

1951

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PLAINTIFF'S EXHIBIT  
MON-410

FIFTIETH  
ANNUAL  
REPORT



MONSANTO  
CHEMICAL  
COMPANY

MAR 000217

LAM016277

F I F T I E T H   A N N U A L   R E P O R T



*December 31, 1951*

M O N S A N T O   C H E M I C A L   C O M P A N Y

*MAR 000218*

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OFFICERS AND

MONSANTO

*Executive Committee*

CHARLES ALLEN THOMAS, Chairman

ROBERT R. COLE  
EDGAR M. QUEENY  
CARROLL A. HOCHWALT  
FELIX N. WILLIAMS

*Officers*

EDGAR M. QUEENY . . . . . Chairman, Board of Directors  
CHARLES ALLEN THOMAS . . . . . President  
F. A. ABBIATI . . . . . Vice President  
J. L. CHRISTIAN . . . . . Vice President  
ROBERT R. COLE . . . . . Vice President  
F. J. CURTIS . . . . . Vice President  
JOHN L. GILLIS . . . . . Vice President  
CARROLL A. HOCHWALT . . . . . Vice President  
JOSEPH R. MARES . . . . . Vice President  
WILLIAM W. SCHNEIDER . . . . . Vice President  
FELIX N. WILLIAMS . . . . . Vice President  
CLAYTON A. WOLFE . . . . . Vice President  
DANIEL M. SHEEHAN . . . . . Vice President and Comptroller  
EDWIN J. PUTZELL, JR. . . . . Secretary  
FRED A. ULMER . . . . . Treasurer  
EDWIN J. CUNNINGHAM . . . . . Assistant Comptroller  
JOHN W. LUDWIG . . . . . Assistant Comptroller  
WILLIAM I. WARREN . . . . . Assistant Comptroller  
EARL J. WIPFLER . . . . . Assistant Comptroller  
CHARLES E. CASPARI, JR. . . . . Assistant Secretary  
JOHN F. MARTIN . . . . . Assistant Treasurer

DIRECTORS

---

CHEMICAL COMPANY, St. Louis, Missouri • *Calendar Year 1951*

*Board of Directors*

EDGAR M. QUEENY, Chairman . . . . . St. Louis  
CHARLES S. CHESTON . . . . . Philadelphia  
ROBERT R. COLE . . . . . St. Louis  
F. J. CURTIS . . . . . Washington, D. C.  
FREDRICK M. EATON . . . . . New York  
CARROLL A. HOCHWALT . . . . . St. Louis  
WILLIAM M. RAND . . . . . Lincoln, Mass.  
WILLIAM W. SCHNEIDER . . . . . St. Louis  
CHARLES ALLEN THOMAS . . . . . St. Louis  
FELIX N. WILLIAMS . . . . . St. Louis

*Finance Committee*

CHARLES S. CHESTON, Chairman  
FREDRICK M. EATON . . . . . EDGAR M. QUEENY  
WILLIAM M. RAND . . . . . CHARLES ALLEN THOMAS

*Bonus Committee*

EDGAR M. QUEENY, Chairman  
CHARLES S. CHESTON . . . . . FREDRICK M. EATON

*Transfer Agent:* Common and Preference Stocks  
GUARANTY TRUST COMPANY OF NEW YORK

*Registrar:* Common and Preference Stocks  
THE CHASE NATIONAL BANK OF THE CITY OF NEW YORK

*First financial report of Monsanto Chemical Works. At a stockholders' meeting August 22, 1902, President John F. Queen reported the financial condition of the company and it was inscribed in the Minute Book by S. P. DeLano, secretary.*

MONSANTO'S INCOME AND EXPENSES FOR 1951 AND 1950

|  | 1951                 |               | 1950                 |               |
|--|----------------------|---------------|----------------------|---------------|
|  | Amount               | Per Man Hour  | Amount               | Per Man Hour  |
| <b>INCOME:</b>   |                      |               |                      |               |
| From sale of our products . . . . .                            | \$272,845,034        | \$9.76        | \$227,135,206        | \$9.16        |
| From net refund of Federal taxes paid in prior years . . . . . |                      |               | 2,410,941            | .10           |
| From licenses, dividends, etc. . . . .                         | 3,080,272            | .11           | 2,685,980            | .11           |
| Our total income was . . . . .                                 | <u>\$275,925,306</u> | <u>\$9.87</u> | <u>\$232,232,127</u> | <u>\$9.37</u> |
| <b>DEDUCTIONS FROM INCOME:</b>                                 |                      |               |                      |               |
| For raw materials, fuel, supplies, etc. . . . .                | \$136,569,292        | \$4.89        | \$111,531,041        | \$4.50        |
| For depreciation of buildings and equipment . . . . .          | 11,058,311           | .39           | 9,981,483            | .40           |
| For loss on obsolete plants and equipment . . . . .            |                      |               | 2,011,000            | .08           |
| For our partners in subsidiary companies . . . . .             | 235,489              | .01           | 199,638              | .01           |
| These expenses totaled . . . . .                               | <u>\$147,863,092</u> | <u>\$5.29</u> | <u>\$123,723,162</u> | <u>\$4.99</u> |
| Which left . . . . .   | <u>\$128,062,214</u> | <u>\$4.58</u> | <u>\$108,508,965</u> | <u>\$4.38</u> |
| <b>DISTRIBUTION OF BALANCE:</b>                                |                      |               |                      |               |
| To employes (including officers) . . . . .                     | \$ 60,751,072        | \$2.17        | \$ 50,410,669        | \$2.03        |
| To stockholders as dividends . . . . .                         | 12,717,477           | .46           | 12,993,508           | .52           |
| For taxes . . . . .  | 43,833,258           | 1.57          | 31,877,963           | 1.29          |
| Retained for future growth . . . . .                           | 10,760,407           | .38           | 13,226,825           | .54           |

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The President has submitted the statement of the financial condition of this Company, which was as follows:

|                   |           |
|-------------------|-----------|
| Machinery         | \$5151.54 |
| Prepaid           | 2000.00   |
| Goodwill          | 4629.93   |
| Cash              | 120.28    |
| Accts. receivable | 1289.50   |

Total - - \$13291.25

|                |           |
|----------------|-----------|
| Capital stock  | \$5000.00 |
| Accts. payable | 1136.28   |
| Accts. payable | 2917.63   |
| to M. C. Co.   | 617.57    |
| John S. Lunny  |           |
| Total          | 10371.49  |

Supplies paid since commencing \$5007.20

Manufacturing from

|                      |         |
|----------------------|---------|
| March, March 6, 1901 |         |
| to the March         | 991.14  |
| April                | 1930.17 |
| May                  | 1143.27 |
| June                 | 3937.93 |
| July                 | 2707.81 |
| August               | 1572.88 |

total assets to date. 12,929.90

The inspection report shows and there submitted that the

## FIFTIETH

### Annual Report to the Stockholders of

## MONSANTO CHEMICAL COMPANY

MONSANTO'S FIFTIETH anniversary year, 1951, was the most active in the company's history from the standpoint of sales, production and expansion. Sales of the consolidated companies (which do not include the British and Australian subsidiaries) reached \$272,845,034—20 per cent in excess of the previous record year, 1950. This increase resulted almost entirely from a higher volume of sales, rather than from higher selling prices.

Income before taxes also reached a new high of \$62,120,884—equivalent to \$12.64 a

common share of stock. These gross earnings were 15 per cent higher than 1950's, which until now had been the record year. The three tax bills passed since mid-1950, however, raised our income and excess profits taxes to \$38,643,000 (39.1 per cent higher than in 1950); left us with net earnings of \$23,477,884. These earnings, after provision for preference dividends, were equal to \$4.70 a common share. In 1950, earnings after preference dividends, were at the rate of \$5.37 a common share.

Net sales and net income, summarized by quarters for both 1951 and 1950 were:

|  | 1951                 | 1950                 | Increase or<br>Amount | Decrease<br>Per Cent |
|--|----------------------|----------------------|-----------------------|----------------------|
| <b>Sales:</b>  |                      |                      |                       |                      |
| First quarter . . . . .                                      | \$ 67,936,955        | \$ 49,183,957        | \$18,752,998          | 38.1                 |
| Second quarter . . . . .                                     | 71,806,075           | 53,520,977           | 18,285,098            | 34.2                 |
| Third quarter . . . . .                                      | 67,269,310           | 60,567,000           | 6,702,310             | 11.1                 |
| Fourth quarter . . . . .                                     | 65,832,694           | 63,863,272           | 1,969,422             | 3.1                  |
| Total . . . . .  | <u>\$272,845,034</u> | <u>\$227,135,206</u> | <u>\$45,709,828</u>   | <u>20.1</u>          |
| <b>Income:</b>   |                      |                      |                       |                      |
| First quarter . . . . .                                      | \$ 5,612,739         | \$ 5,521,857         | \$ 90,882             | 1.6                  |
| Second quarter . . . . .                                     | 5,690,963            | 6,814,839            | 1,123,876             | 16.5                 |
| Third quarter . . . . .                                      | 4,647,486            | 6,572,085            | 1,924,599             | 29.3                 |
| Fourth quarter . . . . .                                     | 6,790,696            | 7,311,552            | 520,856               | 7.1                  |
| Adjustment of excess profits tax for<br>prior year . . . . . | 736,000              |                      | 736,000               |                      |
| Total . . . . .  | <u>\$ 23,477,884</u> | <u>\$ 26,220,333</u> | <u>\$ 2,742,449</u>   | <u>10.5</u>          |
| Preference dividends . . . . .                               | 577,500*             | 956,780*             | 379,280               |                      |
| Earnings for common stock . . . . .                          | <u>\$ 22,900,384</u> | <u>\$ 25,263,553</u> | <u>\$ 2,363,169</u>   |                      |
| Per share of common stock . . . . .                          | \$4.70**             | \$5.37**             | \$ .67                |                      |

*Sales and Income of the British and Australian Subsidiaries:*

Net sales of the British and Australian subsidiaries during 1951 (which are in addition to the sales shown above) amounted to \$34,538,306. The net income of these companies amounted to \$2,117,894, of which \$1,444,189 was applicable to our investment in their capital stocks. Dividends of \$538,566 were received from these companies and are included in the consolidated statement of income, page 42, under "dividends from subsidiary and associated companies."

\*Based on shares outstanding at end of year.

\*\*Based on shares outstanding: 1951, 4,868,189; 1950, 4,704,216.

*Working Capital:*

Because of our greatly increased income tax liability and the use of funds for our current expansion program, working capital decreased \$24,307,882 during the year; amounted to \$63,837,936 at year's end. Current assets at the end of the year were 2.2 times current liabilities, compared with a ratio of 4.8 to one at the end of 1950. If consideration were given at the year's end to the \$66,000,000 received on January 4, 1952, from the sale of debentures (described on page 12 under "Capitalization Changes") the ratio would have been 3.5 to one.

*Inventories:*

Inventories increased \$17,318,048 during the year, mostly in raw materials and finished goods. The rate of inventory turnover was approximately five times a year in comparison with five-and-one-half times in 1950.

*Investments:*

Monsanto's investment in its British subsidiary at the end of the year consisted of a 66⅔ per cent interest in the common capital stock of Monsanto Chemicals Limited, carried at a net book value of \$729,413. Our equity in this company and in its Australian subsidiary, Monsanto Chemicals (Australia) Ltd., at the end of the year (as shown by unaudited statements of financial condition) was \$10,665,000, compared with 1950's \$9,547,000.

Investment in and advances to associated companies include our 50 per cent stock ownership in Shawinigan Resins Corporation, carried at \$715,000, and capital stock of and advances to The Chemstrand Corporation, aggregating \$8,500,000.

The equity in Shawinigan on December 31, was approximately \$1,410,000. During the year we received \$214,500 as dividends from this company.

The investment we have made to date in Chemstrand is only a part of the total capital that Chemstrand will have by the time production commences. In addition to the \$8,500,000 we have invested, our partner, American Viscose Corporation, has invested a similar amount, and Chemstrand has arranged for up to \$110,000,000 from the sale of First Mortgage Bonds to institutional investors. It is expected that Chemstrand will require in excess of \$150,000,000 in capital by the Fall of 1953. The company is

currently constructing a plant at Decatur, Ala., for the production of Acrilan, a completely synthetic fibre, and another plant at Pensacola, Fla., where nylon will be produced under a license agreement with E. I. du Pont de Nemours & Co., Inc.

*Property Account and Depreciation:*

In last year's annual report, the Board of Directors advised that "anticipated expansion of facilities and other new installations will involve substantial expenditures in the immediate future." During 1951, our property account increased substantially, as shown in the following summary:

|   |              |
|---|--------------|
| Expended for additions and replacements . . . . .                   | \$38,371,980 |
| Less property retired and depletion of phosphate deposits . . . . . | 3,430,822    |
| Net increase . . . . .  | \$34,941,158 |

Additional details concerning the major construction expenditures during 1951 will be found on page 28 of this report, under the title "Expansion."

During the year, \$11,058,311 was added to our depreciation, amortization and obsolescence reserve. Charges against this reserve in connection with property retired amounted to \$3,297,497, resulting in a net increase of \$7,760,814.

Repair and maintenance costs totaling \$18,372,799 were charged to current operating expenses.

*Income Taxes:*

Income taxes for 1951 aggregated \$38,643,000 or 62.2 per cent of income before taxes. On a percentage basis, 1944 was our previous high tax year when, during the war, 67 per cent of income was levied in taxes.

The following statistics show the incidence of the rapidly rising income taxes during the past three years:

|   | 1949         | 1950         | 1951         |
|---|--------------|--------------|--------------|
| Total income taxes . . . . .                    | \$10,823,000 | \$27,789,000 | \$38,643,000 |
| Per cent of income taxes to income before taxes | 38.6%        | 51.5%        | 62.2%        |
| Income taxes:                                   |              |              |              |
| Per share of common stock . . . . .             | \$ 2.53      | \$ 5.91      | \$ 7.94      |
| Per employe . . . . .                           | 935.19       | 2,180.56     | 2,786.89     |
| Per day (365 day basis) . . . . .               | 29,652.05    | 76,134.25    | 105,871.23   |

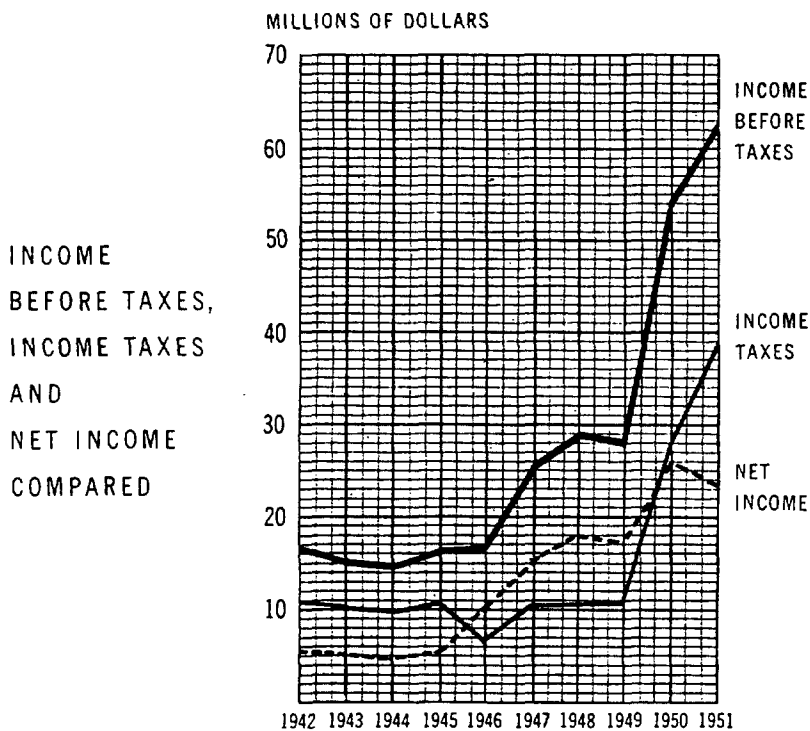
The 1951 tax law contains a catastrophe clause which recognizes reduced earnings resulting from disasters occurring during the base period years of 1947 through 1949. It is retroactive to 1950 and is applicable to the Texas City disaster in 1947. Hence, our net income for 1951 benefited by a credit amounting to \$736,000.

**Revised Bonus Plan:**

Because higher taxes reduced materially the amount available for awards, the Employee Bonus Plan adopted by the stockholders at the annual meeting in 1950 was revised at the 1951 meeting.

