



®

*1966
ANNUAL REPORT
MONSANTO COMPANY*

MONS 352185

FINANCIAL HIGHLIGHTS

(Dollars in Millions, Except Per Share Figures)

	1966	1965
Earnings a Share.....	\$ 3.48	\$ 3.89
Cash Dividends a Share.....	1.60	1.45
Stock Dividend.....	2%	2%
Income:		
Net sales.....	\$1,611.9	\$1,468.1
Interest, dividends, etc.....	26.6	16.1
	<u>1,638.5</u>	<u>1,484.2</u>
Costs of Doing Business:		
Raw materials, fuel, supplies, etc.....	856.8	751.4
Wages and salaries to employees.....	375.8	343.9
Depreciation, depletion, etc.....	152.4	133.5
Taxes (income, property, etc.).....	115.1	111.4
Interest expense.....	23.4	18.9
Minority interests in subsidiaries.....	2.7	2.1
	<u>1,526.2</u>	<u>1,361.2</u>
Net Income.....	112.3	123.0
Cash Dividends Paid.....	50.5	44.8
Retained for Future Growth.....	<u>\$ 61.8</u>	<u>\$ 78.2</u>
Per Cent of Sales:		
Gross profit.....	26.8%	29.2%
Selling and administrative expenses.....	9.7	10.2
Research, development, patent, engineering.....	4.7	4.8
Net income.....	7.0	8.4
Plant Additions and Replacements.....	\$ 211.0	\$ 295.2
Investment in Affiliated Companies.....	—	1.1
Long Term Debt (Exclusive of Current Maturities).....	\$ 480.4	\$ 467.5
Shareowners' Equity.....	1,021.6	957.5
Equity to debt ratio.....	2.13	2.05
Common Shares (in Millions).....	32.3	31.6
Book Value a Common Share.....	\$ 31.62	\$ 30.27
Working Capital.....	\$ 377.7	\$ 350.1
Current Assets to Current Liabilities Ratio.....	2.38	2.31
Employees.....	57,647	56,227
Shareowners.....	95,938	93,538

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TO THE SHAREOWNERS

In 1966, the difficulties of the last six months tended to outweigh the achievements of the first half.

Although consolidated sales of \$1,611,881,000 exceeded their year-earlier level by 10 per cent, net income declined 9 per cent to \$112,306,000. Earnings were \$3.48 a share on 32,308,823 shares outstanding, compared to \$3.89 a share on 31,634,357 shares in 1965.

The adjoining tabulation, which lists the factors that resulted in lower year-to-year earnings, makes it apparent that lower selling prices again caused the heaviest drain on profits.

Worldwide price attrition affecting all Monsanto's major product groups was especially severe in man-made fibers. Total demand for such fibers did not slacken; it increased. As world supplies increased even faster, however, strong price competition resulted.

A second operating factor that reduced earnings was the rising cost of administrative, marketing and technological efforts. Unlike some cost increases, however, this one was planned and within budget. It followed a well-considered decision to commit more dollars to research, engineering, development, patent work, advertising and other activities pivotal to the company's success. Monsanto, like other growth companies, has had to enlarge the scope of such activities constantly to maintain its competitive position.

Finally, a smaller earnings reduction was caused by increased costs of raw materials.

Higher sales volume, lower start-up costs and new manufacturing economies benefitted earnings materially. Yet, they did not fully offset the total effect of the reductions experienced.

Sales advanced abroad as well as domestically. Sales beyond U. S. borders totaled \$343 million, compared to sales of \$311 million in 1965.

Lower start-up costs were due partly to a decline in plant completions. Outlays for plant and equipment were 29 per cent below their year-earlier level. Capital expenditures amounted to \$210,972,000 in

The year-to-year decrease in earnings of 41 cents a share is accounted for as follows:

	<u>Earnings a Share</u>
Year 1965 earnings.....	\$3.89
Reductions in earnings caused by:	
Lower selling prices.....	\$.55
Higher selling, administrative, research, development and other expenses.....	.42
Higher raw material prices.....	.02
	.99
Additional earnings resulting from:	
Higher sales volume.....	\$.51
Lower start-up costs.....	.18
Manufacturing cost savings.....	.17 .86
Decrease in operating results.....	.13
	3.76
Nonoperating items:	
Increase in taxes due to:	
Lower investment tax credit.....	.11
Other items.....	.06
Higher interest costs.....	.06
Lower other income charges.....	.03
Effect on earnings of shares issued during the year.....	.08
Sale of investments.....	.19
Goodwill write-off — Polythane.....	.19
Decrease.....	.28
Year 1966 earnings.....	<u>\$3.48</u>

Italics indicate addition.

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

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1966 and \$295,160,000 in 1965.

Start-up costs would have been still lower had it not been for the company's inability to maintain a satisfactory operating rate at the new phosphorus furnace in Soda Springs, Idaho. As a result, production was insufficient to meet market demand and earnings were thus further reduced. Problems of operating the phosphorus furnace, the world's largest, are expected to be corrected in the first half of 1967. The company's competitive position will thus be greatly enhanced.

New efficiencies in product manufacture reduced costs more than \$10 million in 1966. Although such reductions become increasingly more difficult to achieve, it is satisfying to note that Monsanto can claim a long record of annual improvement.

The year's two most significant nonoperating items were nonrecurring in nature. One was a third-quarter goodwill write-off, which reduced income by \$6,075,000. The other was an offsetting fourth-quarter profit of \$6,030,000 from sales of two investments.

As shareowners were told earlier, the write-off of goodwill was related to the manufacture of spandex elastomeric yarns, which Monsanto decided to discontinue.

The investments sold in the fourth quarter were minority interests in acrylic-fiber producers in Italy and Japan. After careful consideration, Monsanto chose to sell for two reasons. First, the company found itself in a competitive conflict with the two firms. Second, in view of such competition, the company decided it would be advantageous to withdraw its investment in these two firms and concentrate efforts on the production and marketing of its own *Acrilan* acrylic fibers.

Overseas fiber operations proved disappointing. Soon after Monsanto boosted fiber capacity in the United Kingdom, purchases by the textile industry there dropped suddenly and severely, due mainly to the government's anti-inflationary measures. Consequently, it was not possible to operate the new units at production levels of satisfactory profitability. That situation still exists.

Nor have fiber sales come up to expectations in the

Common Market nations of continental Europe. Start-up and marketing difficulties at the company's new nylon plant in Luxembourg further intensified Monsanto's problem.

In the fourth quarter, an explosion destroyed the company's polystyrene-production unit in Montreal. Although ample insurance coverage prevented material financial loss, the blast resulted in 11 fatalities and a number of injuries. Because of the human suffering it caused, the accident was regrettably tragic.

The production unit at the Montreal plant is to be rebuilt. Resumption of polystyrene manufacture there is scheduled for 1968.

Several noteworthy developments of 1966 could lead to new growth opportunities for the company: Monsanto's *AstroTurf* recreational surface proved outstandingly successful as a playing surface for baseball and football; the company put increased emphasis on the manufacture and marketing of its electronic instruments for testing and measuring; in cooperation with a power company, Monsanto began installing a pilot process designed to remove sulfur dioxide, a particularly troublesome air pollutant, from the waste gases of industrial plants; and a fuel cell which Monsanto developed under government contract proved capable of powering a three-quarter-ton truck.

Monsanto's Board of Directors underwent some personnel changes in 1966:

James S. Rockefeller, chairman of First National City Bank, New York City, was elected a Monsanto director and a member of the Finance Committee in July.

Alan H. Temple retired from the board in September. He had been a Monsanto director since 1959 and a member of the Finance Committee since 1960.

Monte C. Throdahl, a Monsanto vice president, was elected to the board and to the Executive Committee in November. He was also given responsibility for maintaining Monsanto's technological leadership, and he became chairman of the Technical Committee Feb. 1, 1967. Immediately prior to becoming a director, Mr. Throdahl had served as general manager of the International Division. He

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was succeeded in that position by Francis E. Reese, who had been assistant general manager of the Hydrocarbons & Polymers Division.

In October, two of Monsanto's directors were given broader responsibilities:

Vice President John L. Christian was advanced to the newly created office of senior vice president and made responsible for control and coordination of the company's worldwide operational functions.

At the same time, Vice President Edward J. Bock was appointed administrator of all central staff functions.

In January, 1967, there was an exchange of assignments between Vice Presidents James D. Mahoney and Tom K. Smith Jr. Mr. Mahoney became general manager of the Textiles Division; Mr. Smith became general manager of the Organic Chemicals Division. The change, which was made as part of the company's long-range organizational planning, adds substantially to the balance of management strength at the operational level.

The year 1966 was difficult. In spite of this, or perhaps because of it, Monsanto employees everywhere performed exceedingly well. We are most appreciative of their efforts.

Sincerely,

Edw. A. O'Neal

Chairman of the Board

Charles H. Sommer

President

St. Louis
February 20, 1967

The next annual meeting of the shareowners of the company is to be held at 10 a.m. Thursday, March 23, 1967, 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.

