

Monsanto's participation in international commerce and trade is further revealed in this listing of companies engaged in various activities on a more modest scale than those listed above. Omitted entirely are almost 100 sales agencies representing Monsanto in most parts of the world.

Farmers Hybrid Companies, Inc. — United States
FRP Company — United States
Lenconco Construction Ltd. — Canada
Monoil Guatemala, Inc. — Guatemala
Monoil Indonesia, Inc. — Indonesia
Monoil Netherlands, Inc. — The Netherlands
Monsanto Agricola de Nicaragua S.A. — Nicaragua
Monsanto Centroamerica (El Salvador) S.A. — El Salvador
Monsanto Centroamerica (Guatemala) S.A. — Guatemala
Monsanto Chemicals of India Private Ltd. — India
Monsanto Chile Comercial e Industrial Ltda. — Chile
Monsanto Colombiana, Inc. — Colombia
Monsanto Comercio e Industria Ltda. — Brazil
Monsanto (Deutschland) GmbH — West Germany
Monsanto Dominicana, Inc. — Dominican Republic
Monsanto GmbH — Austria
Monsanto Inter-America Company — United States
Monsanto Italiana S.p.A. — Italy
Monsanto Japan Ltd. — Japan
Monsanto (Malaysia) Berhad — Malaysia
Monsanto (Nicaragua) S.A. — Nicaragua
Monsanto N.V. — The Netherlands
Monsanto Oils Ltd. — Canada
Monsanto Overseas Enterprises Company — United States
Monsanto Philippines, Inc. — Philippines
Monsanto Research S.A. — Switzerland
Monsanto (Scandinavia) A.B. — Sweden
Monsanto Singapore Co. (Pte.) Ltd. — Singapore
Monsanto South Africa (Pty.) Ltd. — South Africa
Monsanto (Suisse) S.A. — Switzerland
Monsanto Thailand Ltd. — Thailand
Monsanto (Venezuela) C.A. — Venezuela
Monsel Electronic Instruments Ltd. — Israel
Sidaplax N.V. — Belgium
Sinteticos Slowak S.A. — Uruguay
United Systems Corp. — United States
Wood Treating Chemicals Co. — United States

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DSW 020749

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THE BOATMEN'S NATIONAL BANK OF ST. LOUIS

Registrars

THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION)
ST. LOUIS UNION TRUST COMPANY

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