The 1950 plan for offering additional incentive and reward to those employes who contribute to the company's success, provided that after earning seven per cent on capital invested in the business (after provision for income taxes), 12 per cent of the remaining profits could be reserved for bonus awards. The revised plan approved at the last annual meeting provides that before taxation and after 12 per cent has been earned on the invested capital, seven per cent of the remaining profits may be reserved for bonus awards. This reversal of the formula approximates the original plan which was approved by the stockholders when the tax rate was 38 per cent. The revised plan, however, provides that at all times there first shall be available to the stockholders an amount, after all taxes, equal to seven per cent of the capital invested, before any credit may be made to the bonus reserve fund.

The Bonus Committee (Edgar M. Queeny, board chairman, who has waived participation in the bonus plan, and Charles S. Cheston and Fredrick M. Eaton, board



members, neither of whom is eligible for bonus awards) directed that the amount credited to the bonus reserve for 1951 should be \$2,188,488, exclusive of the amount reserved for Monsanto Canada Limited.

On January 9, 1952, bonus awards were granted to 373 employees. The awards comprised 8,244 shares of Monsanto Chemical Company common stock and \$476,524 in cash. One-fourth of each award has been paid to the recipient; the balance will be paid over a three-year period, if earned out, as provided for in the plan. The unawarded balance in the bonus reserve, \$1,250,000 (plus the reserve of \$72,539 for the Canadian subsidiary) has been carried forward for awards in the future.

A computation of the bonus for 1951 appears on page 47 of this report.

#### Stock Options:

A Stock Option Plan for officers and key employees of the company and its subsidiaries was adopted by the stockholders in March, 1951. Under the plan, the board, prior to March 1956, may authorize ten-year options to purchase the company's common stock. No more than 150,000 shares may be optioned, subject to adjustment in case of stock split-ups or dividends. No one person may receive options for more than 12 per cent of the total authorized and the price shall not be lower than the closing market price the day the option is granted. Those receiving stock options are not eligible for bonus awards for the year the options are granted. In June, options were granted for 98,500 shares to 13 officers and key employees.

#### Pension Plan:

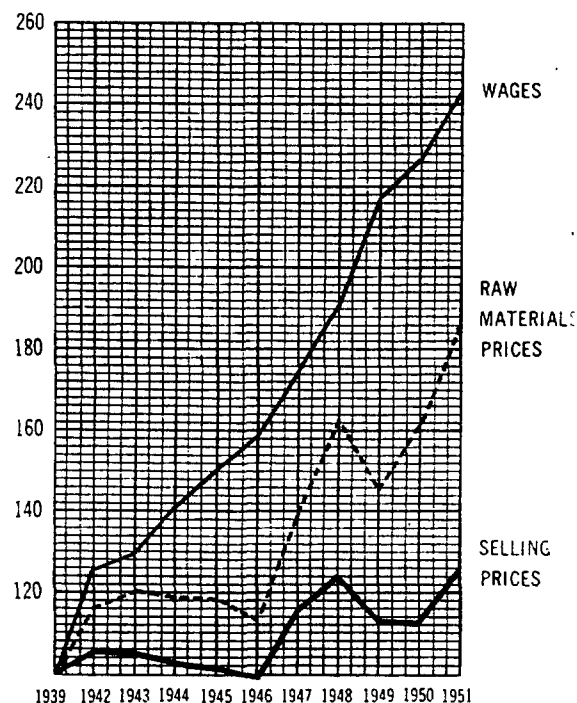
In view of the shrinking purchasing power of dollars, the pension plan which Monsanto

inaugurated in 1940 had become inadequate and at the 1951 annual meeting, stockholders approved revised pension plans for all hourly and salaried employees. The new plans provide for more liberal benefits to eligible employees upon retirement and are designed to minimize the effects which inflation might have on fixed incomes.

#### Price Controls:

On January 26, 1951, the government issued regulations establishing ceiling prices based on those prices in effect during the period December 19, 1950 to January 25, 1951. Later in the year, the government issued its Ceiling Price Regulation 22, and on September 1, Monsanto elected to establish its legal price ceilings under the terms

INDEX OF  
MONSANTO'S  
SELLING  
PRICES,  
RAW  
MATERIALS  
AND WAGES  
1939=100



of this regulation. We were required to reduce our selling price on relatively few products.

### *Capitalization Changes:*

In January, 1951, the remaining outstanding shares of Series B preference stock were either converted to common stock or redeemed. At the end of the year, therefore, the 150,000 shares of \$3.85 Series C non-convertible preference stock was the only preference issue outstanding.

In order to provide funds for our substantial current expansion program, the company executed agreements on July 20, 1951, with six institutional investors covering the sale at par of a minimum of \$42,000,000 and a maximum of \$66,000,000 principal amount of 50-year, 3¾ per cent Income Debentures. Under the original agreements, these debentures were to be issued over a period of time starting March 4, 1952 and ending not later than April 30, 1953. The agreements were subsequently revised and the maximum amount of \$66,000,000 of debentures was issued on January 4, 1952.

Interest on these debentures is payable only if earned, and sinking fund payments commencing after 30 years are to be sufficient to retire one-half the issue by maturity. Monsanto has an option to make additional sinking fund payments during the life of the debentures.

On January 16, 1952, the company filed a registration statement with the Securities

and Exchange Commission relating to the sale of 400,000 shares of common stock. The issue was sold to the public on February 5, 1952 at a price of \$98 a share. The net proceeds to the company, after deduction of underwriting discounts and estimated expenses in connection with this issue, amounted to \$37,900,000. The funds so obtained will be used for construction projects and other corporate purposes.

### *Dividends:*

During 1951, four quarterly dividends of 62½ cents each were paid to the holders of common stock, making a total dividend for the year of \$2.50.

The book value of each share of Monsanto common stock rose from \$27.61 to \$30.83.

### *In General:*

The year just ended was gratifying in that the increase in our sales and in earnings before taxes indicates the efficiency of the organization. It would not be fitting to close this report without paying tribute to all of our employes whose efforts have made this year possible.

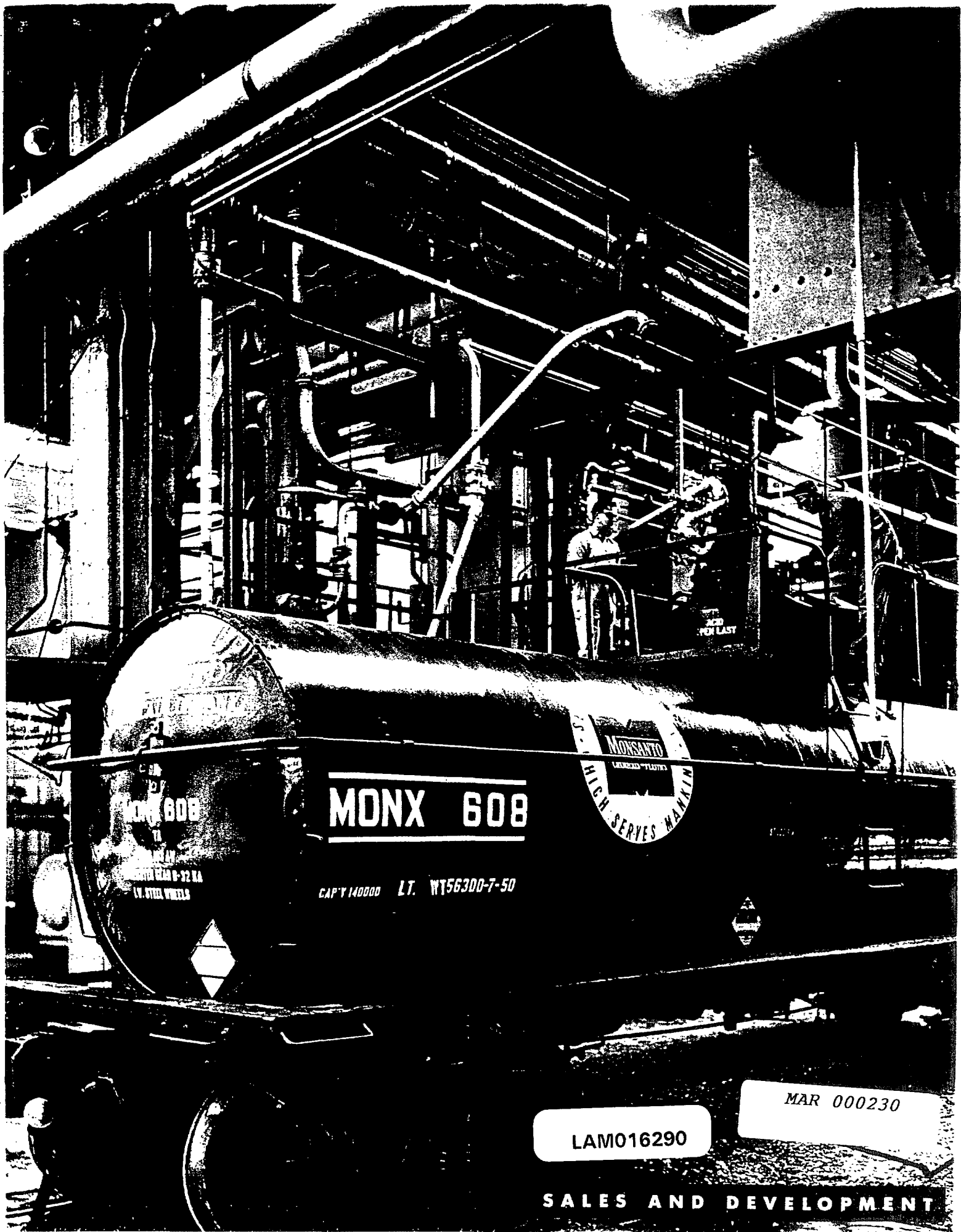
On May 1, after 31 years with the company and five years as president, William M. Rand retired in accordance with our retirement plan, and I succeeded him. Fortunately, his abilities and valued experience are still at our disposal through his service on the board and the Finance Committee.

*For the Board of Directors,*

*Charles Allen Thomas*

*President*

St. Louis, Missouri  
February 25, 1952



MONX 608  
CAP'Y 140000  
LT. WT 56300-7-50  
ALY. STEEL WHEELS

**MONX 608**

CAP'Y 140000 LT. WT 56300-7-50

MONSANTO  
ALCH. SERVES MANKIN

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SALES AND DEVELOPMENT



*Monsanto owes its existence to a salesman. When he founded the company in 1901, to manufacture saccharin, John F. Queeny was earning his living as purchasing agent for the St. Louis drug firm, Meyer Brothers. But, starting as a messenger at the age of 12, he had made his way in the drug business as a salesman. He primarily remained a salesman—and a great one—all his life. Queeny never stopped looking for new Monsanto business. Typical of his enterprise during his frequent travels in early years: He would jot down names of companies from factory signs seen from his train window; later approach these companies with the phrase “perhaps in your business you use chemicals.” As an organic chemical industry pioneer he had to do more than choose products which he thought he could manufacture profitably and convince potential buyers that Monsanto’s products were good, prices fair, service reliable. The American public was suspicious of chemicals in general, especially in foods. The government mistakenly thought saccharin harmful, tried to prohibit it. Bankers were reluctant to lend to chemical manufacturers; lawmakers reluctant to give tariff protection against the German chemical trust. Thus Queeny also had to—and did—help sell the chemical age to a skeptical nation.*

*Greater volume of products sold; increased sales figures were*

*limited only by material shortages and production capacities*

IN REVIEWING 1951 sales, there are two factors to be considered: First, the gain in sales for the most part represented more pounds of materials sold; and second, our sales departments in many cases could have sold more had additional raw materials and production capacity been available.

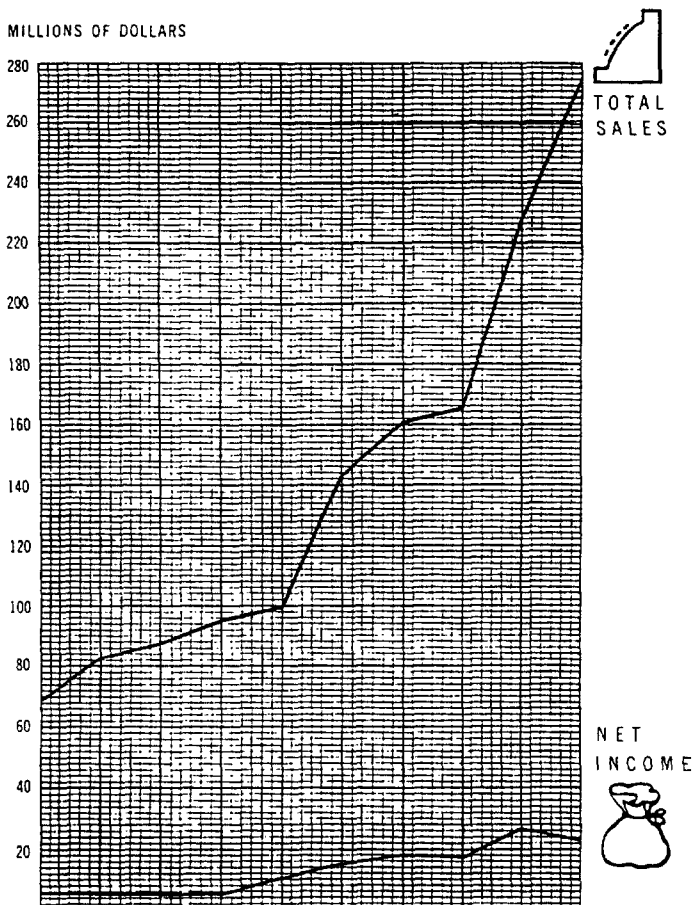
The picture was about the same in all divisions—the Texas Division’s was typical: Sales of styrene monomer continued to increase throughout the year, being limited only by productive capacity.

Except that sales were restricted throughout the year by lack of sufficient material, the Plastics Division’s Lustrex (polystyrene) sales pattern wasn’t much changed. The year, however, showed increased use of the division’s Ultron (vinyl chloride) in profile extrusions such as garden hoses, gaskets and belts. Also

significant was the development of shrouds made from Ultron for protection of machine equipment in transit (thus eliminating necessity for large packing cases) and as covers for military equipment in temporary storage (which eliminates the more costly and bothersome job of "pickling"). Resinox, a tough thermosetting phenolic plastic resin, was in much demand for such applications as electronic control devices and ammunition components and, more importantly, a formulation was developed for use in shell molding techniques to produce precision-cast high-temperature alloy steels for jet and turbo-jet engines. New uses continued to be found for even the oldest of plastics—cellulose nitrate. An important development was a printing plate by one of our customers making use of Monsanto's Nitron.