COMPARATIVE CONSOLIDATED SALES,
INCOME AND EARNINGS A
SHARE BY QUARTERS

	1966	1965	Per Cent Increase Decrease
	(In Thousands)		
SALES:			
First quarter..	\$ 407,187	\$ 358,703	13.5
Second quarter	433,149	384,309	12.7
Third quarter...	378,534	356,547	6.2
Fourth quarter.	393,011	368,588	6.6
	<u>\$1,611,881</u>	<u>\$1,468,147</u>	<u>9.8</u>

INCOME:			
First quarter..	\$ 36,390	\$ 34,194	6.4
Second quarter	39,402	38,791	1.6
Third quarter...	13,225 ⁽¹⁾	25,169	47.5
Fourth quarter.	23,289 ⁽²⁾	24,813	6.1
	<u>\$ 112,306</u>	<u>\$ 122,967</u>	<u>8.7</u>

	1966	1965	
		Adjusted for 1966 Stock Dividend	As Reported
EARNINGS A SHARE ⁽³⁾ :			
First quarter.....	\$1.13	\$1.06	\$1.08
Second quarter.....	1.22	1.20	1.23
Third quarter.....	.41 ⁽¹⁾	.78	.79
Fourth quarter.....	.72 ⁽²⁾	.77	.79
	<u>\$3.48</u>	<u>\$3.81</u>	<u>\$3.89</u>

SHARES OUTSTANDING DECEMBER 31:

1966.....	32,308,823
1965.....	31,634,357

(1) After deduction of \$6,075,000 for write-off of goodwill, equivalent to 19 cents a share.

(2) Includes profit on sale of investments, net of applicable income tax, of \$6,030,000, equivalent to 19 cents a share.

(3) Restated for the first three quarters of 1966 to reflect the shares outstanding on December 31.

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1966 OPERATIONAL HIGHLIGHTS

Most of Monsanto's activities relate in some way to the manufacture and sale of products. Therefore the year's more significant developments are discussed here primarily in terms of products and their uses. Information is classified according to Monsanto's 11 product groups and treated on a worldwide basis.

CHEMICAL FIBERS

Sales of man-made fibers were 6 per cent above their year-earlier level. It was unfortunate that profit margins were squeezed by price erosion and by expensive plant start-ups.

Total demand for nylon, acrylic and polyester fibers continued to surge upward. But world supplies of the three fibers moved ahead even faster as a number of new producers put plants into operation.

This imbalance of supply and demand has been most severe abroad. The European nylon market in particular has been disrupted by oversupply and resultant price-cutting. In the United Kingdom, the problem is especially acute. The anti-inflationary program the government introduced there in July caused reductions in sales for the short term, forcing abrupt production curtailment.

The adverse effect of current U.S. overcapacities in chemical fibers is intensified by sharply rising imports of the fibers and of fabrics and finished goods made from them. Such imports have increased more rapidly than U.S. demand for these products, thus undermining the sales volumes, prices and profits of domestic producers.

In 1966, *Blue "C"* nylon achieved record sales to makers of carpeting, hosiery, tire cord and industrial

products. Hosiery sales benefitted from the introduction of improved yarns which enable customers to produce more economically. A tire-cord yarn of superior toughness attained commercial status and further enhanced Monsanto's leadership in an important, rapidly growing market.

A potential new market for nylon was tapped when the company introduced its *AstroTurf* recreational surfaces. Installed at the Astrodome in Houston, Tex., *AstroTurf* performed successfully as a regulation playing surface for professional baseball and collegiate football. By year's end, specifically engineered *AstroTurf* surfaces were being tested for playgrounds, landscaping, putting greens and tennis courts.

Monsanto's new nylon plant in Dundonald, Scotland, is now making commercial-quality product at good yields. At Monsanto's other new nylon plant in Luxembourg, start-up problems were more complex. But that plant also is now turning out quality products. In the European area, Monsanto's nylon sales rose but did not meet expectations in a fiercely competitive market.

Sales of *Acrilan* acrylic fiber to the apparel market were at record rates. Through joint technical and manufacturing effort, a form of *Acrilan* for use in sweaters was upgraded to a competitively superior product, which moved in greater volume. Introduction of a brighter, better-dyeing *Acrilan* enabled the company to strengthen its competitive position as a supplier of acrylic fiber to carpet makers.

Recent major expansions at Monsanto's Decatur, Ala., plant resulted in a temporary but substantial overcapacity to produce *Acrilan* acrylics in 1966. This imposed higher unit-production costs, which were offset in part by the institution of new manufacturing economies. Production of *Acrilan* acrylic

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fiber in Ashdod, Israel, continued at a high level in 1966 and showed good profitability.

First-year sales of *Blue "C"* polyester were restricted by a delayed plant start-up and by a domestic market softened by heavy imports of polyester fabrics. High initial manufacturing and marketing costs also helped make the deficit in polyester operations larger than anticipated. Fabric Services, Inc., a dyeing and finishing operation Monsanto launched in 1965 in support of the polyester-marketing program, materially improved its manufacturing techniques by year's end.

Production of spandex stretch fibers was discontinued in the fall. When textured nylon became the fiber of choice for "stretch", the remaining market for spandex did not appear sufficiently attractive to merit Monsanto's further participation.

In September, the Chemstrand Division was redesignated Monsanto's Textiles Division. The renaming increases identification of the company with its

fibers and, at the same time, adds materially to the efficiency and the effectiveness of Monsanto's worldwide promotional activities.

PLASTICS, RESINS AND COATINGS

Sales surpassed those of the prior year by 9 per cent, straining the company's production capacity in many areas of the world.

Lustran acrylonitrile-butadiene-styrene (ABS) polymers — high-performance materials used in appliances and luggage — shared significantly in the sales increase. Prices of *Lustrex* polystyrene were stronger and the product moved well, especially to makers of plastic packages.

To meet rising demand for styrene polymers and copolymers, Monsanto increased its capability to make *Lustran* in Addyston, Ohio; Montreal, Canada;

CONSOLIDATED SALES BY PRODUCT GROUPS

PER CENT INCREASE 1966 OVER			PER CENT OF TOTAL		
1965	1961		1966	1965	1961
6	91	Chemical Fibers.....	27.5	28.6	25.2
9	107	Plastics, Resins and Coatings.....	24.9	25.1	21.0
27	153	Products for Agriculture.....	10.4	9.0	7.2
6	32	Phosphates and Detergents.....	9.2	9.6	12.2
14	50	Intermediates and Plasticizers.....	9.2	8.9	10.7
12	42	Rubber and Oil Chemicals.....	6.2	6.1	7.7
3	15	Petroleum — Net of purchases.....	4.4	4.7	6.7
9	38	Fine Chemicals and Food Ingredients.....	2.9	2.9	3.6
7	47	Textile and Paper Chemicals.....	2.4	2.4	2.8
1	24	Heavy Chemicals.....	1.9	2.0	2.6
—	—	Other.....	1.0	.7	.3
			<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

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MONSANTO'S DIVISIONS

The company in 1966 had these eight divisions: Agricultural Division, Hydrocarbons & Polymers Division, Inorganic Chemicals Division, International Division, Organic Chemicals Division, Packaging Division, Plastic Products & Resins Division and Textiles Division (formerly Chemstrand Division).

and Lecheria, Mexico. The company also completed polystyrene expansions in Newport, England; and Monzon, Spain. The Montreal polystyrene unit, destroyed by an October explosion, is to be rebuilt for renewal of operations early in 1968.

To insure adequate raw material for these enlarged plants, Monsanto is boosting annual capacity to make styrene monomer by 100 million pounds. The expansion is to be completed in Texas City, Tex., in 1967.

Although markets for polyvinyl chloride continued to grow, selling prices again weakened. In response to increasing use of *Opalon* vinyl paste resin for flooring and fabric-coating, facilities to make the resin were expanded 25 per cent in Springfield, Mass.

Demand for polyethylene climbed to peak levels in 1966. In the United States, Monsanto started producing foamable polyethylene for insulating the cables in community-antenna television systems. In the United Kingdom, improved polymers were marketed for the manufacture of bottles and packaging films. In Fawley, England, work began on an expansion that will add 50 per cent to low-density polyethylene capacity in 1967. Capacity to make high-density polyethylene is being increased in Texas City.

Sales of polyvinyl butyral interlayer for laminated safety glass reflected a favorable world level of automobile production. The interlayer, in a new form which Monsanto recently pioneered, has further contributed to motorist safety by increasing the strength and resiliency of today's auto windshields.

The product is now a standard in U.S. and Canadian vehicles. Many automobiles made overseas also use it. In 1966, Monsanto increased its capacity to make *Saflex* polyvinyl butyral sheets in Springfield.

Sales of Monsanto's polymers based on vinyl acetate virtually matched capacity throughout the year. Worldwide markets for the products — which go into electrical insulation, adhesives, textiles and coatings — are increasing steadily. In Springfield, Monsanto boosted capacity to make products for two of the four uses.