The Organic Chemicals Division's over-all sales climbed during the year uniformly about 18 per cent above 1950's. Some of this increase was due to the development and sale of new products; however, this year's activities primarily have been devoted to widening and improving the markets for existing products. The bulk of the sales increase came from increased volume of chemicals for farm use, pharmaceuticals, oil additives, heavy chemicals, flavors, condiments, and intermediates, with plasticizers and resins for the plastics industry leading the list. Notable increases were made in the sales of ethyl vanillin, a condiment which has been admitted to the National Formulary; of phenol, a basic chemical building

TOTAL SALES  
AND  
NET INCOME  
COMPARED



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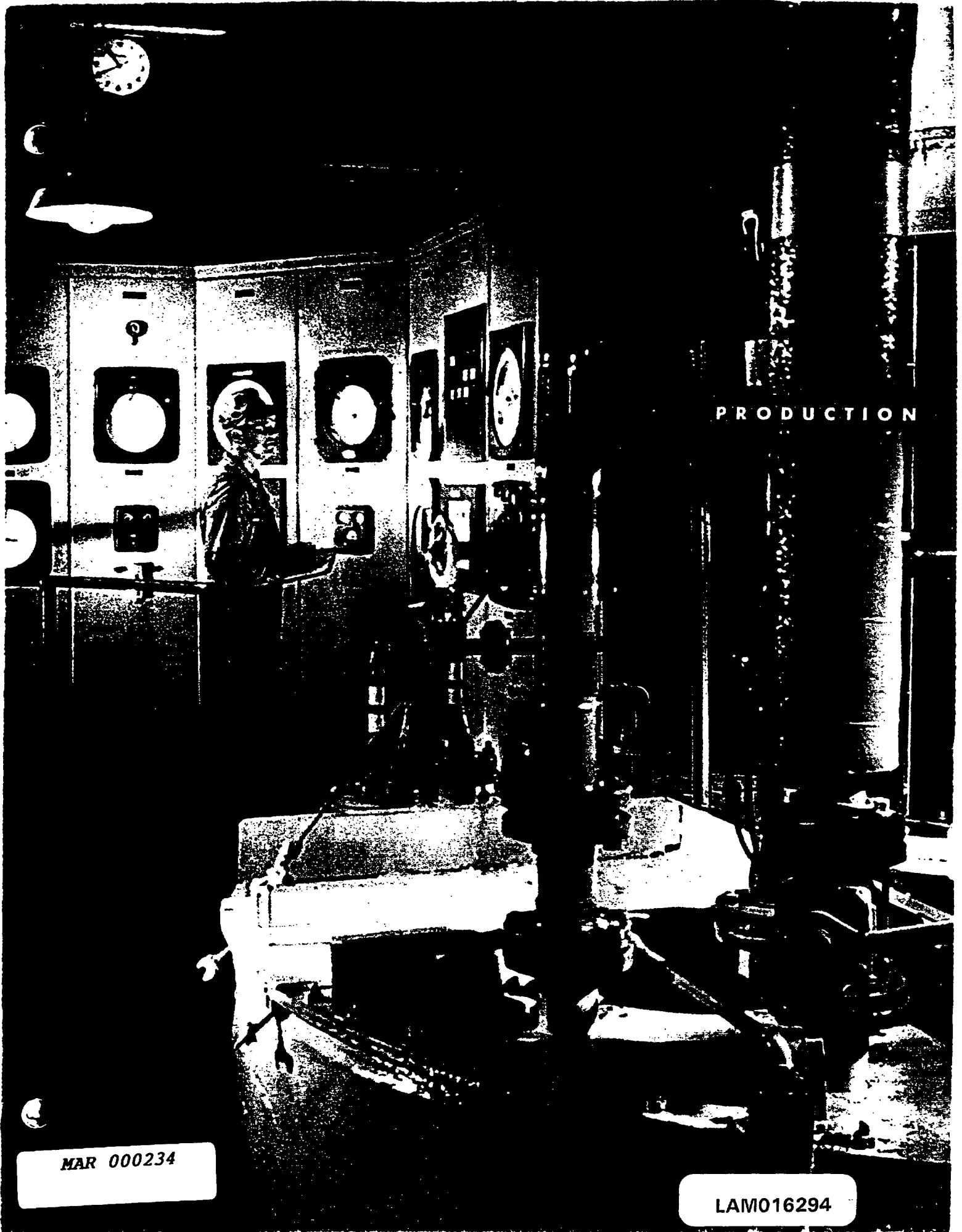
block; of the new antibiotic, chloramphenicol; and of Skydrol, the fire-resistant aircraft hydraulic fluid which contributes so much to safety. This latter product was joined by a sister-item this year—Pydraul F-9, a fire-resistant hydraulic fluid for industrial applications.

Technical advances in the paper and textile industries raised Merrimac Division's Mersize, a sizing for quality paper, and Stymer, a textile chemical, to the status of major products. Mersize, for the first time, was manufactured in dry form, enhancing the attractiveness of the product to the paper trade. Introduction of Gas-Add, a chemical for removing moisture from gasoline thus preventing freezing fuel lines in automobiles, expanded the division's Eskimo line of anti-freezes for the automotive industry. Significant and unusual applications for Santocel, outside the flattening and insulation fields, were developed for civilian and military use. Among these were the Department of Agriculture's approval of Santocel as a thickening agent for screwworm salves for sheep, and its use as a grinding agent in the jelly of the fiery Napalm bomb. Santocel also has become an essential ingredient in the manufacture of silicone rubber. The division developed several new sulfones which experimentally are being used as dye intermediates and for other organic syntheses.

The Phosphate Division's 26 per cent increase in sales was general over all products, but the predominant increases were in sodium phosphates used in the manufacture of household detergents; Aroclors for use by the electrical industry and in surface and special impregnated coatings; and HB-40, a plasticizer used in various plastics formulations. The division's development activities centered around efforts to develop new uses for Aroclors, HB-40, isocyanates and diisocyanates.

In the Western Division, sales of adhesives and coatings continued to grow at a rapid rate during most of the year and 1951's sales were 41 per cent above 1950's. In the latter part of the year, however, sales dropped off as the market for plywood softened. Even so, the division is now doing 170 per cent of what it did in 1949 in adhesives and coatings. The division introduced a new line of wood sealers which are being marketed as "Color-Toned Rezes." Available now are five shades for both exterior and interior application, plus one clear and one white for interior use only. These highly efficient wood sealers, which enhance the beauty of the wood by bringing out its grain structure, have found excellent acceptance from architects.

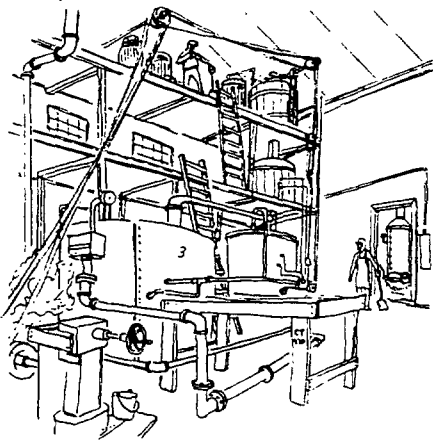
In December and the early part of January, 1952, we have noted some softening of chemical markets in general, although it is too early to predict prospects for the coming year.



PRODUCTION

MAR 000234

LAM016294



To start Monsanto, John F. Queeny had \$1500 of his own money; \$3500 of borrowed capital. "I spent it all in two weeks," recalls his first chemist-plant manager, Dr. Louis Veillon. Fresh from Switzerland, Veillon persuaded Queeny to rent space in a warehouse on St. Louis' South Second Street. Veillon searched for equipment and Queeny for more capital. A spluttery steam engine cost about \$200; an 80 h. p. boiler, \$500; a pump, a scale, an iron kettle, four wooden tanks, pipes and filters completed the first production equipment. Only a centrifuge costing \$1000 was new. Equipment was arranged on platforms at three levels for gravity flow of ingredients from one mixing and filtering stage to the next. With this crude set-up, and the help of a few unskilled workers, the first saccharin came from the drying boards February 14, 1902. Queeny and Veillon were so saturated with the saccharin's sweetish dust that day they couldn't taste it and momentarily thought their venture a failure. But it was the beginning of Monsanto production. Today, for 19,000 workers in 28 plants throughout the world, Monsanto has land, buildings and equipment costing an average of \$12,673 per worker.

### *Added plant investments in past years and process improvements*

#### *assisted company materially in overcoming production problems*

IT WAS A YEAR of raw material shortages—and yet total production was at a satisfactory high level.

Some materials were simply scarce; others were rationed by government order. And, among materials obtained, delivery of some was delayed by the railroad strike in February and the longshoremen's strike in October.

The investments we had made in additional plant facilities in the last five years and the constant study and improvement of processes enabled the company to overcome many of the problems thus created.

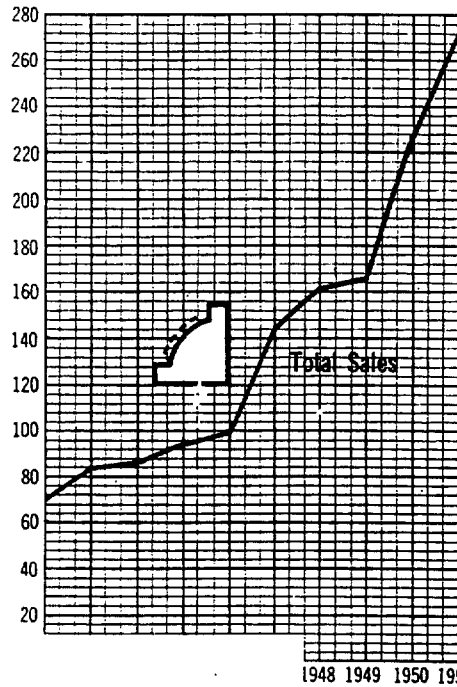
The chain reaction by which one chemical shortage produces another was illustrated after an NPA order from Washington limited the monthly use of

sulfur. Among many Monsanto products whose expanding consumption was affected by this order (including sulfuric acid, sodium bisulfite, chlorosulfonic acid) was phenol, basic ingredient of so many other chemicals, which is produced at the Krummrich plant. As an example of the effects of the phenol shortage, our Western Division was not able to produce all of the plywood adhesives which customers needed earlier in the year.

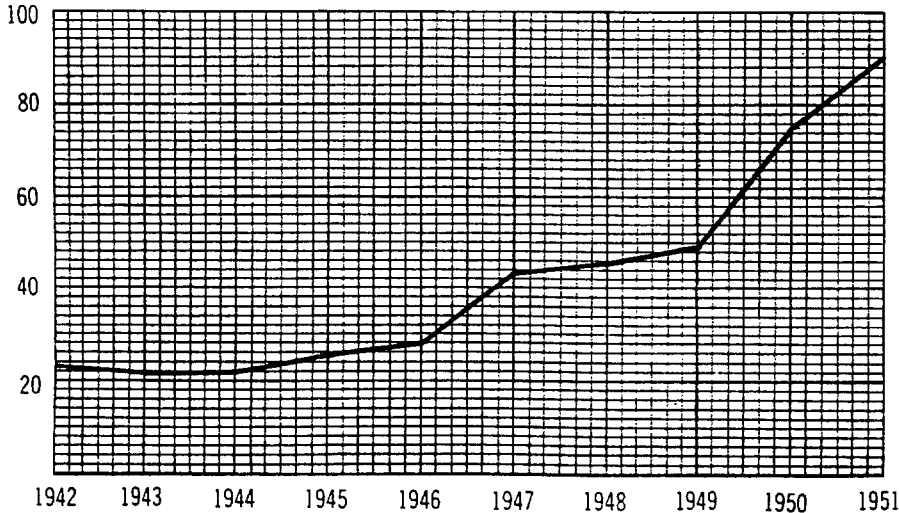
In the Merrimac Division, for a few other examples, less caustic soda meant less sodium aluminate produced; less molasses meant less alcohol and dry ice; less melamine meant less Resloom. Nonetheless, Merrimac's Everett plant set a new plant production record, involving individual records for such products as Stymer, nitric acid, maleic anhydride and Santocel.

GROSS PROFIT  
COMPARED TO SALES

MILLIONS OF DOLLARS



MILLIONS OF DOLLARS



MAR 000236

LAM016296

Another production record was achieved at Texas City, where the Texas Division had been hampered during 1950 by the benzene shortage. To overcome this, the division imported and refined motor benzol and used petroleum benzene. The division operated its styrene facilities at the maximum rate throughout the year, and in the second quarter expanded its plant capacity ten per cent. Because much styrene had to go to the nation's synthetic rubber program, the Texas Division could not supply our Plastics Division with enough styrene to meet the demand for the popular Lustrex polystyrene.

The Plastics Division did, however, manage to increase Lustrex production. It also doubled vinyl resin capacity, raised production of oil additives by about half, and substantially increased capacity for the safety-glass inter-layer, Saflex.

The Organic Chemicals Division increased its monthly production rate by 11 per cent over 1950, despite shortages and the interruptions of constant plant expansion. New production records were set for maleic and phthalic anhydrides, and for such rubber industry products as the accelerator, Santocure.

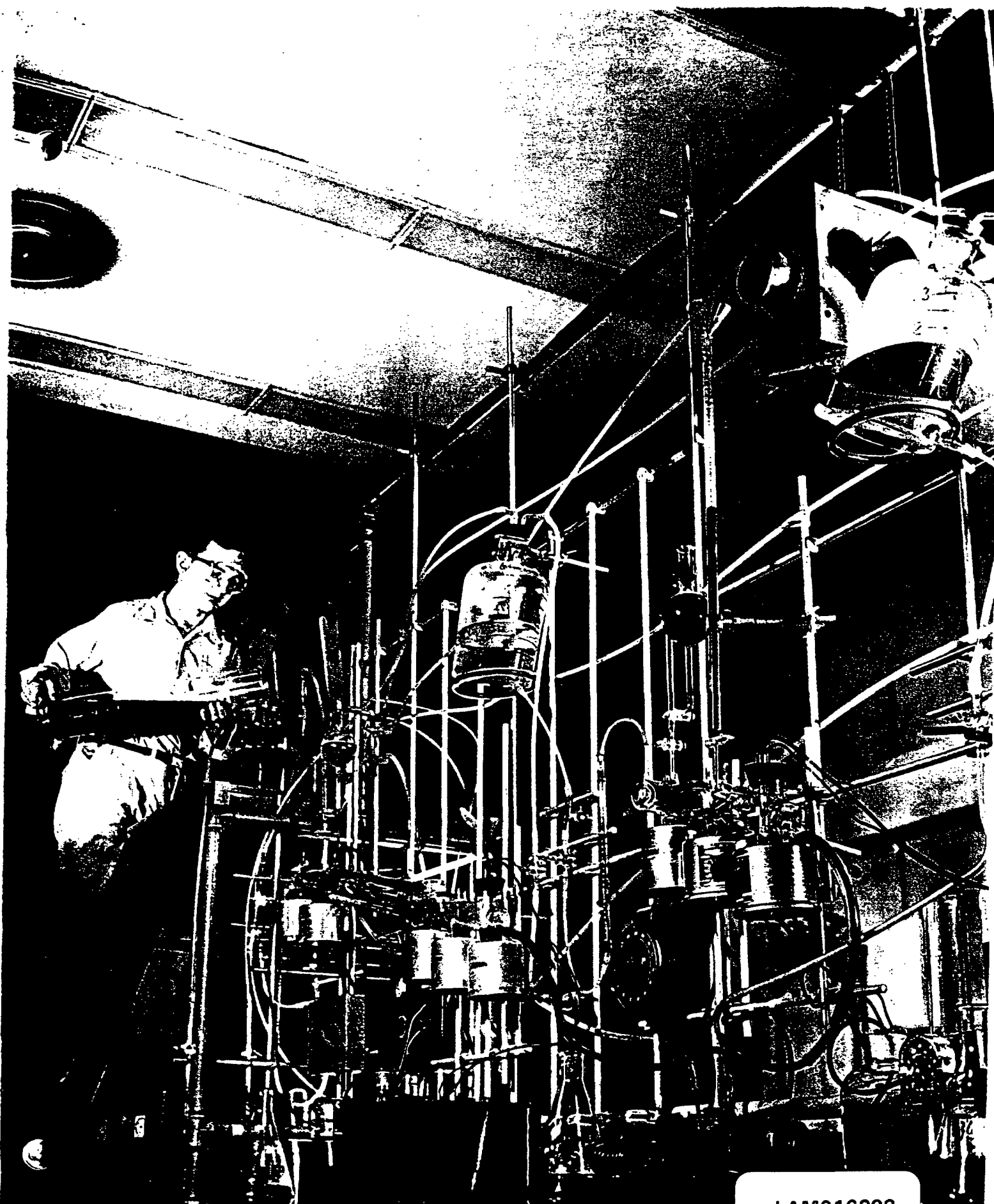
At Monsanto, Tenn., the sixth electric furnace, completed in late 1950, went into production, and the result eased the demand for elemental phosphorus. In particular, it allowed the Phosphate Division to put into action expanded equipment for production of phosphate salts at other division plants. Experimentally, the division made satisfactory progress in learning how to get better yields of phosphorus from phosphate rock.

Despite rising raw material prices and increased labor rates, Monsanto was able to hold its pricing structure fairly stable through cost reduction programs aimed at greater production efficiency.

Safe, clean operating conditions continued to be the goal throughout Monsanto during 1951, particularly in the production departments where the largest number of our people are employed. For the second time in the company's history (1950 was the other year) the accident frequency dropped below two lost-time injuries per million man-hours. While the frequency rate did increase somewhat, the severity rate—another measure of safety operations—decreased four per cent. The low accident frequency again placed us second among the six largest chemical companies in this country.

Following are the 1951 and 1950 safety records:

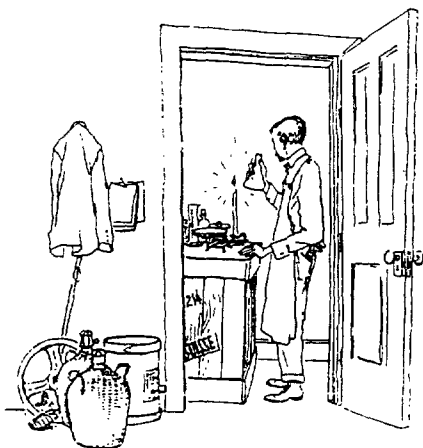
| <i>Year</i> | <i>Hours Worked</i> | <i>Accidents</i> | <i>Frequency</i> | <i>Days Lost</i> | <i>Severity</i> |
|-------------|---------------------|------------------|------------------|------------------|-----------------|
| 1951        | 29,770,781          | 57               | 1.91             | 19,393           | .65             |
| 1950        | 26,718,697          | 48               | 1.80             | 18,269           | .68             |



MAR 000238

LAM016298

RESEARCH AND ENGINEERING



*The first Monsanto laboratory was a large, windowless closet off the plant room where Louis Veillon set up an empty packing case for a bench, a candle on it for light, to serve his testing needs. Veillon's early technical efforts, and those of Gaston DuBois and Jules Bebie, chemist colleagues who followed from Switzerland to Monsanto, were devoted chiefly to chemical engineering. At first they had all they could do to keep the rickety machines in repair, often with wrenches borrowed from Queeny's full-time employer. Later their efforts led to better yields at less cost, still the constant goal of Monsanto. With the aid of a gifted welder, they introduced aluminum and monel metal equipment to the chemical industry—a vital contribution. The great transformation in U. S. industrial chemical research came in 1914, when war cut off supplies of intermediates which manufacturers had been importing from Germany. Monsanto, like the rest, began learning by trial and error to make its products from the basic raw materials. By the logic of chemistry, this research led to scores, then hundreds, of by-products and related products.*

*New soil conditioner Krihium only one of more than eighty new*

*products unveiled by research and engineering for future sales*

A TOTAL of 29 new Monsanto products, all made available for the first time during 1951, appeared in the "New Chemicals for Industry" display at the 23rd Exposition of Chemical Industries in New York last November. These new products ranged from rubber chemicals through pharmaceuticals to coatings and surface-active agents for making better detergents.

Although some are available only in pilot plant quantities, they represent the teamwork of research and engineering—for it's sound chemical engineering that converts the test-tube cry of anticipation into the hard-boiled fact of daily profitable realization.

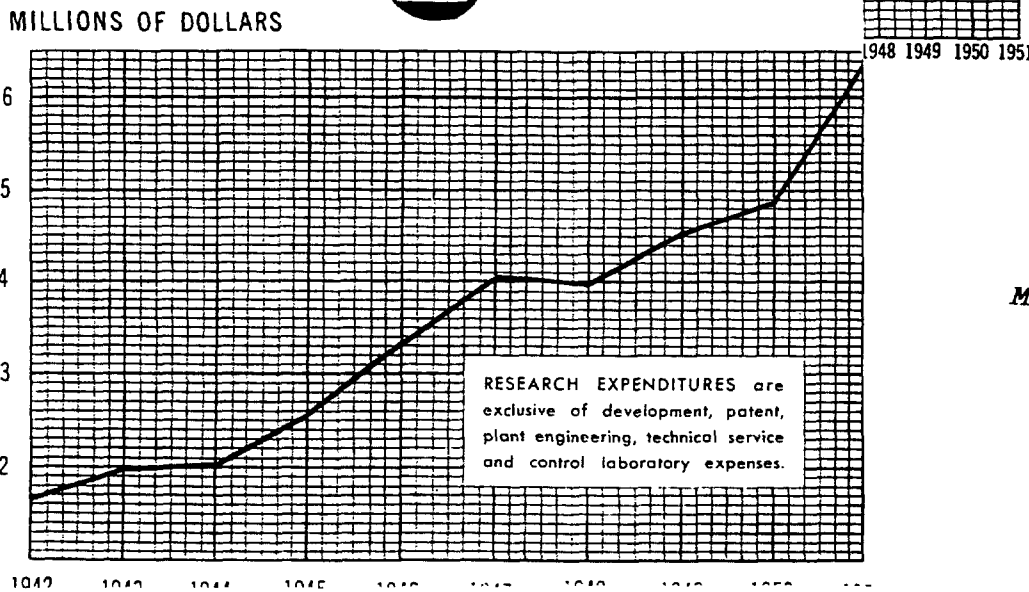
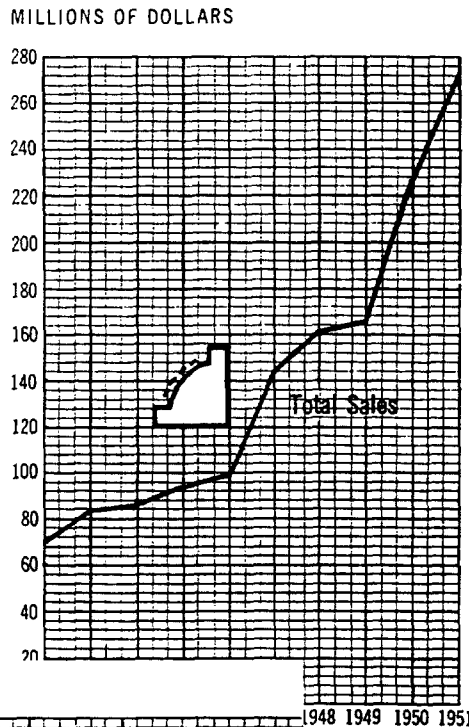
Some of the new products—salicylamide, for example—were the result of "insurance" research by which the company seeks to improve and to find new uses for materials it already produces. Salicylamide, a pain-killer, is derived from salicylic acid, which Monsanto has long produced in the course of its operations as a large manufacturer of aspirin.

Other products were the result of "exploratory" research which seeks to find new products and new processes. In addition to these new products, in 1951 our research departments brought more than 50 other new products to the pilot plant stage.

Most important of Monsanto's latest results from exploratory research was not included in the New York show. It wasn't unveiled until December 29 at the annual meeting of the American Association for the Advancement of Science at Philadelphia.

This newest development—Krilium, a synthetic polyelectrolyte—is a completely new scientific approach to the problem of improving soil and guarding against soil erosion. Research over the last decade has convinced our scientists that for growing purposes the structure of the soil, that is, the stable arrangement of the primary particles of sand, silt and clay, is of paramount importance.

RESEARCH EXPENDITURES  
COMPARED TO SALES



MAR 000240

LAM016300

To grow well, plants need to get plenty of oxygen and water at their roots. Porous soil lets them get it. Hard-packed soil chokes them. Even when soil is loosened by plowing, harrowing and cultivating, rain will pack it down again unless the soil contains plenty of natural gums (polysaccharides) which are products of organic matter such as compost. These gums cement tiny soil particles into larger (but still small) aggregates, resulting in porous soil structure. Lack of such gums results in large areas of non-productive soil throughout this country even though plant nutrients are present.

Krilium—Monsanto's newest development—is a more efficient synthetic counterpart for these natural gums. The experience of 80 university experiment stations and other organizations which have helped to test it shows that Krilium is more effective than natural gums partially because Krilium is not subject to bacteria decomposition as are natural gums. Thus, it will maintain good soil structure for a longer time. In addition to improving the soil, many have found that Krilium increases crop yield. In flower gardens, for example, it promotes more rapid growth and provides larger, more beautiful blooms.

Krilium also is effective and economical in controlling rain erosion problems on construction projects, highway and railroad "shoulders," military installations and other newly cleared areas susceptible to washouts. Another major advantage of Krilium is its ease of application: In some cases by raking-in to a depth of several inches; in others—for erosion control purposes, especially—by merely dusting on the ground.

In the field of erosion control alone, Krilium can help stop the loss of millions of tons of irreplaceable top soil now being washed away each year. Its initial fields—when volume production begins, probably early in 1953—are expected to be for use in greenhouses and home gardens, and to control erosion where the earth has been scalped for new construction.

But, if the wide-scale testing which will be carried on during 1952 from pilot-plant quantities, proves the economics of the product, it may eventually be a major factor in agriculture, where combined with fertilizers and aided by chemical insecticides, weed-killers and animal-feed ingredients, the productivity of the farm worker will be even more greatly increased.

Research and engineering at Monsanto are not considered only in the sense of the workaday activities of our own laboratories. To promote more fundamental research from which we can later glean ideas for commercial application, we maintain Fellowships at numerous universities. Colleges and universities are responsible for most of the fundamental research accomplished in this country.

During the war, this storehouse of fundamental knowledge was depleted at an accelerated rate—for almost five years basic research was slowed down because there was little time and few people to perform it.

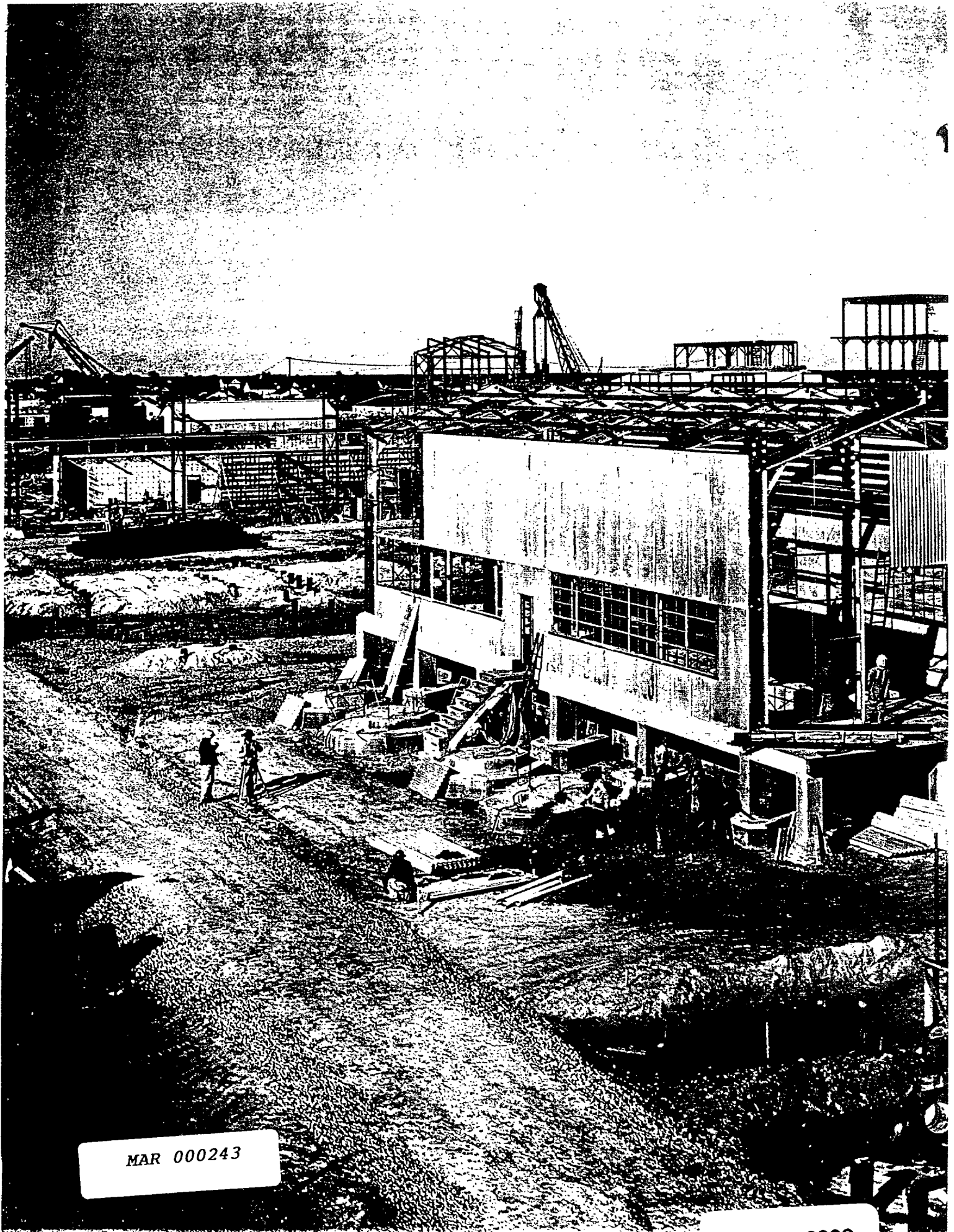
In addition, we are sending technical personnel back to college for additional training, which aids in bringing the practical, industrial approach to the college classroom as well as having our people gain the advantages of additional theoretical approach. Selection of men to go back to college is a reward for outstanding performance in their jobs and the recipients draw their full salary during the academic year they're on leave.

Research agreements in Monsanto's 1951 history included a four-and-one-half year renewal of the contract with the Atomic Energy Commission for the operation of Mound and Scioto Laboratories in Ohio; an agreement for a joint research program with the National Research Corporation of Cambridge, Mass., directed toward development of improved processes for the production of titanium metal; and another contract with the A. E. C., in partnership with the Union Electric Company of Missouri, to explore the possibilities of using atomic energy for the production of electric power. Briefly, this is the story of these contracts:

While most of the work we do for the A. E. C. must necessarily remain classified, some of the associated activities at Mound Laboratory can now be told. These include the manufacture of special, super-sensitive tools for use in atomic research. The tools built there include a balance responsive to load differences as small as one three-billionth of an ounce; calorimeters which can measure heat flows as small as three-hundredths of a calorie an hour, and electronic counters which can accurately measure 37 billion atomic disintegrations a second. Though they have the touch of the fantastic, they are the daily working tools for the atomic researcher.

With National Research Corporation, we are aiming at developing and improving processes for the production of titanium metal which has phenomenal properties of strength combined with light weight and corrosion resistance. While titanium is one of the earth's most abundant elements, there are many difficulties encountered in its extraction and production.

The joint contract with Union Electric is the first step in a program, conceived by Monsanto, for studying the development and operation of nuclear reactors for the production of both plutonium and electricity. If the study (one of the first in the atomic era to be conducted with private capital and government cooperation) proves that the project is technically and economically sound and if suitable long-term contracts can be made with the government, ultimately such combined plants might be constructed with private funds.



MAR 000243

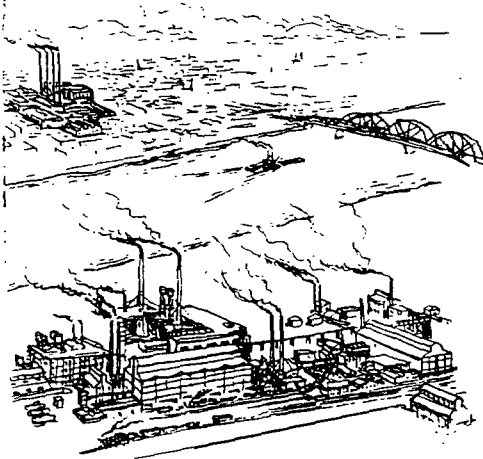
LAM016303



**EXPANSION**

MAR 000244

LAM016304



*World War I shut off supplies from Germany, forced this country's organic chemical industry to learn to make its own products from basic materials instead of from German intermediates, and gave the industry its first boom. Monsanto sales passed the million-dollar mark for the first time in 1915. In 1917, to assure a supply of basic acids, John F. Queeny crossed the muddy Mississippi and bought the Commercial Acid Co., near East St. Louis, Ill. (Now, it's the William G. Krummrich plant in Monsanto, Ill.) Monsanto's next moves were abroad. But, in 1929, shortly after dynamic young Edgar M. Queeny took over the presidency from his father, Monsanto began a series of domestic mergers which were to help change it from a small supplier of drug and food products into one of the six major chemical companies in the United States. Among the companies which, by exchange of stock, pooled their resources with Monsanto's to gain new leadership and to amass the huge amounts of talent and capital needed for chemical research and new production, were: Rubber Service Laboratories of Akron, Ohio and Nitro, W. Va. (1929); Merrimac Chemical Company of Everett, Mass. (1929); the Swann Corp. of Anniston, Ala., Carondelet, Mo., and Camden, N. J. (1935); Thomas and Hochwalt Laboratories of Dayton, Ohio (1936); Fiberloid Corp. of Springfield, Mass. (1938); and I. F. Laucks, Inc., of Seattle, Wash. (1944). A vast building program has greatly enlarged these and Monsanto's original plants, and has added many new plants elsewhere. The Texas City plant, which Monsanto built for the government in 1943 to produce styrene monomer for wartime synthetic rubber, was purchased in 1946. And, going into its 51st year, Monsanto expansion continues apace.*

*After six years of post-war expansion, Monsanto has increased its*

*property investment \$131,085,352 to a total of \$201,240,397*

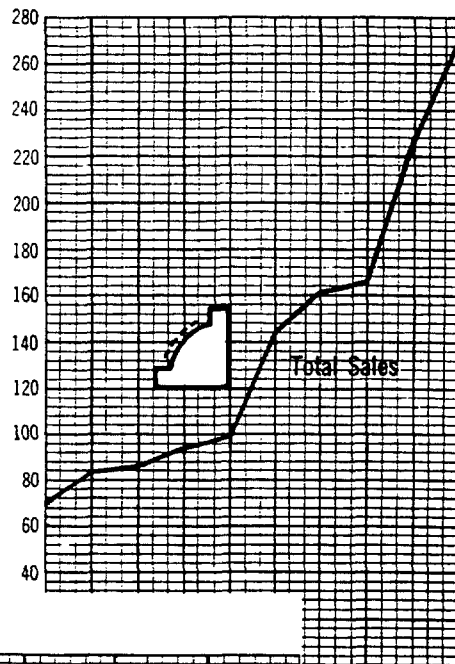
IN LATE 1945, shortly after the end of World War II, Monsanto announced its greatest expansion program. The company, physical properties of which were then valued at slightly over \$70 million, said that it was considering a plan to expand those properties and the investment in its first phase would be an estimated \$48,400,000.