Expansions under way in Addyston and in Eugene, Ore., will increase Monsanto's formaldehyde capacity to more than 400 million pounds annually in 1967. The increased output will support the company's resin operations and will provide additional supplies for midwest customers.

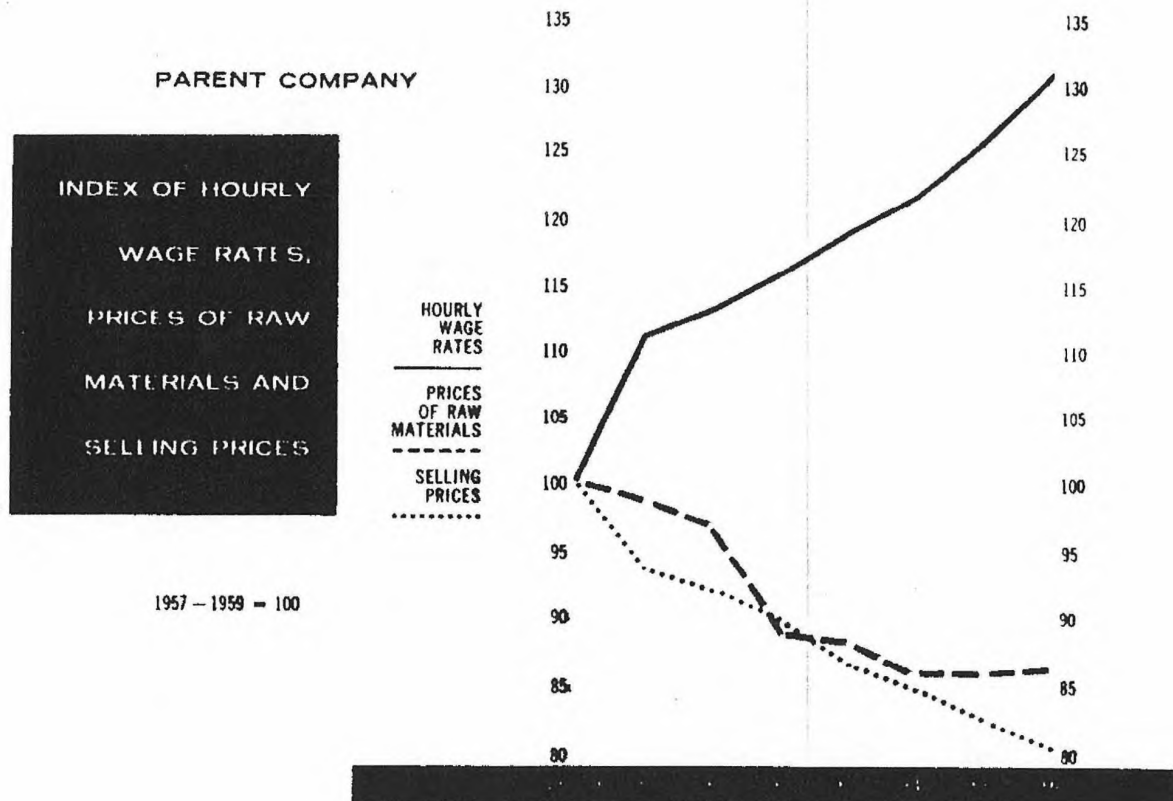
Among new resins offered to makers of adhesives and surface coatings in 1966 were a polyvinyl butyral, three low-priced melamine formaldehydes, a wood-sealer and wash-coat formulation, and a water-based vehicle that gives one-coat hiding power to flat, interior paints.

Sales of finished plastic products showed a marked increase. To add to manufacturing and marketing efficiency, three organizational units were combined in 1966. These were the Gering Plastics Department, the Building Products Department and the Fome-Cor operation.

To makers of mobile homes, Monsanto offered a new board of plastic foam. For use on the farm, the company came out with a new system of storing silage in polyethylene sheeting from which air is withdrawn by vacuum to prevent spoilage.

In the field of plastic packages, Monsanto's clear, plastic tray for prepackaged meats was outstandingly successful in 1966. It is now used by more than 500 stores operated by 14 supermarket chains. Expansions completed during the year increased Monsanto's capacity to more than 500 million meat trays annually.

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In the Chicago area, the company started up a package-fabrication plant. Margarine tubs were the first major product there.

In 1966, the market for plastic vending cups continued to increase, as did Monsanto's participation in it. Monsanto added to its capacity to make the cups, which are used to dispense both hot and cold drinks from coin-operated machines.

Sales of plastic bottles improved in 1966. Capacity to produce them was increased substantially as many companies switched to Monsanto's containers for the packaging of hair dressings, headache remedies, foods, household chemicals and a variety of other products.

PRODUCTS FOR AGRICULTURE

The 27 per cent increase in sales of farm chemicals was the best gain attained by any product group.

Monsanto again benefitted from the healthy American agricultural economy. Meanwhile, there were welcome signs that the emphasis of U.S. farm policy was starting to shift from surplus control to increased production. Moves in this direction tend to swell demands for farm chemicals.

Sales to growers through Monsanto-owned and independent outlets rose to record levels in 1966. The opening of 27 new Monsanto Agricultural Centers increased the total number of these company-

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owned outlets to 147. Besides handling retail sales of agricultural chemicals in prime U.S. farm regions, the centers offer such services as soil-testing, rental of equipment for applying fertilizers, and comprehensive advice on profitable crop production.

Plant foods — including ammonia, ammonium nitrate, and phosphates — sold in record volume.

Ammonia was in short supply all year, a situation caused by heavy demand and by the difficulties some U.S. producers experienced in bringing new plants on stream. Yet, Monsanto's newest ammonia-producing facility, which began operating in 1965 at Luling, La., ran in excess of design capacity and had a key role in increasing the company's sales of the important product.

The current outlook is for ammonia surpluses over the next few years. Monsanto therefore has temporarily deferred further expansion in this product area. Ability to meet increased demand will come from plant debottleneckings achieved in 1966.

Ammonium phosphate fertilizer moved well, particularly through retail outlets. To help Monsanto achieve a basic position in this popular plant food, the company obtained additional reserves of phosphate ore in Florida.

Sales of crop-protection chemicals gained strongly. Availability of *Ramrod* weed killer, introduced in 1965 on a limited basis, was extended to 22 states with outstanding success. Early in the year, a new unit to make *Ramrod* was completed in Muscatine, Iowa. A later expansion there added capacity to turn out *Ramrod* in granular form at an annual rate of 70 million pounds.

Ramrod is cleared for use on corn and seed soybeans, with clearances on additional crops pending. Appropriate field tests are in progress in 25 countries.

Sales of *Rogue* weed killer, which combats grasses that infest rice fields, were strong domestically and in less developed countries where farmers are starting to emulate U.S. rice growers' balanced program of pesticide and fertilizer application to increase yields.

Avadex wild-oat killer was in strong demand by producers of small-grain crops. Usage was especially heavy in the U.S. Red River Valley and in Australia,

Canada, Europe and Latin America. *Randox* herbicide was applied to corn and soybeans in record amounts.

Two crop-protection chemicals introduced in 1966 were *Wallop* pesticide, the first formulated weed and soil-insect killer combination on the market, and *Roundup* herbicide, which meets the needs of corn growers who farm certain light soils of the Midwest. Both were highly successful in their first year.

Cutbacks in U.S. cotton production depressed sales of parathion, a chemical which effectively combats the boll weevil. The problem, regarded as cyclic, is expected to correct itself in 1967.

To help expand sales of insect killers in Latin America, Monsanto established a company to formulate parathion in Nicaragua. Monsanto has similar formulating units in El Salvador and Guatemala.

Led by *MHA* protein supplement for poultry rations and *Santoquin* antioxidant, animal-nutrition products achieved record sales. Brisk demand for feed-grade urea, a low-priced protein source for cattle, reflected price increases on competitive products, especially soybeans.

In Spain, Monsanto introduced *Santophyll* feed additive, a new product fed to laying hens to produce eggs with uniformly rich-colored yolks, preferred by the Spanish people.

PHOSPHATES AND DETERGENTS

There was a year-to-year increase of 6 per cent in the group's total sales.

Demand for phosphorus salts, particularly by the soap and detergent industry, was especially heavy. Unfortunately, Monsanto was unable to take full advantage of the 1966 upsurge. Because of the difficulty the company experienced in operating its big, new furnace in Soda Springs, Idaho, there were insufficient supplies of phosphorus available to meet customers' complete requirements for derivative phosphates.

By year's end, headway was being made in resolving the problems of operating the giant furnace. In

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1967, Monsanto should begin to benefit from the unit's output, which will be converted into phosphates at newly expanded company facilities in the United States and Mexico.

In 1966, Monsanto again improved its position as a supplier of linear alkylbenzene to detergent makers. The material is a principal ingredient of the biodegradable detergents, which are now standard.