In successive steps, the company's investment from the end of 1945 to the end of 1950, added more than \$117 million. In five years, Monsanto's investment in land, buildings, equipment, machinery and phosphate deposits increased to more than \$192 million at the end of 1950.

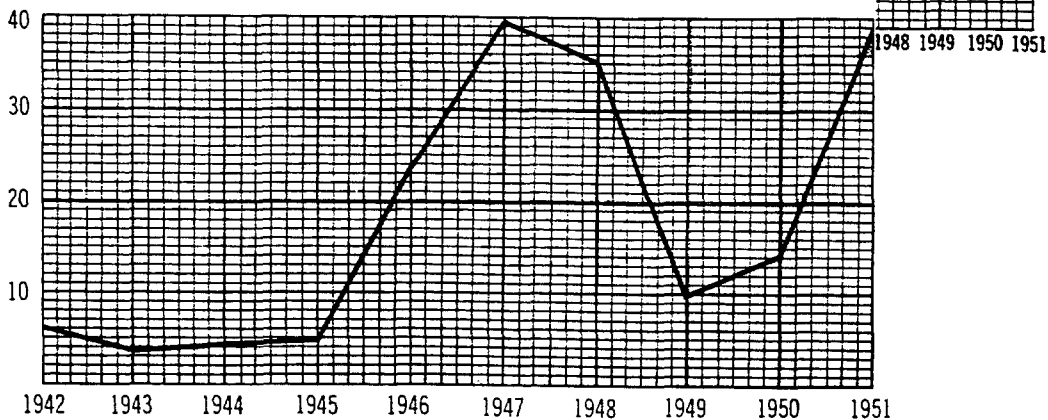
In 1951, this growth continued. For projects completed during the year or still in progress, expenditures amounted to more than \$38 million and the Board of Directors has voted expenditure of more than \$98 million for additional projects and for completion of current ones.

PROPERTY ADDITIONS  
COMPARED TO SALES

MILLIONS OF DOLLARS



MILLIONS OF DOLLARS



The largest single group of projects in this ambitious program is the Texas City construction of plants to manufacture acrylonitrile and vinyl chloride (see color picture, pp. 26-27) and to expand its facilities for producing styrene monomer.

A major source of chemistry's fascination, and of its strength, is the versatility of its products; there are few single-purpose chemicals. Acrylonitrile, which will be produced commercially by cracking natural gas, is a prime ingredient of synthetic fibres, of plastics and of Buna-N synthetic rubber. It is the basic ingredient of Acrilan, the new synthetic fibre soon to be manufactured by The Chemstrand Corporation, a jointly-owned subsidiary of Monsanto and American Viscose Corporation. And to prove its versatility—it is one of the materials used in the manufacture of Krilium, Monsanto's new soil conditioner. Versatile vinyl chloride, when processed into Monsanto's Ultron, is used for making draperies, furniture coverings, tablecloths and raincoats, in a multitude of colors and patterns and textures; for insulating electrical wire; and for a host of other purposes where light weight, waterproofing and stain resistance are important.

Much of the growth at Texas City is designed to fulfill the fast-growing needs of the Plastics Division. That division, in turn, expanded in 1951 by purchasing land and building at Port Plastics, near Cincinnati. The existing buildings are being converted rapidly and others are being added for plastics production.

The Phosphate Division in 1951 started to build a new elemental phosphorus plant in Soda Springs, Idaho—the heart of an area rich in phosphate deposits. The plant will begin with only one electric furnace, like the six at Monsanto, Tenn., but this single furnace will be larger than the biggest one in Tennessee, making it the largest known in the world.

Investments in The Chemstrand Corporation plants now under construction at Decatur, Ala., (for Acrilan) and at Pensacola, Fla., (for nylon) are in addition to the \$98 million mentioned above as authorized in 1951 for Monsanto expansion. By 1953, according to Chemstrand's President Osborne Bezanson, that company will have assets in excess of \$150 million. Few new companies, pioneering in a new industry like synthetic fibres, have ever started life so endowed.

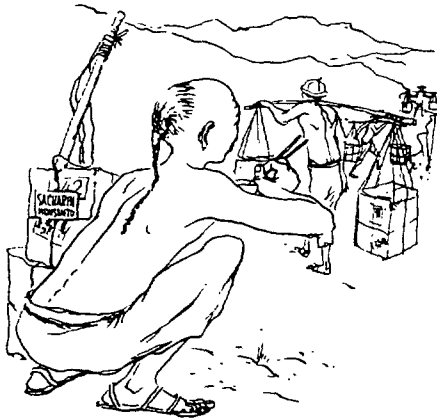
In addition to new boiler plants and other service facilities, other expansions now planned or in progress include: Maleic and phthalic anhydride at the John F. Queeny plant; chlorine and phenol at the William G. Krummrich plant; a new chlorine unit at Anniston, Ala.; dioctyl phthalate and sulfuric acid at Everett, Mass.; Ultron resin and film at Springfield; lignin vanillin at Seattle and Lustrex at Long Beach, Calif.



FOREIGN

MAR 000248

LAM016308



*The vigorous policy which has made Monsanto second in foreign sales among U. S. chemical companies began with the company's founding. First exports of saccharin were to Mexico; a larger market soon opened in tea-loving China. Goods had to be carried to the Chinese hinterland on coolies' backs, and saccharin's comparative lack of bulk (it's 500 times sweeter than sugar) made it immensely popular. Design of a container which defied most would-be adulterators gave the company an edge over competitors and "Saccharin-Monsanto" became a precious commodity, hoarded like gold and jewels. Chemical exports from this country soared after World War I ended German domination of world chemical markets. In 1920, when a new tariff threatened Monsanto's profitable British sales, the company bought a half interest in the R. Graesser, Ltd. chemical works of Ruabon, Wales. The remaining interest was acquired in 1928 and the foundation of Monsanto Chemicals Ltd. was further secured by purchase of the Brotherton & Co. plant at Sunderland, England in 1929. Monsanto Chemicals (Australia) Ltd. grew out of a working agreement with the Southern Cross Chemical Co. of Melbourne. Monsanto Canada Limited began in 1932 as a joint venture with other companies. Present Monsanto total: 11 plants in seven foreign countries.*

*Demand for Monsanto's products overseas exceeded ability to*

*supply; three new plants were established in Brazil and Japan*

IN GENERAL, demand for Monsanto's products overseas during the year exceeded our ability to supply and the company's foreign production and sales reached an all-time high. Sales were 30 per cent above those of 1950 (when increased foreign competition and devaluation of many European currencies caused a dip in our business abroad) and 13 per cent over 1949's record level.

In its overseas operations, Monsanto has long followed a policy of combining American industrial skills with foreign capital and manpower for mutual benefit. During 1951, we took new strides in this direction. In May, we joined a group

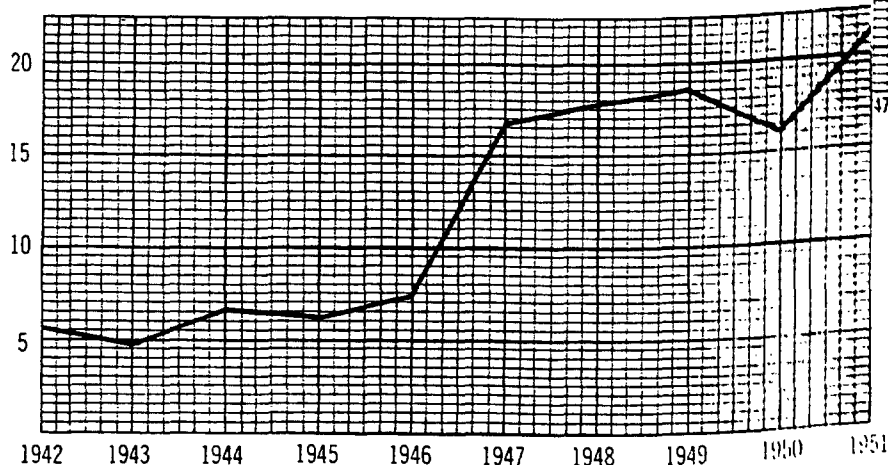
of Brazilians in organizing Monsanto S. A. Produtos Quimicos e Plasticos in the booming industrial city of Sao Paulo, Brazil. In August, even before the "treaty of reconciliation" at San Francisco opened the way for revival of Japan's tremendous industrial strength, arrangements were completed for the formation of Monsanto-Kasei Kogyo K. K., in association with the Nipponkasei Chemical Industries Ltd. of Tokyo.

These new companies were organized primarily in response to the growing demand overseas for plastics. Both will begin by manufacturing vinyl chloride monomer, Ultron (polyvinyl chloride plastic resins and films) and some of its ingredients. Our Japanese associates had just completed plants in Yokkaichi and

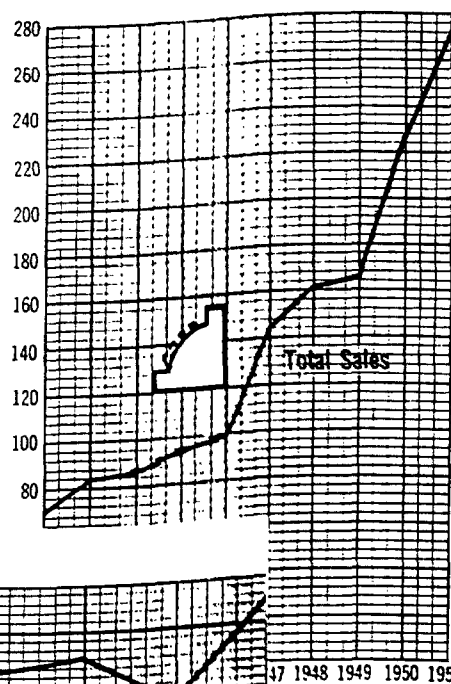
EXPORT SALES  
 COMPARED TO  
 TOTAL SALES



MILLIONS OF DOLLARS



MILLIONS OF DOLLARS



Nagoya. These are being expanded and units for plasticizer production are being added. Construction of a plant near Sao Paulo will begin soon, and some units may begin production early in 1953.

Other details of Monsanto's year abroad:

EUROPE: Reviving German competition cut sales of dye intermediates and a few other materials. But rising demand for other Monsanto products more than offset this loss, and over-all, demand was greater than we could supply.

ASIA: Korea kept our Far Eastern markets in turmoil, orders fluctuating with the hopes and despairs of a truce. U. S. government restrictions on exports which might reach Red China also cut sales drastically in some areas. On the other hand, Monsanto Chemicals of India, Ltd. (thus far solely a trading organization) found business better than expected because of some relaxation of import restrictions. And an upswing of sales in Japan indicated that that reviving nation may soon account for more than half of our Far Eastern business.

GREAT BRITAIN: Sales of Monsanto Chemicals Ltd. (England) were 47 per cent over 1950's despite shortages of many vital raw materials. In part, this growth was the result of a multi-million dollar construction program completed during the year. Capacity of the plants is committed for months ahead, though continuing supply shortages force them to operate on a week-to-week basis. In April, an offering of £1,500,000 of second preference stock in our English company was over-subscribed.

CANADA: The nation had a business recession in mid-year, but Monsanto Canada Limited topped its 1950 sales by 21 per cent—and only material shortages kept the figure from going higher.

AUSTRALIA: National shortages of raw materials and electric power—both a result of labor difficulties—hurt Monsanto Chemicals (Australia) Ltd. and many of its customers. Nonetheless, this company pushed its sales up to a new high.

MEXICO: With the opening of a Mexico City plant in January, Monsanto-Mexicana, S. A., began its operating life. Its first product: Lustrex (polystyrene), the "all-purpose" plastic. Sales in Mexico were good but there was a general business slack-off resulting from Mexican government restrictions on credit buying. Monsanto-Mexicana, however, is expanding its Lustrex markets by exporting to other Latin-American countries and has begun to manufacture two other plastics: Cellulose acetate and polyvinyl chloride.

ARGENTINA: Monsanto-Atanor Industrias Quimicas Argentinas, our associated company in Buenos Aires, found its Resinox plastics increasingly popular. Production went smoothly, and all products found a ready market.

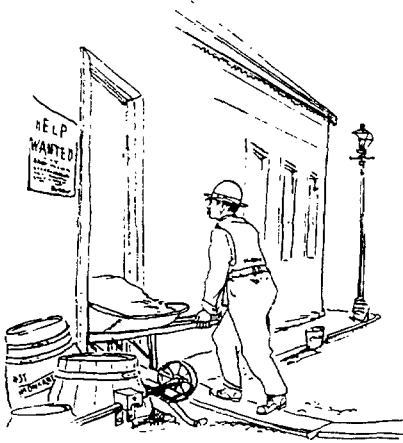
PERSONNEL



MONSANTO

LAM016312

MAR 000252



*Like America itself, Monsanto was from the first a melting pot. Founded by a second-generation American of undiluted Irish ancestry, the company was given the maiden surname of his German-Spanish wife. Its first chemists and plant managers—Veillon, DuBois and Bebie—were Swiss. Among its first workers were first generation Americans and assorted Serbs, Bulgarians, Hungarians and Roumanians (who in those days made up an impressive part of St. Louis' population). English was far from the universal language in Monsanto in the early years. But before long, as Gaston DuBois recently reminisced, "every one of those fellows had his citizenship card" and was sharing the American Dream. The contrast between the lot of Monsanto workers in 1901 and 1951 is a heartening commentary on what men can accomplish by working together in freedom. Consider, as but one measure of the progress of this working together: In the beginning, a Monsanto laborer earned \$7 a week by working six 12-hour days. In 1951, working five days a week in safer, cleaner, pleasanter surroundings, with machines to do most of the heavy lifting and hauling, an average Monsanto hourly worker earned \$7 in little more than half of one eight-hour day. Along with better wages and working conditions have come pensions, paid vacations, sick leave, free plant medical service and many other rewards of American productivity.*

### *Revised pension plans and hospitalization and insurance plans*

#### *feature in 1951 personnel news; manpower picture not too bright*

MONSANTO'S GOAL has been toward a wider sharing of the rewards of its enterprise among all employes. Universities and foundations have aided us in investigating our employe relations and advising us on policies; we have studied the work and the results of other companies in this field and Monsanto has consistently tried to improve its employe relations.

From the policies represented by our employe relations, we hope that the company as a whole has benefited in higher morale and loyalty. Including service in Monsanto and in companies which have merged with it, 519 present employes have been on the payroll for more than 25 years; ten for more than 40 years. Two out of three Monsanto employes of ten years ago are still with the company.

This, we feel, is a measure of some progress in the field of employe relations.

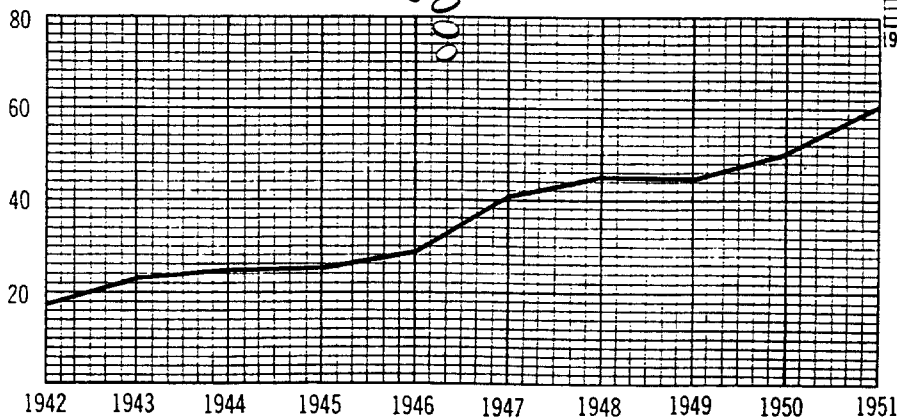
At 1951's annual meeting, stockholders approved a revised Monsanto pension plan which considerably enhanced our earlier one. At present, 354 employes are drawing pensions.

Also in 1951, a group insurance plan in effect since 1929 was supplemented by a new group hospitalization and surgical plan, the cost of which is shared by the company and the employes. This replaces similar local plans, not financially supported by the company, which had been adopted at the various plants, laboratories and sales offices.

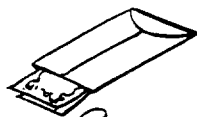
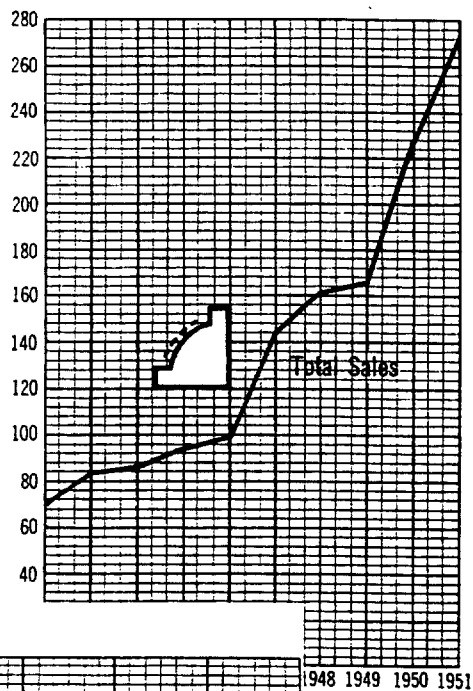
The efforts of both management and unions to arrive at long-term contracts,

TOTAL PAYROLL  
 COMPARED TO SALES

MILLIONS OF DOLLARS



MILLIONS OF DOLLARS



which permit both parties to make long-range plans, met with continued success. Only five union contracts were negotiated during 1951. Of the 15 existing union contracts with Monsanto plants, five expire in 1952, seven in 1953 and two in 1954.

A year of otherwise good relations between management and the unions was marred by a suddenly-called strike at the Springfield plant. The strike, set off by disciplinary penalties against two members of IUE-CIO's Local 288, ended after 11 days of negotiations in which management and the union were aided by International CIO representatives. The original disciplinary action was upheld in the settlement.

At year's end, 328 Monsanto employes were in the armed services. Some were drafted; others were reservists recalled to active duty. Among them were 66 engineers, chemists, supervisors and laboratory technicians and 83 of our skilled craftsmen and process operators.

Among civilians officially aiding the defense program was Vice President Francis J. Curtis, who during a six-month leave of absence served in Washington as assistant administrator of the National Production Authority. Also with NPA, for a year, were B. B. Langton, manager of intermediate sales for the Organic Chemicals Division, and, for six months, Thomas J. Martin, now sales manager of resins for the Plastics Division. A. T. Loeffler, development director of the Organic Chemicals Division, spent six months with the Office of Price Stabilization.

While these agencies grappled with problems of material shortages and allocation, the government has continued to procrastinate on a greater and more urgent defense problem which affects Monsanto and all industry. Industry, productivity of which is the keystone of national defense, is now short well over 100,000 scientists and engineers. The lowered birth rate of the 1930's is partly to blame, but the shortage is chiefly a result of World War II draft laws which did not adequately provide for exemptions for technical men and students.

These same questionable policies continue in the present emergency. Early in 1951, a Scientific Manpower Advisory Committee, headed by Monsanto's President Thomas, presented the President of the United States a thorough-going plan for conserving and increasing this indispensable national resource. These recommendations have not yet been fully acted upon.

Industry needs some 50,000 new scientists, engineers and other technologists each year for normal replacement and growth. If the present muddle continues, it is estimated that the supply of new technical graduates available to industry will dwindle in 1954 to only 5,000. Meanwhile, Russia is believed to be training engineers, alone, at a rate approaching 50,000 a year.

HASKINS & SELLS  
CERTIFIED PUBLIC ACCOUNTANTS

BOATMEN'S BANK BUILDING  
SAINT LOUIS 2

ACCOUNTANTS' CERTIFICATE

Monsanto Chemical Company:

We have examined the statement of consolidated financial condition of Monsanto Chemical Company and its consolidated subsidiaries as of December 31, 1951 and the related statements of consolidated income and surplus 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 statement of consolidated financial condition and statements of consolidated income and surplus present fairly the financial condition of the companies at December 31, 1951 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

HASKINS & SELLS

January 30, 1952

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M O N S A N T O    C H E M I C A L    C O M P A N Y

*Statement of Consolidated Financial Condition at*

| ASSETS   |                      | 1951                 | 1950 | Increase<br>Decrease |
|--|----------------------|----------------------|------|----------------------|
| <b>CURRENT ASSETS:</b>   |                      |                      |      |                      |
| Cash . . . . .   | \$ 22,374,558        | \$ 28,799,433        |      | \$ 6,424,875         |
| United States Government securities . . . . .                                      | 17,500,000           | 27,464,185           |      | 9,964,185            |
| Receivables, less reserves of \$645,242 in 1951 and \$643,868<br>in 1950 . . . . . | 31,116,284           | 27,279,845           |      | 3,836,439            |
| Inventories, less reserves of \$595,000 in 1951 and 1950 . . . . .                 | 45,150,002           | 27,831,954           |      | 17,318,048           |
| Total . . . . .  | <u>\$116,140,844</u> | <u>\$111,375,417</u> |      | <u>\$ 4,765,427</u>  |
| FUNDS RESTRICTED TO GOVERNMENT CONTRACTS . . . . .                                 | \$ 1,637,605         | \$ 1,633,624         |      | \$ 3,981             |
| <b>INVESTMENTS AND MISCELLANEOUS ASSETS:</b>                                       |                      |                      |      |                      |
| Investment in unconsolidated subsidiaries . . . . .                                | \$ 750,122           | \$ 750,122           |      |                      |
| Investment in and advances to associated companies . . . . .                       | 9,215,000            | 1,715,000            |      | \$ 7,500,000         |
| Common capital stock in treasury held for bonus awards . . . . .                   | 1,452,367            | 814,165              |      | 638,202              |
| Miscellaneous investments, receivables and deposits . . . . .                      | 1,218,921            | 1,376,156            |      | 157,235              |
| Total . . . . .  | <u>\$ 12,636,410</u> | <u>\$ 4,655,443</u>  |      | <u>\$ 7,980,967</u>  |
| <b>PROPERTY:</b>   |                      |                      |      |                      |
| Land . . . . .   | \$ 4,574,303         | \$ 4,116,844         |      | \$ 457,459           |
| Buildings . . . . .  | 40,097,028           | 35,646,219           |      | 4,450,809            |
| Machinery and equipment . . . . .  | 153,063,873          | 124,637,152          |      | 28,426,721           |
| Phosphate deposits, less depletion . . . . .                                       | 3,505,193            | 1,899,024            |      | 1,606,169            |
| Total . . . . .  | \$201,240,397        | \$166,299,239        |      | \$34,941,158         |
| Less—Reserves for depreciation, amortization and obsolescence . . . . .            | 71,726,441           | 63,965,627           |      | 7,760,814            |
| Net property . . . . .   | <u>\$129,513,956</u> | <u>\$102,333,612</u> |      | <u>\$27,180,344</u>  |
| PATENTS AND PROCESSES . . . . .  | \$ 1                 | \$ 1                 |      |                      |
| DEFERRED CHARGES . . . . .   | 2,152,071            | 1,378,954            |      | \$ 773,117           |
| TOTAL . . . . .  | <u>\$262,080,887</u> | <u>\$221,377,051</u> |      | <u>\$40,703,836</u>  |

See pages 44 and 45 for notes.

A N D C O N S O L I D A T E D S U B S I D I A R I E S

*December 31, 1951 and 1950*

LIABILITIES

|  | 1951                 | 1950                 | Increase<br>Decrease |
|--|----------------------|----------------------|----------------------|
| <b>CURRENT LIABILITIES:</b>  |                      |                      |                      |
| Estimated income taxes . . . . .   | \$ 40,579,548        | \$ 29,092,967        | \$11,486,581         |
| Less—United States Treasury Savings Notes . . . . .  | 8,378,485            | 22,353,256           | 13,974,771           |
| Net estimated income tax liability . . . . .   | \$ 32,201,063        | \$ 6,739,711         | \$25,461,352         |
| Accounts payable and accruals . . . . .  | 18,392,284           | 14,943,620           | 3,448,664            |
| Notes payable to bank in Brazil . . . . .  |                      | 125,197              | 125,197              |
| Deposits for returnable containers . . . . .   | 1,709,561            | 1,421,071            | 288,490              |
| Total . . . . .  | <u>\$ 52,302,908</u> | <u>\$ 23,229,599</u> | <u>\$29,073,309</u>  |
| EMPLOYEES' BONUS AWARDS PAYABLE BEYOND ONE YEAR . . . . .  | \$ 1,607,721         | \$ 1,036,457         | \$ 571,264           |
| ADVANCES ON GOVERNMENT CONTRACTS . . . . .   | \$ 1,637,605         | \$ 1,633,624         | \$ 3,981             |
| <b>DEBENTURES:</b>   |                      |                      |                      |
| 2.65%, due November 1, 1971 . . . . .  | \$ 30,000,000        | \$ 30,000,000        |                      |
| Canadian subsidiary—3%, \$62,500 due annually to 1957 . . . . .  | 312,500              | 375,000              | \$ 62,500            |
| Total . . . . .  | <u>\$ 30,312,500</u> | <u>\$ 30,375,000</u> | <u>\$ 62,500</u>     |
| <b>RESERVES:</b>   |                      |                      |                      |
| Pensions . . . . .   | \$ 7,722,584         | \$ 8,491,951         | \$ 769,367           |
| Employees' bonus—unawarded . . . . .   | 1,322,539            | 289,328              | 1,033,211            |
| Total . . . . .  | <u>\$ 9,045,123</u>  | <u>\$ 8,781,279</u>  | <u>\$ 263,844</u>    |
| MINORITY INTERESTS IN SUBSIDIARY COMPANIES . . . . .   | \$ 2,082,597         | \$ 1,935,533         | \$ 147,064           |
| <b>CAPITAL STOCK AND SURPLUS:</b>  |                      |                      |                      |
| Preference stock—authorized, 500,000 shares without par value,<br>issuable in series by Board of Directors; outstanding, 150,000<br>shares in 1951 and 244,820 shares in 1950, cumulative and<br>redeemable: at \$100 a share: |                      |                      |                      |
| Convertible—Series B—\$4.00 dividend . . . . .   |                      | \$ 9,482,000         | \$ 9,482,000         |
| Non-convertible—Series C—\$3.85 dividend . . . . .   | \$ 15,000,000        | 15,000,000           |                      |
| Common stock—authorized, 6,000,000 shares, par value \$5<br>each: reserved in 1951 for stock options, 98,500 shares; out-<br>standing, 4,868,189 shares in 1951 and 4,704,216 shares in<br>1950 . . . . .                      | 24,340,945           | 23,521,080           | 819,865              |
| Surplus:   |                      |                      |                      |
| Paid-in . . . . .  | 57,572,705           | 48,964,103           | 8,608,602            |
| Earned . . . . .   | 68,178,783           | 57,418,376           | 10,760,407           |
| Total . . . . .  | <u>\$165,092,433</u> | <u>\$154,385,559</u> | <u>\$10,706,874</u>  |
| TOTAL . . . . .  | <u>\$262,080,887</u> | <u>\$221,377,051</u> | <u>\$40,703,836</u>  |

See pages 44 and 45 for notes.

*Statement of Consolidated Income*

*for the years ended December 31, 1951 and 1950*

|  | 1951                 | 1950                 | Increase<br>Decrease |
|--|----------------------|----------------------|----------------------|
| <b>INCOME:</b>   |                      |                      |                      |
| Net sales . . . . .  | \$272,845,034        | \$227,135,206        | \$45,709,828         |
| Dividends from subsidiary and associated companies . . . . .                         | 753,066              | 998,611              | 245,545              |
| Other . . . . .  | 2,322,239            | 1,681,761            | 640,478              |
| Total . . . . .  | <u>\$275,920,339</u> | <u>\$229,815,578</u> | <u>\$46,104,761</u>  |
| <b>DEDUCTIONS:</b>   |                      |                      |                      |
| Cost of goods sold . . . . .   | \$182,852,746        | \$151,759,691        | \$31,093,055         |
| Selling and administrative expenses . . . . .  | 19,491,459           | 16,022,474           | 3,468,985            |
| Research expenses . . . . .  | 6,396,769            | 4,880,647            | 1,516,122            |
| Provision for employes' bonus . . . . .  | 2,290,817            | 1,714,171            | 576,646              |
| Net income applicable to minority interests . . . . .                                | 235,489              | 199,638              | 35,851               |
| Other . . . . .  | 2,532,175            | 1,629,565            | 902,610              |
| Total . . . . .  | <u>\$213,799,455</u> | <u>\$176,206,186</u> | <u>\$37,593,269</u>  |
| INCOME BEFORE SPECIAL ITEMS AND INCOME TAXES . . . . .                               | \$ 62,120,884        | \$ 53,609,392        | \$ 8,511,492         |
| ADD—Net refund of prior years' Federal income taxes,<br>including interest . . . . . |                      | 2,410,941            | 2,410,941            |
| Total . . . . .  | \$ 62,120,884        | \$ 56,020,333        | \$ 6,100,551         |
| DEDUCT—Special provision for obsolescence . . . . .                                  |                      | 2,011,000            | 2,011,000            |
| INCOME BEFORE PROVISION FOR INCOME TAXES . . . . .                                   | \$ 62,120,884        | \$ 54,009,333        | \$ 8,111,551         |
| <b>PROVISION FOR INCOME TAXES:</b>   |                      |                      |                      |
| Normal and surtax . . . . .  | \$ 31,508,000        | \$ 23,525,000        | \$ 7,983,000         |
| Excess profits . . . . .   | 7,871,000            | 4,264,000            | 3,607,000            |
| Total . . . . .  | \$ 39,379,000        | \$ 27,789,000        | \$11,590,000         |
| LESS—Adjustment for prior year . . . . .   | 736,000              |                      | 736,000              |
| Remainder . . . . .  | \$ 38,643,000        | \$ 27,789,000        | \$10,854,000         |
| NET INCOME . . . . .   | <u>\$ 23,477,884</u> | <u>\$ 26,220,333</u> | <u>\$ 2,742,449</u>  |

See pages 44 and 45 for notes.

## Statement of Consolidated Surplus

for the years ended December 31, 1951 and 1950

|   | Earned Surplus             |                            | Paid-in Surplus            |                            |
|---|----------------------------|----------------------------|----------------------------|----------------------------|
|   | 1951                       | 1950                       | 1951                       | 1950                       |
| BALANCE AT BEGINNING OF YEAR . . . . .  | \$57,418,376               | \$44,227,849               | \$48,964,103               | \$27,630,205               |
| ADDITIONS:  |                            |                            |                            |                            |
| Net income for the year . . . . .   | 23,477,884                 | 26,220,333                 |                            |                            |
| Excess of stated value at \$100 a share of preference stock without par value over the par value of common stock into which it was converted:             |                            |                            |                            |                            |
| Series A—79,726 shares of preference stock converted into 159,452 shares of common stock . . . . .  |                            |                            |                            | 7,175,340                  |
| Series B:   |                            |                            |                            |                            |
| 94,615 shares of preference stock converted into 163,973 shares of common stock, less cash adjustment in lieu of issuance of fractional shares . . . . .  |                            |                            | 8,608,602                  |                            |
| 155,060 shares of preference stock converted into 268,713 shares of common stock, less cash adjustment in lieu of issuance of fractional shares . . . . . |                            |                            |                            | 14,107,464                 |
| Adjustment incident to change in equity in Canadian subsidiary company . . . . .  |                            | 36,298*                    |                            | 51,094                     |
| Total . . . . .   | <u>\$80,896,260</u>        | <u>\$70,411,884</u>        | <u>\$57,572,705</u>        | <u>\$48,964,103</u>        |
| DEDUCTIONS:   |                            |                            |                            |                            |
| Cash dividends on capital stock of parent company:  |                            |                            |                            |                            |
| Preference:   |                            |                            |                            |                            |
| Series A—at the annual rate of \$3.25 a share . . . . .   |                            | \$ 87,914                  |                            |                            |
| Series B—at the annual rate of \$4.00 a share . . . . .   | \$ 119                     | 872,827                    |                            |                            |
| Series C—at the annual rate of \$3.85 a share . . . . .   | 577,500                    | 232,500                    |                            |                            |
| Common—at the rate of \$2.50 a share in 1951 and \$2.62½ a share in 1950 . . . . .  | 12,139,858                 | 11,800,267                 |                            |                            |
| Total . . . . .   | <u>\$12,717,477</u>        | <u>\$12,993,508</u>        |                            |                            |
| BALANCE AT END OF YEAR . . . . .  | <u><u>\$68,178,783</u></u> | <u><u>\$57,418,376</u></u> | <u><u>\$57,572,705</u></u> | <u><u>\$48,964,103</u></u> |

\*Indicates deduction.  
See pages 44 and 45 for notes.