A new *ACL* chlorine-bearing chemical was introduced. The product, *ACL 66*, contains more available chlorine than do some earlier introductions. Customers using the new material are able to reduce their costs of formulating dry household bleaches and dishwashing compounds.

Sales of *Phos-Chek* fire retardant for combating forest fires increased markedly in 1966. A variation of the product, trademarked *Phos-Chek P/30*, was successfully commercialized for use in fire-retardant latex paints.

INTERMEDIATES AND PLASTICIZERS

The group's total sales advanced 14 per cent as most products were in firm demand.

Sales of intermediates for the manufacture of other chemicals exceeded expectations. This resulted in tight supplies of several major products and in selective but small price increases.

Plants and processes for many of the company's basic intermediates were enlarged, replaced or improved. The products involved included several which Monsanto makes primarily for its own use.

Plasticizers, used mainly to improve the properties of plastics, moved in greater volume. The gain was accelerated by increased use of polyvinyl chloride plastic in such products as floor coverings and upholstery, which require large amounts of plasticizer in their manufacture.

In 1966, Monsanto's new plasticizer plant in Antwerp, Belgium, began producing material of excellent quality to supply growing demands in Europe and elsewhere. Tanker shipments of *Santicizer*

160 primary plasticizer now move regularly from Antwerp to Hong Kong, Taiwan, South Africa and South America.

Domestic manufacture of *Santicizer 160* in Bridgeport, N.J., was at capacity during the year.

Demand for resin materials was brisk. In fact, world shortages were created by surging demand for such principal end products as paints and reinforced plastics made by Monsanto's customers.

Anticipating increased requirements for phthalic and maleic anhydride — two major resin materials — Monsanto began expanding highly efficient production units or replacing less efficient ones in England and the United States.

Despite increased output, supply and demand are expected to remain in fairly close balance. Of Monsanto's total production of resin materials, the company consumes more than half in making plasticizers, petroleum additives, agricultural chemicals and other products.

Sales of synthetic fluids continued strong to a number of large industries, including food processing, metalworking, electrical and aerospace.

The international pre-eminence of *Skydrol* fire-resistant hydraulic fluids for aircraft was strengthened by a product refinement that helps prevent the formation of bubbles which can be damaging to today's small but powerful systems.

Pydraul fire-resistant hydraulic fluids for industrial use were augmented in 1966 by the commercial addition of two low-priced, special-purpose, non-aqueous fluids.

RUBBER AND OIL CHEMICALS

The group bettered its 1965 sales by 12 per cent.

Rubber chemicals were in brisk demand. Monsanto made new moves to improve not only the products but the services it provides to the growing tire and rubber industry.

The company invested substantially in new facilities. The largest, to be completed in mid-1967, will make *Santoflex* antidegradants in Antwerp, Belgium.

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Other projects were begun or completed in Canada and England. In the United States, capacity to make butadiene for synthetic rubber was expanded as sales of the product increased. Domestic production of isoprene concentrate for polyisoprene rubber is to begin in 1967.

Progress was made toward strengthening the company's role as a supplier of petroleum additives to improve the performance of oils and gasolines. A global marketing organization was formed to serve the special needs of the petroleum industry.

In 1966, Monsanto reduced the number and types of products it offers formulators of fuels and lubricants for gasoline and diesel engines. This permits more research emphasis in areas where the company can be of maximum service to customers. Plans were made to establish production facilities in Japan. Elsewhere production costs were reduced by new and improved processes.

New product introductions included a combination detergent and deicer for gasoline, and a multi-component system of additive "packages" tailored to the needs of service-station oils as well as commercial lubricants.

PETROLEUM PRODUCTS

The year-to-year increase in sales of petroleum products amounted to 3 per cent.

Demand for refined products was the strongest in recent years. Wholesale and retail prices were firmer. Monsanto's gasolines and lubricants, which became available through 65 additional service stations in 1966, achieved a 3.5 per cent increase in retail sales.

Reduced availability of crude oil from nearby fields caused a slight decline in production at the company's El Dorado, Ark., refinery.

Sales of crude oil and natural-gas liquids approximated 1965 levels. Sales of natural gas rose 28 per cent.

An active 1966 exploration program added to Monsanto's reserves of hydrocarbons. Among new wildcat wells were oil discoveries in Louisiana,

Oklahoma and Utah. Participation in the completion of 62 producing wells gave the company a net increase of 38.23 wells for the year.

FINE CHEMICALS AND FOOD INGREDIENTS

This group, which includes some of Monsanto's earliest products, expanded its sales 9 per cent.

The company's outputs were increased to keep pace with growing demand for several products, notably bulk aspirin, domestic capacity for which was boosted significantly. Facilities to make bulk aspirin also were expanded in England.

Santophen 1 germicide, which sold well to formulators of the disinfectant cleaning solutions used traditionally to control many diseases and infections, was shown to be additionally effective against the tubercle bacillus.

Monsanto's program to develop specialty food ingredients spawned several promising products and formulations during the year.

TEXTILE AND PAPER CHEMICALS

Sales of chemicals for the manufacture of textiles and paper increased 7 per cent.

Acrylonitrile sales expanded as the second phase of a new production facility was completed at the Chocolate Bayou Plant near Alvin, Tex. Despite a temporary slump in textile markets, long-range demand for acrylonitrile by producers of chemical fibers and plastics is expected to grow. Part of Monsanto's increased output will be used by the company; the balance will be marketed.

High sales were achieved by *Mersize* sizing agents, which impart water resistance to paper, and by *Scripset* additives, which improve the dimensional stability and printability of offset printing papers. In 1966, Monsanto developed a unique, alkaline sizing system employing *Scripset* 520. Significant

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progress was achieved with a new pigment binder. Field tests indicate the product outperforms the paper-coating vehicles presently available.

HEAVY CHEMICALS

Sales of heavy chemicals were virtually unchanged.

A new, thoroughly modern facility to make sulfuric acid neared completion at Monsanto, Ill. The unit was carefully designed to minimize the amount of air-polluting sulfur dioxide in the waste gases.

The partly owned salt mine on Cote Blanche Island, La., was completed in 1966. By year's end, its output was at design levels.

In 1966, the company expanded its capacity to make *Santocel* silica aerogel, a flattening agent for lacquer and varnish. Sales of silica chemicals were strong. Sales of lampblack were at record levels.

OTHER PRODUCTS

Sales of silicon rose sharply. Forms of the product for use by the electronics industry in microcircuits and controlled rectifiers moved especially well.

Early in 1966, in St. Charles, Mo., Monsanto increased by 50 per cent its domestic capacity to produce a type of silicon used mainly in solid-state power devices. Another expansion begun there in the fourth quarter will double the company's total domestic capacity for silicon. Monsanto also manufactures this semiconductor material in Ruabon, Wales.

In September, the company established an instrument center in West Caldwell, N.J. Its operations include production of Monsanto's advanced electronic testing and measuring devices, including counter timers, digital voltmeters, pulse generators and signal sources. The new center also provides complete technical service to Monsanto's instrument customers.

In 1966, the company began producing new, large-size *Brink* mist eliminators for use in curbing air pollution. The line was expanded mainly to accommodate the needs of big, new sulfuric-acid plants

designed and built by Leonard Construction Company, a subsidiary of Monsanto.

RESEARCH, DEVELOPMENT AND ENGINEERING

Successful introduction of new and improved materials helps demonstrate the effectiveness of Monsanto's technological efforts. In 1966, the company achieved commercialization of 54 basic new products. In addition, a great many previously existing products were successfully upgraded.

During the year, Monsanto received 567 U.S. patents and 1,480 patents in other countries.

Expenditures for research, development, patent work and basic engineering amounted to \$76.0 million, compared to \$69.9 million in 1965.

In 1966, several potential new product lines were brought closer to the marketplace by the company's Central Research Department. One of the most interesting areas being investigated by the department is that dealing with the life sciences. Some of the programs still are highly theoretical; others are nearing commercialization. For example, one program, still in an early stage, involves the development of synthetic growth regulators. Other programs study the possibility of broader use of natural proteins as food sources, particularly in regions of the world where people face starvation.

In another active research area, initial field tests have demonstrated the considerable merits of several heavy-duty plastics. Investigation into processing and fabrication techniques to simplify the manufacture of a number of structural parts is part of the program now under study.

In 1966, versatile electronic systems were developed for high-speed acquisition and processing of data. Such systems may become useful in a number of diverse fields.

Also in 1966, economic, efficient, solid-state, light-emitting diodes and lasers were introduced. Based on Monsanto's extensive semiconductor research, the products are stimulating intense interest among electronic designers.

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GROSS ADDITIONS TO PROPERTY AND DEPRECIATION

	Property Additions	Depreciation, Obsolescence, Amortization and Depletion
	(Millions of Dollars)	
1957.....	64.8	48.2
1958.....	58.1	52.9
1959.....	68.7	56.1
1960.....	121.3	79.0
1961.....	153.8	86.9
1962.....	168.8	97.6
1963.....	114.5	114.6
1964.....	218.1	120.3
1965.....	295.2	133.5
1966.....	211.0	152.4

Wholly owned Monsanto Research Corporation successfully attacked problems relating to national defense, health and space conquest. Profitable applications for several of the subsidiary's advanced developments are under study.

One such development is a fuel cell which in 1966 powered a demonstration U.S. Army truck. The Army has since ordered 300-watt cells for ultimate use as front-line power sources in Vietnam.

In 1966, Monsanto Research Corporation made significant progress with the use of laser energy to produce unique chemical reactions; with the creation of lightweight, super-strong construction materials for aircraft and spacecraft; and with the development of heat sources utilizing radioisotopes. The latter devices are made by the subsidiary at the laboratory it operates for the Atomic Energy Commission in Miamisburg, Ohio.

In its first full year, the Central Engineering Department operated to Monsanto's credit. This consolidation of skills enabled the company to deploy its engineering resources with maximum effectiveness.

In 1966, the department successfully used such advanced techniques as computerized methods of design, scheduling and procedure. Highly developed systems of instrumentation and process control

include some the department conceived and others it purchased.

Also in 1966, Monsanto and Metropolitan Edison Company of Reading, Pa., began building a prototype facility to remove sulfur dioxide from the flue gases of Met-Ed's coal-burning, power-generating station in Portland, Pa. The unit is designed to abate air pollution by sulfur dioxide, a major problem in all highly developed countries.

PERSONNEL

Monsanto has a continuing need for technical and professional personnel. In 1966, increased competition for such manpower necessitated innovative recruiting procedures. For example, the company set up two regional recruiting offices to expedite activities involving relations with universities and to simplify the handling of applicants from sources other than universities.

Personnel-development efforts concentrated on improving operational efficiency. New programs established during the year included workshops and training courses which emphasize improvement of methods, reduction of costs and continuing integrated development of marketing personnel.

In 1966, 16 labor contracts were negotiated successfully at Monsanto plants in the United States and Canada. Only two major work stoppages occurred during the year. A strike in Montreal lasted two months. Another in Addyston, Ohio, lasted seven weeks, ending Jan. 17, 1967.

The company continued to put strong emphasis on safety. Domestically, Monsanto's 1966 injury rate was second lowest in the industry.

Monsanto re-examines at least once every five years such major employee-benefits programs as retirement plans, life insurance and medical insurance. The most recent re-examination resulted in an updating of the programs, effective Jan. 1, 1966. The revisions help keep the company competitive in the labor market. A five-year agreement covering

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the plans was entered into with six international unions, thus continuing Monsanto's long-term stability with respect to the cost of fringe benefits.

To improve basic-compensation practices, Monsanto reviewed and reclassified all supervisory, technical and administrative positions. Completed in 1966, the reclassification helps insure a high return on the salary dollars the company spends.

Cecil H. Underwood, a former governor of West Virginia, was appointed Monsanto's regional vice president in Washington, D.C., to succeed Marshall E. Young, whose retirement was effective Feb. 20, 1967. Mr. Young, a former general manager of Monsanto's International Division, had directed the company's program of civic and governmental affairs since 1964.

SHAREOWNERS OF RECORD

	1966		1965		1964		1963		1962	
	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.....	32,301	4,583,590	32,084	4,610,890	30,446	4,691,800	27,863	4,354,601	28,545	4,557,252
Women.....	29,983	3,837,791	29,211	3,872,397	28,328	3,850,905	24,322	3,603,280	24,657	3,640,656
Joint Accounts.....	19,030	952,801	18,431	897,004	17,770	909,442	16,881	876,116	17,375	858,686
Charitable Institutions..	508	206,202	488	204,768	480	204,432	395	144,691	224	87,445
Educational Institutions..	143	208,153	128	197,391	136	190,164	127	151,485	117	178,808
Estates and Trusts.....	10,429	1,795,397	9,770	1,723,319	9,384	1,669,731	8,065	1,395,227	8,446	1,697,284
Insurance Companies...	267	1,279,902	270	1,322,827	236	1,196,581	211	1,058,065	201	988,887
Brokers and Nominees...	1,900	18,429,055	1,800	17,853,952	1,685	16,629,555	1,640	13,397,722	1,133	9,856,764
All Others.....	1,377	1,015,932	1,356	951,809	1,368	1,517,317	1,104	4,982,638	1,754	7,144,365
Total.....	<u>95,938</u>	<u>32,308,823</u>	<u>93,538</u>	<u>31,634,357</u>	<u>89,833</u>	<u>30,859,927</u>	<u>80,608</u>	<u>29,963,825</u>	<u>82,452</u>	<u>29,010,147</u>

In 1966, 69 per cent of Monsanto shareowners held fewer than 100 shares.

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MONSANTO'S WORLDWIDE INTERESTS

This list of Monsanto's principal equities gives some indication of the scope and diversity of the company's international operations. Per cent ownerships, in some cases rounded to the nearest whole number, are shown parenthetically.

NORTH AMERICA

UNITED STATES: Chemstrand Research Center, Inc. (100%) conducts research in the field of textiles.

Fabric Services, Inc. (100%) dyes and finishes polyester-cotton blends and other fabrics for the textile industry.

Filtered Rosin Products Company (100%) produces gum naval stores and synthetic resins.

Leonard Construction Company (100%) designs and builds chemical and other types of plants.

Mobay Chemical Company (50%) produces urethane chemicals.

Monsanto Export Company (100%) handles export sales of Monsanto products in the western hemisphere.

Monsanto International Finance Company (100%) was formed to obtain investment 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.

Wood Treating Chemicals Co. (100%) produces wood preservatives.

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

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

MEXICO: Monsanto Mexicana S.A. (100%) produces chemicals, plastics raw materials and building products. Subsidiaries make plastics 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: Monsanto Overseas S.A. (100%) handles certain investments and licensing outside the United States.

PUERTO RICO: Chemstrand Overseas S.A. (100%) markets chemical fibers exported to areas outside Europe and handles certain investments outside the United States.

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

EUROPE AND MIDDLE EAST

BELGIUM: Monsanto Europe S.A. (100%) supervises investments and marketing activities principally in Europe; produces polyvinyl butyral plastic interlayer for laminated safety glass; produces plasticizers; and will begin producing rubber chemicals in 1967.

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

ISRAEL: Israeli 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. Two subsidiaries produce chemicals and plastics raw materials.

UNITED KINGDOM: Chemstrand Ltd. (100%) manufactures Acrilan acrylic fiber and nylon 6,6 yarns.

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

Monsanto Chemicals Ltd. (67%) manufactures chemicals, plastics and plastics raw materials. Major subsidiaries produce plastics for construction and packaging.

ASIA AND AUSTRALIA

AUSTRALIA: Australian Petrochemicals Ltd. (55%) manufactures plastics raw materials.

Monsanto Chemicals (Australia) Ltd. (80%) makes chemicals and plastics raw materials. An associate produces fluorocarbons.

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 more than 100 sales agencies representing Monsanto in most parts of the world.

Chemstrand International S.A. — Switzerland

Helen Harper, Inc. — United States

Monoil UK, Inc. — United Kingdom

Monsanto Agricola de Espana S.A. — Spain

Monsanto Agricola de Nicaragua S.A. — Nicaragua

Monsanto Chemicals of India Private Ltd. — India

Monsanto Chile Comercial e Industrial Ltda. — Chile

Monsanto Comercio e Industria Ltda. — Brazil

Monsanto (Deutschland) GmbH — West Germany

Monsanto (El Salvador) S.A. — El Salvador

Monsanto Far East Ltd. — Hong Kong

Monsanto (Guatemala) S.A. — Guatemala

Monsanto Japan Ltd. — Japan

Monsanto (Nicaragua) S.A. — Nicaragua

Monsanto N.V. — The Netherlands

Monsanto Oils Ltd. — Canada

Monsanto Research S.A. — Switzerland

Monsanto (Scandinavia) A.B. — Sweden

Monsanto (Venezuela) C.A. — Venezuela

Plax A.G. — Switzerland

Sidaplast S.A. — Belgium

Sintetico Slowak S.A. — Uruguay

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ACCOUNTANTS' OPINION**HASKINS & SELLS**

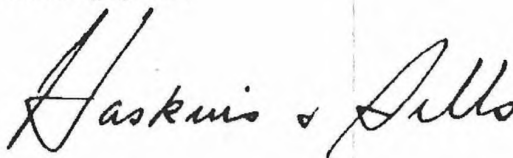
CERTIFIED PUBLIC ACCOUNTANTS

515 OLIVE STREET
SAINT LOUIS 63101**Monsanto Company:**

We have examined the statement of consolidated financial position of Monsanto Company and its subsidiary companies as of December 31, 1966 and the related statements of consolidated income, consolidated paid-in surplus and retained earnings and of consolidated source and application of funds for the year then ended. 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, the accompanying financial statements (pages 16 through 20) present fairly the financial position of Monsanto Company and its subsidiaries at December 31, 1966 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 6, 1967

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MONSANTO COMPANY

STATEMENT OF CONSOLIDATED FINANCIAL POSITION

ASSETS

	1966	1965
	(In Thousands)	
Current Assets:		
Cash.....	\$ 27,697	\$ 33,124
Marketable securities, at cost which approximates market.....	45,865	58,151
Net receivables.....	298,576	267,296
Inventories.....	278,450	258,726
	<u>650,588</u>	<u>617,297</u>
 Investments and Miscellaneous Assets, at Cost or Less:		
Investment in and advances to associates.....	23,558	23,893
Miscellaneous investments and receivables.....	63,453	63,496
	<u>87,011</u>	<u>87,389</u>
 Property, Plant and Equipment, at Cost.....	2,138,387	1,962,041
Less accumulated depreciation and depletion, etc.....	1,050,398	925,328
Net property.....	<u>1,087,989</u>	<u>1,036,713</u>
 Deferred Charges.....	39,508	42,710
	<u>\$1,865,096</u>	<u>\$1,784,109</u>

The above statement should be read in conjunction with pages 21, 22 and 23 of this report.