*Principle of Consolidation* The consolidated statements include all subsidiary companies of which Monsanto Chemical Company owns more than 50% of the voting capital stock, except the British subsidiary (Monsanto Chemicals Limited) and its Australian and other subsidiary companies, a recently organized Brazilian subsidiary not yet in operation, an Indian company jointly owned with the British subsidiary, and three wholly-owned non-operating companies carried at a nominal value.

*Inventories* Inventories are valued at cost, which is not in excess of market. The valuation of approximately 38% of the inventories at both December 31, 1951 and at December 31, 1950 has been determined on a last-in, first-out basis and the remainder on a first-in, first-out or an average cost basis.

*Commitments and Contingent Liabilities* At December 31, 1951, there were commitments aggregating approximately \$29,300,000 in connection with uncompleted additions to property. In addition, certain major cost-plus construction contracts had been awarded by the company.

Under an agreement dated June 8, 1951, in connection with the construction and operation of plants of The Chemstrand Corporation, a company owned jointly with American Viscose Corporation, the company has obligated itself to pay one-half of (1) all amounts needed by Chemstrand for completion of the Acrilan and nylon plants over and above the lesser of \$110,000,000 or 80% of the total cost of such plants when completed, and (2) all amounts needed by Chemstrand for working capital during the construction of the nylon plants and all amounts necessary to cause Chemstrand to have not less than \$18,000,000 of working capital on the completion date of such nylon plants. The agreement also obligates the company (1) in case the nylon plants are not completed on or before April 1, 1954, to pay one-half of any amounts needed thereafter by Chemstrand to pay interest on its Series A bonds until the completion of the nylon plants, and (2) in case said nylon plants are not completed on or before April 1, 1956, or the principal of said bonds becomes due prior to completion of the nylon plants by reason of certain defaults, to pay one-half of any amounts needed by Chemstrand to pay the principal of such bonds.

Under the indenture securing the First Mortgage Bonds of Chemstrand, the Trustee makes payments to Chemstrand from the proceeds of such bonds. If at the time of any such payment the aggregate payments exceed Chemstrand's cost of the plants subject to the lien, the company, in effect as a guarantee to the Trustee, is obligated to issue to the Trustee, its promissory note for 50% of such excess, or 100% if the other party defaults. The obligation under these notes terminates if, upon completion of the plants, the cost of the plants to Chemstrand equals or exceeds the cash payments by the Trustee. At December 31, 1951, no notes had been issued to the Trustee.

At December 31, 1951, there were pending against the company sundry suits, claims, etc., all incident to the ordinary course of business. There is no way of determining the ultimate disposition of these matters but in the opinion of management, losses, if any, over and above amounts provided therefor in the accounts will not be material.

to *Financial Statements*

The Revenue Act of 1951 contains a provision for an alternative excess profits tax credit in the case of a base period catastrophe, which is believed to be applicable to the company because of the Texas City disaster in 1947. This provision was made retroactive to the year 1950, and it is estimated that the company will be entitled to a refund of excess profits tax for that year of approximately \$736,000. This amount has been recorded in the accounts in 1951 as a reduction of the excess profits tax provision for the year 1951.

*Federal Income Taxes*

Sinking fund payments of \$1,000,000 annually on the 2.65% debentures begin May 1, 1957.

*2.65% Debentures*

On January 4, 1952, the company sold at par to a group of six institutional investors, \$66,000,000 principal amount of 50-year 3¾% Income Debentures.

*New Financing*

On January 16, 1952, the company filed a Registration Statement with the Securities and Exchange Commission relating to the proposed sale of 400,000 shares of common capital stock.

In 1950, a Federal Court held the United States Government negligent in its handling of an inherently dangerous commodity and, therefore, liable for damages suffered by the company in the Texas City disaster. The Government appealed the decision to the U. S. Circuit Court of Appeals. The court heard argument on the appeal on December 7, 1951, but has not yet handed down its opinion.

*Pending Litigation*

The company's approximate equity in the net worth of affiliates, as shown by their unaudited accounts, was as follows:

*Equity in Affiliates*

|   | 1951                | 1950                |
|---|---------------------|---------------------|
| Unconsolidated subsidiaries . . . . .     | \$10,713,516        | \$ 9,553,000        |
| Associated companies, 50% owned . . . . . | 2,031,625           | 2,027,000           |
| Total . . . . .                           | <u>\$12,745,141</u> | <u>\$11,580,000</u> |

The equity of Monsanto Chemical Company in the unaudited net income of unconsolidated subsidiaries for the years ended December 31, 1951 and 1950 was approximately \$1,485,649 and \$867,000, respectively. Dividends of \$529,200 and \$415,800 were received from the British subsidiary during the years 1951 and 1950, respectively, and included in dividend income in the Statement of Consolidated Income.

*Equity in Net Income of Unconsolidated Subsidiaries*

The provision for depreciation, amortization and obsolescence, exclusive of the special provision of \$2,011,000 in 1950 for loss on obsolete facilities shown separately in the Statement of Consolidated Income, amounted to \$11,058,311 for the year 1951 and \$9,981,483 for the year 1950.

*Depreciation, Amortization and Obsolescence*

## *Employees' Bonus Pla*

*Provisions of the amended employees' bonus plan as approved by the stockholders on March 27, 1951, regarding the computation of amount of credit to bonus reserve.*

The company shall establish and maintain a bonus reserve to which shall be credited annually an amount to be determined by the Bonus Committee. This annual amount shall not exceed seven per cent of the Bonus Net Income (as defined in the following paragraph); provided that no credit shall be made to the bonus reserve which shall result in reducing below seven per cent of Bonus Net Capital Employed (as defined in the third paragraph) the net income of the company after all charges and taxes (computed at actual tax rates).

The term "Bonus Net Income" shall be the amount of net income (after all taxes) for any year as shown in the Statement of Consolidated Income set forth in the Annual Report to the Stockholders of Monsanto Chemical Company for such year, adjusted, however, by (a) deducting the amount of net income (before income and excess profits taxes) included therein of any partly-owned subsidiary included in the consolidation, and (b) deducting the amount of any dividends and interest received from unconsolidated partly-owned subsidiaries and associated companies, and (c) adding any amounts of interest charged to the consolidated net income for the year on debt (as defined in the following paragraph), such interest being understood to include charges or credits arising out of premium or discount paid or received with respect to such debt, and (d) deducting an amount equal to 12 per cent of the Bonus Net Capital Employed, and (e) adding the amount of bonus provision charged to such consolidated net income, and (f) deducting any amounts credited to consolidated net income from unawarded portions of the bonus reserve, and (g) adding the amount of income and excess profits taxes for the year.

The term "Bonus Net Capital Employed" for any year, as used in this plan, shall mean the amount of issued and outstanding Capital Stock of all classes (including as outstanding, all treasury stock whether or not awarded for bonus purposes), Debt and Surplus of all classes as of December 31 of such year, as shown in the Statement of Consolidated Financial Condition of Monsanto Chemical Company and Subsidiary Companies as set forth in the Annual Report to Stockholders, after elimination therefrom of (a) the equity in consolidated partly-owned subsidiaries, (b) the investment in unconsolidated partly-owned subsidiaries and associated companies, and (c) loans and advances to unconsolidated partly-owned subsidiaries and associated companies. The term "debt" as used in this plan, shall mean the unpaid principal amount of all indebtedness of Monsanto Chemical Company and/or of its wholly-owned subsidiaries as principal and not as surety or guarantor, having a maturity at the time of its creation of more than one year, independent of acceleration and evidenced by a bond, debenture or promissory note.

DETERMINATION OF THE AMOUNT OF CREDIT TO BONUS RESERVE FOR 1951

The amount determined by the Certified Public Accountants to be seven per cent of Bonus Net Income, the amount which the Bonus Committee directed should be credited to the bonus reserve, and the amount awarded, are summarized as follows:

Computation of amount which could have been credited to the bonus reserve for 1951:

Bonus net income as defined in the amended plan:

|  |                   |                      |
|--|-------------------|----------------------|
| Net income after all taxes for the year 1951—Page 42 . . . . .   |                   | \$ 23,477,884        |
| Additions:   |                   |                      |
| Interest on 2.65% debentures . . . . .   | \$ 795,000        |                      |
| Provision for employes' bonus charged to income (exclusive of provision of \$102,329 by Canadian subsidiary company) . . . . . | 2,188,488         |                      |
| Income and excess profits taxes for the year 1951 . . . . .  | <u>38,643,000</u> | 41,626,488           |
| Total . . . . .  |                   | <u>\$ 65,104,372</u> |

Deductions:

|  |                   |                      |
|--|-------------------|----------------------|
| Net income of partly-owned subsidiaries (before income and excess profits taxes) . . . . .                       | \$ 1,565,903      |                      |
| Dividends and interest received from unconsolidated partly-owned subsidiaries and associated companies . . . . . | 779,737           |                      |
| 12% on bonus net capital employed (see computation below) . . . . .  | <u>21,836,269</u> | 24,181,909           |
| Bonus net income . . . . .   |                   | <u>\$ 40,922,463</u> |

Amount which could have been credited to the bonus reserve (7% of bonus net income) \$ 2,864,572

Amount credited to the bonus reserve as directed by the Bonus Committee \$ 2,188,488

Add—Balance of reserve at beginning of year 289,328

Total \$ 2,477,816

Deduct—Awards for the year 1951 as determined by the Bonus Committee 1,227,816

Remainder \$ 1,250,000

Add—Provision for bonus by Canadian subsidiary company for 1950 and 1951, less awards 72,539

Unawarded balance in the bonus reserve at December 31, 1951 \$ 1,322,539

Computation of 12% on bonus net capital employed:

Bonus net capital as defined in the plan (amounts based upon figures at December 31, 1951)—Pages 40 and 41:

|  |                      |
|--|----------------------|
| Total capital stock and surplus . . . . .            | \$165,092,433        |
| Add—Debt (represented by 2.65% debentures) . . . . . | <u>30,000,000</u>    |
| Total . . . . .                                      | <u>\$195,092,433</u> |

Deductions:

Equity in consolidated partly-owned subsidiaries . . . . . \$ 2,482,324

Investment in and loans and advances to unconsolidated partly-owned subsidiaries and associated companies . . . . . 9,965,119

Difference between maximum amount which could be credited to the bonus reserve, \$2,864,572, and the amount credited to the reserve as directed by the Bonus Committee, \$2,188,488 . . . . . 676,084 13,123,527

Bonus net capital employed \$181,968,906

12% on bonus net capital employed \$ 21,836,269

The required earnings for 1951 (before any credit could have been made to the bonus reserve) where seven per cent of \$181,968,906, or \$12,737,823.

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MONSANTO CHEMICAL COMPANY AND SUBSIDIARY COMPANIES (Including British and Australian Subsidiary Companies)

Statement of Consolidated Financial Condition at December 31, 1942 to 1951, Inclusive (In Thousands of Dollars)

ASSETS

|  | 1951      | 1950      | 1949      | 1948      | 1947      | 1946      | 1945      | 1944      | 1943      | 1942      |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Current Assets:</b>   |           |           |           |           |           |           |           |           |           |           |
| Cash and marketable securities.....                                | \$ 41,728 | \$ 56,904 | \$ 27,798 | \$ 20,651 | \$ 25,187 | \$ 43,655 | \$ 19,813 | \$ 13,048 | \$ 13,945 | \$ 9,406  |
| Receivables, less reserves.....                                    | 35,873    | 30,929    | 20,247    | 20,309    | 18,892    | 15,932    | 11,905    | 11,237    | 9,043     | 10,118    |
| Inventories.....   | 36,112    | 33,143    | 33,713    | 39,419    | 30,950    | 20,190    | 16,532    | 15,478    | 12,891    | 12,698    |
| Total.....   | \$133,713 | \$120,976 | \$ 81,758 | \$ 80,379 | \$ 75,029 | \$ 48,250 | \$ 39,763 | \$ 39,763 | \$ 35,879 | \$ 32,222 |
| <b>Funds Restricted to Government Contracts.....</b>               | \$ 1,638  | \$ 1,634  | \$ 1,845  | \$ 2,172  | \$ 2,339  | \$ 2,008  | \$ 1,857  | \$ 108    | \$ 181    |           |
| <b>Investments and Miscellaneous Assets:</b>                       |           |           |           |           |           |           |           |           |           |           |
| Investment in and advances to associated companies.....            | \$ 9,215  | \$ 1,715  | \$ 725    | \$ 715    | \$ 715    | \$ 715    | \$ 715    | \$ 715    | \$ 806    | \$ 806    |
| Miscellaneous investments, deposits, etc.....                      | 3,295     | 2,269     | 2,268     | 2,278     | 1,648     | 1,598     | 1,602     | 1,293     | 940       | 778       |
| Insurance claims on destroyed plant—Net.....                       |           |           |           |           | 3,844     |           |           |           |           |           |
| Estimated post-war tax refund.....                                 |           |           |           |           |           |           |           | 2,804     | 1,830     | 928       |
| Total.....   | \$12,510  | \$ 3,984  | \$ 2,993  | \$ 2,993  | \$ 6,207  | \$ 2,313  | \$ 2,317  | \$ 4,812  | \$ 3,576  | \$ 2,512  |
| <b>Property:</b>   |           |           |           |           |           |           |           |           |           |           |
| Land.....  | \$ 4,897  | \$ 4,423  | \$ 4,229  | \$ 3,996  | \$ 3,821  | \$ 3,406  | \$ 2,714  | \$ 2,483  | \$ 2,439  | \$ 2,399  |
| Buildings.....   | 46,470    | 41,432    | 39,419    | 36,698    | 27,074    | 20,457    | 15,658    | 14,995    | 14,057    | 13,462    |
| Machinery and equipment.....                                       | 175,680   | 144,531   | 132,896   | 132,864   | 100,820   | 73,213    | 55,647    | 53,519    | 49,930    | 48,010    |
| Phosphate deposits, less depletion.....                            | 3,505     | 1,899     | 1,008     | 942       | 792       | 804       | 818       | 774       | 735       | 773       |
| Total.....   | \$230,552 | \$192,285 | \$177,552 | \$165,600 | \$132,507 | \$ 97,880 | \$ 74,837 | \$ 71,771 | \$ 67,161 | \$ 64,644 |
| Less—Reserves for depreciation, amortization and obsolescence..... | 79,536    | 70,488    | 60,410    | 54,247    | 49,579    | 45,647    | 42,534    | 35,364    | 30,329    | 25,568    |
| Net Property.....  | \$151,016 | \$121,797 | \$117,142 | \$111,353 | \$ 82,928 | \$ 52,233 | \$ 32,303 | \$ 36,407 | \$ 36,832 | \$ 39,076 |
| <b>Deferred Charges.....</b>                                       | \$ 2,260  | \$ 1,441  | \$ 1,612  | \$ 1,889  | \$ 1,710  | \$ 729    | \$ 349    | \$ 649    | \$ 522    | \$ 505    |
| TOTAL.....   | \$301,137 | \$249,832 | \$205,350 | \$198,786 | \$168,213 | \$137,060 | \$ 85,076 | \$ 81,739 | \$ 76,990 | \$ 74,315 |