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AND SUBSIDIARIES

AT DECEMBER 31, 1966 AND 1965

LIABILITIES

	1966	1965
	(In Thousands)	
Current Liabilities:		
Accounts payable and accruals.....	\$ 193,669	\$ 197,567
Income taxes.....	62,056	59,832
Current portion of long term debt (less \$1,000,000 debentures in treasury in 1965).....	17,192	9,806
	<u>272,917</u>	<u>267,205</u>
 Notes, Debentures, etc.—Less Current Portion Above.....	 <u>480,411</u>	 <u>467,554</u>
 Other Liabilities and Deferred Credits:		
Deferred income taxes.....	53,261	53,853
Miscellaneous.....	7,177	9,827
	<u>60,438</u>	<u>63,680</u>
 Minority Interests in Subsidiary Companies.....	 <u>29,736</u>	 <u>28,180</u>
 Shareowners' Equity:		
Common shares—authorized, 35,000,000 shares, par value \$2 each; outstanding, 32,308,823 shares in 1966 and 31,634,357 shares in 1965	64,618	63,269
Paid-in surplus.....	550,842	524,033
Retained earnings.....	406,134	370,188
	<u>1,021,594</u>	<u>957,490</u>
	<u>\$1,865,096</u>	<u>\$1,784,109</u>

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MONSANTO COMPANY

STATEMENT OF CONSOLIDATED INCOME

	1966	1965	Increase Decrease
	(In Thousands)		
Net Sales.....	\$1,611,881	\$1,468,147	\$143,734
Cost of Goods Sold.....	<u>1,179,709</u>	<u>1,039,598</u>	<u>140,111</u>
Gross Profit.....	<u>432,172</u>	<u>428,549</u>	<u>3,623</u>
Less:			
Selling and administrative expenses.....	156,731	149,418	7,313
Research, development, patent and engineering expenses.....	<u>75,963</u>	<u>69,969</u>	<u>5,994</u>
	<u>232,694</u>	<u>219,387</u>	<u>13,307</u>
Operating Profit.....	199,478	209,162	9,684
Income Charges — Net.....	<u>10,707</u>	<u>6,557</u>	<u>4,150</u>
Income Before Income Taxes.....	<u>188,771</u>	<u>202,605</u>	<u>13,834</u>
Provision for Income Taxes:			
Current.....	77,012	72,160	4,852
Deferred (credit).....	<u>(592)</u>	<u>7,478</u>	<u>8,070</u>
	<u>76,420</u>	<u>79,638</u>	<u>3,218</u>
Income Before Extraordinary Items.....	<u>112,351</u>	<u>122,967</u>	<u>10,616</u>
Extraordinary Items:			
Write-off of goodwill.....	6,075		6,075
Less — Gain on sale of investments, less applicable income tax of \$2,010,000.....	<u>6,030</u>		<u>6,030</u>
	<u>45</u>		<u>45</u>
Net Income.....	<u>\$ 112,306</u>	<u>\$ 122,967</u>	<u>\$ 10,661</u>

The above statement should be read in conjunction with pages 21, 22 and 23 of this report.

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AND SUBSIDIARIES

STATEMENT OF CONSOLIDATED PAID-IN SURPLUS
AND RETAINED EARNINGS

	1966	1965
	(In Thousands)	
PAID-IN SURPLUS		
Balance at Beginning of Year.....	\$524,033	\$466,030
Additions:		
Excess of approximate market value of common capital stock distributed as a stock dividend over the par value thereof.....	24,586	50,213
Excess of amounts received over the par value of common capital stock issued under stock option plans.....	2,223	7,790
Balance at End of Year.....	<u>\$550,842</u>	<u>\$524,033</u>
RETAINED EARNINGS		
Balance at Beginning of Year.....	\$370,188	\$343,929
Addition — Net Income for the Year.....	<u>112,306</u>	<u>122,967</u>
	<u>482,494</u>	<u>466,896</u>
Deductions:		
Dividends on capital stock of parent company:		
Cash — \$1.60 a share in 1966 and \$1.45 a share in 1965.....	50,507	44,809
Stock — 2%.....	<u>25,853</u>	<u>51,453</u>
	76,360	96,262
One-half of deficit for period from date of acquisition of initial 50 per cent interest to December 31, 1964 of Blume Knitwear, Inc. and subsidiaries, which became wholly-owned subsidiaries in February 1965....		446
	<u>76,360</u>	<u>96,708</u>
Balance at End of Year.....	<u>\$406,134</u>	<u>\$370,188</u>

The above statement should be read in conjunction with pages 21, 22 and 23 of this report.

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MONSANTO COMPANY AND SUBSIDIARIES

SOURCE AND APPLICATION OF FUNDS

(In Thousands)

	TOTAL	1966	1965	1964	1963	1962
Source of Funds:						
From operations:						
Net income	\$ 511,522	\$112,306	\$122,967	\$114,891	\$ 82,990	\$ 78,368
Non-cash charges to income:						
Depreciation, depletion, etc.	618,360	152,362	133,485	120,268	114,606	97,639
Deferred income taxes	42,690	592	7,478	11,980	12,373	11,451
Goodwill write-off	6,075	6,075				
	<u>1,178,647</u>	<u>270,151</u>	<u>263,930</u>	<u>247,139</u>	<u>209,969</u>	<u>187,458</u>
Outside financing:						
4½%-4¾% promissory notes	100,000	25,000	75,000			
4½% sinking fund debentures	25,000		25,000			
Foreign subsidiaries	42,927	5,206	32,776	3,276	1,669	
4¾% promissory notes	99,593					99,593
Common shares issued under options	39,683	2,305	8,099	12,108	14,532	2,639
Other — net	5,296	3,745	2,982	1,571	5,368	2,366
	<u>1,491,146</u>	<u>306,407</u>	<u>407,787</u>	<u>264,094</u>	<u>220,802</u>	<u>292,056</u>
Application of Funds:						
Dividends on common shares	197,370	50,507	44,809	37,606	34,978	29,470
Plant additions and replacements	1,007,572	210,972	295,160	218,105	114,502	168,833
Investment in affiliated companies	42,506	—	1,126	13,340	18,443	9,597
Retirement of debt	63,106	9,963	11,396	10,418	13,452	17,877
Increase in working capital ⁽¹⁾	159,774	52,678	44,595	29,845	18,042	14,614
Increase — decrease in cash and securities	20,818	17,713	10,701	45,220	21,385	51,665
	<u>\$1,491,146</u>	<u>\$306,407</u>	<u>\$407,787</u>	<u>\$264,094</u>	<u>\$220,802</u>	<u>\$292,056</u>

(1) Exclusive of cash and securities and current portion of long term debt.
Italics indicate deduction.

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FINANCIAL REVIEW

The accompanying financial statements (pages 16 through 20) consolidate all active domestic and foreign subsidiaries in which Monsanto Company directly or indirectly has more than a 50 per cent interest.

The extraordinary write-off of goodwill of \$6,075,000 shown in the statement of income for 1966 relates to the discontinuance of spandex elastomeric yarn operations. Spandex had been manufactured by Polythane Corporation, a wholly-owned subsidiary, which was liquidated in December. The gain in 1966 from the sale of investments, net of tax, of \$6,030,000 results from the disposal of minority holdings in the capital stocks of Mitsubishi Vonnell Company Ltd. of Japan, and Applicazioni Chimiche Societa per Azioni of Italy.

The Revenue Act of 1964 provided for a credit against Federal income taxes equal to approximately seven per cent of expenditures for machinery and equipment purchased and placed in service during the year. The reduction in income tax provision for 1966 resulting from this credit was \$10,931,000; the credit for 1965 was \$14,199,000. The suspension of the investment credit in October had no material effect on net income for 1966. The impact on earnings for 1967, however, is expected to be more significant.

The use of the sum of the years digits method for computing depreciation on most of new assets acquired since 1954 was continued in 1966. The excess of depreciation provided by this method over straight line depreciation was \$23,952,000 in 1966 and \$19,189,000 in 1965. For income tax purposes only, the company in 1962 adopted the guideline lives established for machinery and equipment by the United States Treasury Department. The additional depreciation taken for tax purposes reduces the current income tax liability. The reduction of current taxes payable was \$1,386,000 in 1966 and \$10,400,000 in 1965. Net income, however, is not affected, since an amount equivalent to the reduction in current taxes payable is charged to income to provide for deferred taxes payable in future years.

In certain prior years, provisions were made for income taxes payable in future years resulting from the excess of depreciation and amortization of facilities constructed under Certificates of Necessity for income tax purposes over depreciation for accounting purposes. For the years 1966 and 1965, \$2,001,000 and \$2,353,000 of such taxes became payable and were charged against the reserve provided in prior years.

Charges against income for depreciation, obsolescence and depletion amounted to \$152,362,000, of which \$148,843,000 was depreciation and obsolescence, and \$3,519,000 depletion. In 1965, such charges were \$129,644,000 and \$3,841,000.

The company and its subsidiaries have several pension plans covering substantially all of their employees, including certain employees in foreign countries. The total pension expense for the year 1966 was approximately \$25,900,000 which includes, as to certain of the plans, amortization of prior service cost generally over a period of 30 years. It is the policy to fund pension cost accrued. Changes during the year in the actuarial bases in computing pension cost and increased benefits under the pension plans of the company and certain subsidiaries had the effect of reducing net income for the year by approximately \$6,000,000.

Repair and maintenance charges included in operating expenses were \$98,091,000 in 1966 and \$89,956,000 in 1965.

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 all leases amounts to approximately \$24,817,000.

The company's Federal income tax returns have been examined and closed for all years through 1956. Returns for the years 1957 through 1959 have been examined by the Internal Revenue Service, and returns for the years 1960 through 1963 are

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presently under examination. Differences of opinion exist between the company and the Service on the tax treatment of certain items of income and expense, principally depletion and foreign-source income. The Internal Revenue Service has proposed an assessment for the years 1957 through 1959 of approximately \$8 million and the company is contesting the assessment. The ultimate disposition of the items in question is not presently determinable, but it is believed that adequate provision has been made in the accounts for possible deficiencies.

Allowances for doubtful accounts were \$8,236,000 at December 31, 1966 and \$5,564,000 at the end of 1965.

Inventories are stated at the lower of cost or market, determined generally on the first-in, first-out basis. Annual rate of turnover was 4.4 in both 1966 and 1965.

In 1966, the remaining \$25 million was borrowed under a credit agreement entered into in 1965 with certain banking institutions. During 1965, \$75 million was borrowed under this agreement. The interest rate on the loans is $4\frac{1}{2}$ per cent to February 15, 1970, and $4\frac{3}{4}$ per cent thereafter. The amount borrowed is repayable in installments beginning May 15, 1970 and ending February 15, 1975.

The \$25 million of $4\frac{1}{2}$ per cent Sinking Fund Debentures Due 1985 of Monsanto International Finance Company, which are fully guaranteed by Monsanto Company, are convertible into Monsanto Common Stock at \$91 a share, subject to adjustment under certain conditions.

The long term debt of the company and its subsidiaries, exclusive of current maturities, totaled \$480,411,000 at December 31, 1966, as shown in the table on page 23.

The company is a defendant in several lawsuits, including antitrust actions, and it or its subsidiaries are also defendants in companion patent-infringement suits. The defense of these cases is in various stages of preparation. While the results of litigation cannot be predicted with certainty, company counsel believe that the prospects of successfully defending these actions are good and that, in any event, the results of such litigation will not have any materially

adverse effect on the financial position or operations of Monsanto.

The company and its subsidiaries were contingently liable as guarantor of bank loans, customer loans, and for customers' receivables discounted aggregating approximately \$8,500,000 at December 31, 1966 and \$8,600,000 at the end of 1965.

In 1966, cash dividends of 40 cents were paid in each quarter on the common shares. Also, 633,506 common shares were distributed on December 23, 1966 in payment of a two per cent stock dividend.

The equity in the unaudited 1966 net income of 50 per cent-owned companies was \$1,292,000, compared with a net loss of \$23,000 in 1965. Dividends of \$234,000 were received from these companies in 1966 and \$401,000 in 1965. The equity in the unaudited net assets of such companies at December 31, 1966 was \$27,394,000, which exceeded the carrying value of the investments therein of \$23,558,000 by \$3,836,000.

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

	1961 Plan	1960 Plan	1964 Plan
Outstanding 1/1/66.....	25,717	202,331	421,354
Unoptioned 1/1/66.....	—	—	144,979
Optioned during year.....	—	—	36,600
Exercised during year.....	4,124	18,292	200
Terminated during year.....	29	—	8,626
Outstanding 12/31/66.....	21,977*	187,669*	457,631*
Unoptioned 12/31/66.....	—	—	119,824*

*Adjusted for 1966 two per cent stock dividend.

Under the three key plans, 525 options are outstanding, at prices, after adjustment for stock dividends, ranging from \$32.93 to \$99.07 a share.

The following tabulation sets forth information for 1966 on common shares relating to the Third Employees' Stock Plan:

Outstanding 1/1/66.....	228,143
Unoptioned 1/1/66.....	378,948
Optioned — January 24 (9-month options) at \$79.00 a share.....	3,108
Exercised.....	18,344
Terminated.....	212,907
Cancelled.....	375,840

MONS 352208

The Third Employees' Stock Plan, which became effective on June 23, 1964 and terminated on September 22, 1966, provided for the grant to eligible hourly and salaried employees of options to purchase a maximum of 650,000 Monsanto common shares. During the life of the plan, employees purchased a total of 61,253 shares, at prices ranging from \$75.00 to \$84.00 a share. The prices were approximately 95 per cent of the New York Stock Exchange average

price on the dates the options were offered. Payments by employees were made by payroll deductions on which the company credited interest at a rate of five per cent.

At December 31, 1966, there were 787,101 shares of common stock reserved for stock option plans, and 274,725 shares reserved for conversion of debentures of a subsidiary company.

LONG TERM DEBT
(Exclusive of Current Maturities)

	1966	1965
	(In Thousands)	
Parent company:		
3¼% sinking fund debentures, due 1968.....	—	\$ 6,250
4½% - 4¾% promissory notes, due 1970/1975.....	\$100,000	75,000
2.65% debentures, due 1971.....	19,000	20,000
3⅝% sinking fund debentures, due 1972.....	8,500	9,000
3½% promissory notes, due 1972.....	27,312	33,812
4½% notes, due 1976.....	3,320	3,520
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 Chemicals Limited (English subsidiary):		
6% debentures, due 1977/1982.....	7,318	7,547
5% debentures, due 1982.....	8,568	8,815
Chemstrand Limited (English subsidiary):		
Bank loans (½% over bank rate) due 1969.....	13,758	13,796
Monsanto Cie S.A. (Luxembourgian subsidiary):		
4¾% bank loans due 1967/1971.....	8,016	10,020
6¼% bank loans due 1968-1969.....	8,000	6,720
4¼% bank loan due 1969.....	3,000	3,000
Monsanto Europe S.A. (Belgian subsidiary):		
6.8% bank loan due 1969/1975.....	5,440	1,554
Other subsidiaries.....	2,179	2,520
Total.....	<u>\$480,411</u>	<u>\$467,554</u>

MONS 352209

MONSANTO COMPANY

HISTORICAL STATEMENT OF

(In millions)

ASSETS

	1966	1965	1964	1963	1962	10 YEARS AGO 1956	25 YEARS AGO 1941
Current Assets:							
Cash.....	\$ 27.7	\$ 33.1	\$ 27.8	\$ 40.9	\$ 34.4	\$ 30.2	\$10.3
Marketable securities.....	45.9	58.2	52.8	84.7	67.1	17.7	2.0
Net receivables.....	298.6	267.3	239.7	198.7	173.9	75.1	7.4
Inventories.....	278.4	258.7	214.9	191.6	170.6	105.0	11.6
	650.6	617.3	535.2	515.9	446.0	228.0	31.3
Investments, etc.....	87.0	87.4	85.9	85.6	84.4	41.1	1.5
Property:							
Land.....	32.3	27.7	27.4	27.7	25.2	10.7	2.3
Buildings.....	325.5	289.7	263.0	237.0	219.3	94.4	12.5
Machinery and equipment.....	1,662.6	1,529.1	1,295.2	1,148.2	1,054.5	422.9	42.9
Phosphate deposits.....	10.6	10.0	9.8	9.6	8.6	5.9	1.0
Producing oil and gas properties....	100.0	97.9	94.7	89.2	84.8	64.6	
Undeveloped oil and gas leaseholds.	7.4	7.6	8.2	9.1	9.6	15.1	
Accumulated depreciation, etc.....	1,010.4	886.5	785.7	707.2	600.9	207.6	22.2
Accumulated depletion.....	40.0	38.8	36.6	33.3	31.2	21.2	.1
Net property.....	1,088.0	1,036.7	876.0	780.3	769.9	384.8	36.4
Deferred Charges.....	39.5	42.7	37.9	32.4	24.6	5.5	.3
	\$1,865.1	\$1,784.1	\$1,535.0	\$1,414.2	\$1,324.9	\$659.4	\$69.5

Italics indicate deduction.

MONS 352210

AND SUBSIDIARIES

CONSOLIDATED FINANCIAL POSITION

(In millions)

LIABILITIES

	1966	1965	1964	1963	1962	10 YEARS AGO 1956	25 YEARS AGO 1941
Current Liabilities:							
Accounts payable and accruals.....	\$ 193.7	\$ 197.6	\$ 154.8	\$ 122.8	\$ 127.0	\$ 55.2	\$ 6.1
Income taxes.....	62.0	59.8	75.8	69.1	42.9	26.7	3.0
Current portion of long term debt...	17.2	9.8	10.5	10.2	9.3	1.8	
	272.9	267.2	241.1	202.1	179.2	83.7	9.1
Notes, Debentures, etc.....	480.4	467.5	345.5	352.8	360.8	161.5	
Other Liabilities and Deferred Credits:							
Deferred income taxes.....	53.3	53.9	46.4	41.4	33.5	13.0	
Miscellaneous.....	7.2	9.8	3.4	2.4	3.5	4.5	3.3
	60.5	63.7	49.8	43.8	37.0	17.5	3.3
Minority Interests in Subsidiaries....	29.7	28.2	26.9	31.3	30.3	18.1	2.4
Shareowners' Equity:							
Preference shares.....	—	—	—	—	—	—	17.5
Common shares.....	64.6	63.3	61.7	59.9	58.0	42.9	12.4
Paid-in surplus.....	550.9	524.0	466.1	406.2	360.9	164.2	11.4
Retained earnings.....	406.1	370.2	343.9	318.1	298.7	171.5	13.4
	1,021.6	957.5	871.7	784.2	717.6	378.6	54.7
	\$1,865.1	\$1,784.1	\$1,535.0	\$1,414.2	\$1,324.9	\$659.4	\$69.5

MONS 352211

MONSANTO COMPANY

HISTORICAL STATEMENT OF CONSOLIDATED INCOME

(In millions except per share earnings)

	1966	1965	1964	1963	1962	10 YEARS AGO 1956	25 YEARS AGO 1941
Net Sales	\$1,611.9	\$1,468.1	\$1,358.7	\$1,192.3	\$1,063.2	\$591.2	\$70.3
Cost of Goods Sold	1,179.7	1,039.6	940.1	849.7	762.2	431.1	46.3
Gross Profit	432.2	428.5	418.6	342.6	301.0	160.1	24.0
Less:							
Selling and administrative.....	156.7	149.4	134.3	117.7	100.1	60.1	4.7
Research, development, patent and engineering.....	76.0	69.9	66.8	58.4	51.6	21.0	1.6
	232.7	219.3	201.1	176.1	151.7	81.1	6.3
Operating Profit	199.5	209.2	217.5	166.5	149.3	79.0	17.7
Income Charges -- Net	8.8	6.6	3.4	6.1	8.0	4.9	(.1)
Income Before Income Taxes	190.7	202.6	214.1	160.4	141.3	74.1	17.8
Provision for Income Taxes	78.4	79.6	99.2	77.4	62.9	33.2	11.1
Net Income	\$ 112.3	\$ 123.0	\$ 114.9	\$ 83.0	\$ 78.4	\$ 40.9	\$ 6.7
Per Common Share:							
Adjusted for splits.....	\$ 3.48	\$ 3.89	\$ 3.72	\$ 2.77	\$ 2.70	\$ 1.90	\$.54
Adjusted for splits and stock divi- dends.....	\$ 3.48	\$ 3.81	\$ 3.58	\$ 2.61	\$ 2.50	\$ 1.60	\$.43

MONS 352212

AND SUBSIDIARIES

OTHER DATA

(In millions except where italicized)

	1966	1965	1964	1963	1962	10 YEARS AGO 1956	25 YEARS AGO 1941
Plant additions and replacements....	\$ 211.0	\$295.2	\$218.1	\$114.5	\$168.8	\$ 77.1	\$ 8.6
Depreciation, depletion, etc.....	\$ 152.4	\$133.5	\$120.3	\$114.6	\$ 97.6	\$ 40.9	\$ 3.8
Dividends a common share ⁽¹⁾	<i>\$1.60</i>	<i>\$1.45</i>	<i>\$1.25</i>	<i>\$1.20</i>	<i>\$1.05</i>	<i>\$1.00</i>	<i>\$.33</i>
Book value a common share ⁽¹⁾	<i>\$31.62</i>	<i>\$30.27</i>	<i>\$28.25</i>	<i>\$26.17</i>	<i>\$24.74</i>	<i>\$17.65</i>	<i>\$3.33</i>
Common shares ⁽¹⁾	32.3	31.6	30.9	30.0	29.0	21.4	11.2
Preference shares.....	—	—	—	—	—	—	175,000
Working capital.....	\$ 377.7	\$350.1	\$294.1	\$313.8	\$266.8	\$144.3	\$22.2
Long term debt (less current matur- ities).....	\$ 480.4	\$467.5	\$345.5	\$352.8	\$360.8	\$161.5	
Shareowners' equity.....	\$1,021.6	\$957.5	\$871.7	\$784.2	\$717.6	\$378.6	\$54.7
Employees ⁽²⁾	57,647	56,227	52,284	48,133	45,665	23,678	8,275
Shareowners.....	95,938	93,538	89,833	80,608	82,452	53,018	9,773

(1) Adjusted for splits.

(2) Includes Monsanto employees in plant operated for U.S. Government (1,870 in 1966).

MONS 352213

DIRECTORS AND OFFICERS

BOARD OF DIRECTORS

EDWARD A. O'NEAL, <i>Chairman</i>	ST. LOUIS
DILLON ANDERSON	HOUSTON
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DAVID R. CALHOUN	ST. LOUIS
JOHN L. CHRISTIAN	ST. LOUIS
FREDRICK M. EATON	NEW YORK
JOHN L. GILLIS	ST. LOUIS
HERBERT HOOVER JR.	LOS ANGELES
ROBERT K. MUELLER	ST. LOUIS
EDGAR M. QUEENY	ST. LOUIS
JAMES S. ROCKEFELLER	NEW YORK
CHARLES H. SOMMER	ST. LOUIS
CHARLES ALLEN THOMAS	ST. LOUIS
MONTÉ C. THRODAHL	ST. LOUIS

EXECUTIVE COMMITTEE

CHARLES H. SOMMER, *Chairman*

EDWARD J. BOCK	ROBERT K. MUELLER
JOHN L. CHRISTIAN	EDWARD A. O'NEAL
JOHN L. GILLIS	MONTE C. THRODAHL

FINANCE COMMITTEE

CHARLES ALLEN THOMAS, *Chairman*

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DAVID R. CALHOUN	EDGAR M. QUEENY
FREDRICK M. EATON	JAMES S. ROCKEFELLER
HERBERT HOOVER JR.	CHARLES H. SOMMER

Transfer Agents

MORGAN GUARANTY TRUST COMPANY OF NEW YORK
THE BOATMEN'S NATIONAL BANK OF ST. LOUIS

Registrars

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

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EDWARD J. BOCK	Vice President
JOHN L. GILLIS	Vice President
ROBERT K. MUELLER	Vice President
MONTE C. THRODAHL	Vice President

H. HAROLD BIBLE.....	<i>Vice President</i>
WILLIAM H. BROMLEY.....	<i>Vice President</i>
JAMES E. CRAWFORD JR.....	<i>Vice President</i>
PATRICK J. DOWD.....	<i>Vice President</i>
JOHN R. ECK.....	<i>Vice President</i>
ARTHUR W. LUCAS.....	<i>Vice President</i>
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IRVING C. SMITH.....	<i>Vice President</i>
TOM K. SMITH JR.....	<i>Vice President</i>
J. RUSSELL WILSON.....	<i>Vice President</i>

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EDWIN J. PUTZELL JR. *Secretary*
PATRICK J. DOWD *Treasurer*

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JACK W. MUELLER	Assistant Controller
FRANCIS A. STROBLE	Assistant Controller
WALTER C. THILKING	Assistant Controller
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JOHN N. EHLS	Assistant Secretary
RODNEY HARRIS JR.	Assistant Secretary
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FRANKLIN C. REHFELD	Assistant Secretary
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NORVELL G. JONES	Assistant Treasurer
J. ROBERT MATLOCK	Assistant Treasurer
WALTER J. NABER JR.	Assistant Treasurer
THOMAS M. RASMUSSEN	Assistant Treasurer

Regional Vice Presidents

ROY L. BRANDENBURGER FRANKLIN J. CORNWELL
CECIL H. UNDERWOOD

Feb. 20, 1967

MONS 352214

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