LIABILITIES

|   |           |           |           |           |           |           |           |           |           |           |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Current Liabilities:</b>   |           |           |           |           |           |           |           |           |           |           |
| Estimated income taxes.....   | \$ 43,953 | \$ 29,873 | \$ 13,772 | \$ 14,954 | \$ 13,869 | \$ 9,722  | \$ 13,673 | \$ 14,922 | \$ 14,533 | \$ 14,163 |
| Less—U. S. Treasury Savings Notes and British Tax Reserve Certificates..... | 8,378     | 22,353    | 9,705     | 6,371     | 3,755     | 7,554     | 12,837    | 13,810    | 13,143    | 11,223    |
| Net estimated income tax liability.....                                     | \$ 34,975 | \$ 7,520  | \$ 4,067  | \$ 8,583  | \$ 10,114 | \$ 2,168  | \$ 836    | \$ 1,112  | \$ 1,390  | \$ 2,440  |
| Notes payable to foreign banks.....   | 866       | 1,525     | 175       | 302       | 466       | 357       | 428       | 734       | 417       | 477       |
| Accounts payable and accruals.....  | 23,412    | 17,826    | 12,153    | 12,590    | 14,790    | 12,067    | 6,878     | 6,599     | 6,045     | 4,833     |
| Deposits for returnable containers.....                                     | 1,710     | 1,443     | 897       | 950       | 1,043     | 909       | 957       | 1,082     | 962       | 827       |
| Total.....  | \$ 60,963 | \$ 28,314 | \$ 17,292 | \$ 22,425 | \$ 26,413 | \$ 15,501 | \$ 9,099  | \$ 9,527  | \$ 8,814  | \$ 8,100  |
| <b>Employees' Bonus Awards Payable Beyond One Year.....</b>                 | \$ 1,608  | \$ 1,037  |           |           |           |           |           |           |           |           |
| <b>Advances on Government Contracts.....</b>                                | \$ 1,638  | \$ 1,634  | \$ 1,845  | \$ 2,172  | \$ 2,339  | \$ 2,008  | \$ 1,857  | \$ 108    | \$ 181    |           |
| <b>Debentures on Government Contracts.....</b>                              | \$ 30,312 | \$ 30,375 | \$ 30,438 | \$ 30,500 | \$ 30,500 | \$ 30,000 |           |           |           |           |
| <b>Reserves:</b>  |           |           |           |           |           |           |           |           |           |           |
| Pensions.....   | \$ 7,723  | \$ 8,492  | \$ 7,627  | \$ 6,890  | \$ 6,066  | \$ 5,327  | \$ 4,829  | \$ 4,405  | \$ 4,030  | \$ 3,581  |
| Employees' bonus—unawarded.....   | 289       | 289       | 452       |           |           |           |           |           |           |           |
| Future taxation.....  | 4,154     | 2,452     |           |           |           |           |           |           |           |           |
| Contingencies, etc.....   |           |           |           |           | 29        | 81        | 137       | 100       | 294       | 90        |
| Total.....  | \$ 13,199 | \$ 11,233 | \$ 8,079  | \$ 6,890  | \$ 6,095  | \$ 5,408  | \$ 4,966  | \$ 4,505  | \$ 4,324  | \$ 3,671  |
| <b>Capital Stock and Surplus:</b>   |           |           |           |           |           |           |           |           |           |           |
| Minority interests in subsidiary companies.....                             | \$ 8,581  | \$ 8,075  | \$ 6,998  | \$ 4,520  | \$ 4,315  | \$ 1,024  | \$ 883    | \$ 824    | \$ 536    | \$ 489    |
| Preference shares of British subsidiary.....                                | 10,230    | 6,030     | 6,030     | 6,030     | 6,030     | 1,940     | 1,940     | 1,940     | 1,940     | 1,940     |
| Preference shares of Australian subsidiary.....                             | 15,000    | 24,482    | 33,012    | 33,067    | 9,163     | 31,682    | 21,000    | 21,000    | 21,000    | 21,000    |
| Common stock.....   | 24,341    | 23,521    | 21,380    | 21,265    | 21,265    | 19,019    | 12,679    | 12,676    | 12,417    | 12,417    |
| Capital reserve.....  | 494       | 494       | 494       | 593       | 584       | 623       | 687       | 1,291     | 1,517     | 1,517     |
| Capital reserve—excess profits tax post-war refund.....                     | 64,420    | 55,979    | 34,625    | 30,901    | 30,901    | 6,837     | 12,931    | 12,913    | 11,517    | 11,517    |
| Paid-in surplus.....  | 70,351    | 58,658    | 45,157    | 39,599    | 30,608    | 23,018    | 18,246    | 16,261    | 15,181    | 15,181    |
| Earned surplus.....   | \$193,417 | \$177,239 | \$147,626 | \$136,799 | \$102,866 | \$ 84,143 | \$ 69,154 | \$ 67,599 | \$ 63,671 | \$ 62,544 |
| Total.....  | \$301,137 | \$249,832 | \$205,350 | \$198,786 | \$168,213 | \$137,060 | \$ 85,076 | \$ 81,739 | \$ 76,990 | \$ 74,315 |
| TOTAL.....  | \$ 72,550 | \$ 64,466 | \$ 57,954 | \$ 54,276 | \$ 48,616 | \$ 44,276 | \$ 39,151 | \$ 30,236 | \$ 27,065 | \$ 24,172 |
| Net Working Capital.....  |           |           |           |           |           |           |           |           |           |           |

**MONSANTO CHEMICAL COMPANY AND SUBSIDIARY COMPANIES (Including British and Australian Subsidiary Companies)**

**Statement of Consolidated Income for Years ended December 31, 1942 to 1951, Inclusive**

*(In Thousands of Dollars, Except Earnings Per Share of Common Stock and Book Value of Common Stock)*

|  | 1951             | 1950             | 1949             | 1948             | 1947             | 1946             | 1945             | 1944             | 1943             | 1942             |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Net sales.....   | \$305,725        | \$248,939        | \$183,951        | \$180,033        | \$156,422        | \$111,424        | \$104,355        | \$ 96,105        | \$ 90,458        | \$ 77,058        |
| Other income.....  | 2,576            | 2,251            | 1,563            | 2,238            | 1,454            | 1,782            | 1,941            | 2,123            | 1,332            | 899              |
| Excess profits tax refund—Net.....   | 2,411            | 2,411            |                  |                  |                  |                  |                  |                  |                  |                  |
| Insurance recovery—Net.....  | <u>\$308,301</u> | <u>\$253,601</u> | <u>\$185,514</u> | <u>\$183,268</u> | <u>\$157,876</u> | <u>\$113,206</u> | <u>\$106,296</u> | <u>\$ 98,228</u> | <u>\$ 91,790</u> | <u>\$ 77,957</u> |
| Total.....   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Cost of goods sold.....  | \$205,863        | \$167,792        | \$130,307        | \$128,666        | \$109,784        | \$ 79,945        | \$ 76,998        | \$ 71,932        | \$ 66,336        | \$ 52,687        |
| Selling, administrative and research expenses.....   | 29,247           | 23,356           | 23,014           | 21,307           | 17,980           | 13,001           | 10,698           | 8,864            | 7,718            | 6,877            |
| Provision for employees' bonus.....  | 2,291            | 1,714            | 2,358            | 2,272            | 1,586            | 880              | 666              | 402              | 375              | 404              |
| Income charges.....  | 2,611            | 1,696            |                  |                  |                  |                  |                  |                  |                  |                  |
| Special provision for obsolescence.....  | 2,011            |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Texas City employe relief.....   | 1,153            | 732              | 409              | 735              | 500              | 199              | 113              | 87               | 92               | 117              |
| Net income applicable to minority interests.....   | 42,718           | 29,231           | 12,136           | 11,793           | 11,482           | 8,491            | 12,202           | 11,849           | 11,976           | 12,461           |
| Provision for income taxes.....  | <u>\$283,883</u> | <u>\$227,032</u> | <u>\$168,224</u> | <u>\$164,773</u> | <u>\$141,831</u> | <u>\$102,516</u> | <u>\$100,677</u> | <u>\$ 93,134</u> | <u>\$ 86,497</u> | <u>\$ 72,546</u> |
| Total.....   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Transferred to earned surplus.....   | \$ 24,418        | \$ 26,569        | \$ 17,290        | \$ 18,595        | \$ 16,045        | \$ 10,690        | \$ 5,619         | \$ 5,094         | \$ 5,293         | \$ 5,411         |
| Per share of common stock.....   | \$ 4.90          | \$ 5.44          | \$ 3.75          | \$ 4.08          | \$ 3.70          | \$ 2.53          | \$ 0.124         | \$ 0.111         | \$ 0.118         | \$ 0.122         |
| Cash dividends on common stock.....  | \$ 12,140        | \$ 11,800        | \$ 8,551         | \$ 8,531         | \$ 7,992         | \$ 4,121         | \$ 2,853         | \$ 2,826         | \$ 2,794         | \$ 2,794         |
| Provision for depreciation, amortization and obsolescence.....   | \$ 12,541        | \$ 13,367        | \$ 10,128        | \$ 7,842         | \$ 5,722         | \$ 4,510         | \$ 7,824         | \$ 7,218         | \$ 6,581         | \$ 4,853         |
| Shares outstanding parent company:   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Preference.....  | b150,000         | c244,820         | 330,116          | d330,669         | e91,632          | f316,822         | 210,000          | 210,000          | 210,000          | 210,000          |
| Common.....  | b4,868,189       | e4,704,216       | 4,276,051        | d4,274,945       | e4,253,019       | g3,803,891       | 1,267,868        | h1,241,694       | 1,241,694        | 1,241,694        |
| Book value of common.....  | \$ 32.79         | \$ 29.47         | \$ 23.77         | \$ 21.80         | \$ 19.60         | \$ 13.01         | \$ 0.11.92       | \$ 0.11.53       | \$ 0.10.79       | \$ 0.10.50       |
| Number of shareholders:  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Common stock.....  | 19,527           | 17,427           | 15,637           | 15,186           | 13,999           | 11,616           | 10,822           | 10,560           | 10,331           | 10,119           |
| Preference stock.....  | 17               | 1,086            | 3,224            | 3,147            | 1,476            | 5,154            | 3,257            | 3,270            | 3,255            | 3,246            |
| British subsidiary:  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Ordinary shares.....   | 3,438            | 2,985            | 3,008            | 2,292            | 2,572            | 848              | 846              | 852              | 862              | 868              |
| Preference shares.....   | 3,307            | 1,585            | 1,586            | 1,623            | 1,644            | 1,618            | 14,925           | 14,682           | 14,448           | 14,233           |
| Total.....   | 26,289           | 23,063           | 23,455           | 22,248           | 19,691           | 17,618           | 14,925           | 14,682           | 14,448           | 14,233           |
| Number of employees at end of year, including those in plants operated for United States Government..... | 19,031           | 17,227           | 15,637           | 16,343           | 18,381           | 15,319           | 12,658           | 11,523           | 11,341           | 10,359           |

The 1951 figures include the unaudited accounts of the British and Australian subsidiary companies. For comparative purposes, the above income accounts for the years 1942 through 1944 have been adjusted to reflect the additional amortization applicable to those years.

Principal changes are accounted for as follows:

a After giving effect to 3 for 1 exchange of stock in 1946. b 94,615 shares Series B preference stock converted into 163,973 common shares. c 150,000 shares Series C preference stock sold to 17 purchasers at \$100 a share. d 79,726 shares Series A preference stock converted into 159,452 common shares. e 155,066 shares Series B preference stock converted into 268,713 common shares. f 250,000 shares Series B preference stock sold to underwriters at \$99 a share. g 10,963 shares Series A preference stock converted into 21,926 common shares. h 274,564 shares Series A preference stock converted into 449,128 common shares. i 31,697 shares Series A preference stock sold at \$101.50 a share to holders of rights previously issued to common stockholders. j 210,000 shares preferred stock redeemed. k Stock exchanged 3 for 1. l Capital stock of I. F. Lauck, Inc. and I. F. Lauck, Ltd. acquired for stock.

M O N S A N T O C H E M I C A L C O M P A N Y A N I

*Source and Disposition of Funds by Years, for the five years ended December 31, 1951*

|  | Total                | 1951                 | 1950                | 1949                | 1948                | 1947                |
|--|----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|
| <b>SOURCE OF FUNDS:</b>  |                      |                      |                     |                     |                     |                     |
| Net income . . . . .   | \$100,538,340        | \$23,477,884         | \$26,220,333        | \$17,236,422        | \$18,042,473        | \$15,561,228        |
| Provision for:   |                      |                      |                     |                     |                     |                     |
| Depreciation and obsolescence . . . . .  | 44,781,568           | 11,058,311           | 11,992,483          | 9,189,640           | 7,192,539           | 5,348,595           |
| Employes' bonus, less current liability . . . . .  | 2,930,260            | 1,604,475            | 1,325,785           |                     |                     |                     |
| Pensions, less payments . . . . .  | 2,395,184            | 769,367              | 864,803             | 737,510             | 823,142             | 739,096             |
| Proceeds from insurance company on Texas City property damage claim . . . . .                        | 13,362,000           |                      |                     |                     | 7,362,000           | 6,000,000           |
| Sale of 150,000 shares of \$3.85 Series C preference stock . . . . .                                 | 15,000,000           |                      | 15,000,000          |                     |                     |                     |
| Sale of preference stock by Canadian subsidiary company . . . . .                                    | 765,000              |                      | 765,000             |                     |                     |                     |
| Sale of 250,000 shares of \$4.00 Series B preference stock . . . . .                                 | 24,750,000           |                      |                     |                     | 24,750,000          |                     |
| Sale of debentures by Canadian subsidiary company . . . . .  | 500,000              |                      |                     |                     |                     | 500,000             |
| Other—net . . . . .  | 1,347,263            |                      | 52,553              | 479,020             | 815,690             |                     |
| Total . . . . .  | <u>\$206,369,615</u> | <u>\$35,371,303</u>  | <u>\$56,220,957</u> | <u>\$27,642,592</u> | <u>\$58,985,844</u> | <u>\$28,148,919</u> |
| <b>DISPOSITION OF FUNDS:</b>   |                      |                      |                     |                     |                     |                     |
| Dividends paid:  |                      |                      |                     |                     |                     |                     |
| Preference . . . . .   | \$ 4,841,573         | \$ 577,619           | \$ 1,193,241        | \$ 1,261,128        | \$ 1,081,169        | \$ 728,416          |
| Common . . . . .   | 49,014,140           | 12,139,858           | 11,800,267          | 8,550,856           | 8,531,375           | 7,991,784           |
| Total . . . . .  | <u>\$ 53,855,713</u> | <u>\$12,717,477</u>  | <u>\$12,993,508</u> | <u>\$ 9,811,984</u> | <u>\$ 9,612,544</u> | <u>\$ 8,720,200</u> |
| Plant additions and replacements . . . . .   | 137,117,011          | 38,371,980           | 14,039,410          | 9,822,468           | 35,212,385          | 39,670,768          |
| Investment in The Chemstrand Corporation . . . . .   | 8,500,000            | 7,500,000            | 990,000             | 10,000              |                     |                     |
| Increase— <i>decrease</i> in working capital (exclusive of cash and marketable securities) . . . . . | 3,913,919            | 7,918,822            | 1,856,995           | 542,459             | 12,845,031          | 1,387,164           |
| Other—net . . . . .  | 4,391,702            | 1,089,728            |                     |                     |                     | 3,301,974           |
| Total . . . . .  | <u>\$207,778,345</u> | <u>\$51,760,363</u>  | <u>\$26,165,923</u> | <u>\$19,101,993</u> | <u>\$57,669,960</u> | <u>\$53,080,106</u> |
| Increase— <i>decrease</i> in cash and marketable securities . . . . .                                | <u>\$ 1,408,730</u>  | <u>\$ 16,389,060</u> | <u>\$30,055,034</u> | <u>\$ 8,540,599</u> | <u>\$ 1,315,884</u> | <u>\$21,931,187</u> |

S U B S I D I A R Y C O M P A N I E S *Exclusive of British and Australian Companies*

*Classification of Sales for years 1951, 1950 and 1939*

|   | 1951                 | 1950                 | 1939                |
|---|----------------------|----------------------|---------------------|
| Plastics, Synthetic Resins and Surface Coatings . . . . . | \$ 78,721,673        | \$ 72,200,173        | \$ 8,126,022        |
| Intermediates, Plasticizers and Resins . . . . .          | 42,887,814           | 33,782,128           | 6,371,089           |
| Phosphate Products and Detergents . . . . .               | 42,765,764           | 34,966,028           | 5,853,350           |
| Rubber and Petroleum Chemicals . . . . .                  | 31,074,907           | 21,049,652           | 4,064,665           |
| Pharmaceuticals, Flavors and Condiments . . . . .         | 27,763,667           | 26,408,228           | 6,018,273           |
| Heavy Chemicals . . . . .                                 | 17,294,285           | 14,522,372           | 5,027,219           |
| Insecticides, Herbicides and Wood Preservatives . . . . . | 12,799,875           | 11,013,484           | 559,187             |
| Other Products . . . . .                                  | 19,537,049           | 13,193,141           | 2,901,180           |
| Total . . . . .   | <u>\$272,845,034</u> | <u>\$227,135,206</u> | <u>\$38,920,985</u> |

M O N S A N T O C H E M I C A L C O M P A N Y

*Per Cent of Sales by Major Consuming Industries for years ended December 31, 1947 to 1951, inclusive*

|   | 1951          | 1950          | 1949          | 1948          | 1947          |
|---|---------------|---------------|---------------|---------------|---------------|
|   | %             | %             | %             | %             | %             |
| Plastics and Synthetic Resins . . . . .             | <i>1</i> 13.4 | <i>1</i> 13.9 | <i>1</i> 13.3 | <i>1</i> 13.6 | <i>1</i> 13.5 |
| Rubber . . . . .                                    | <i>2</i> 11.2 | <i>3</i> 9.2  | <i>3</i> 10.0 | <i>3</i> 8.4  | <i>3</i> 8.6  |
| Soap and Synthetic Detergents . . . . .             | <i>3</i> 10.7 | <i>2</i> 9.8  | <i>2</i> 10.7 | <i>7</i> 6.3  | <i>11</i> 3.7 |
| Pharmaceuticals . . . . .                           | <i>4</i> 7.6  | <i>4</i> 8.2  | <i>7</i> 6.4  | <i>8</i> 5.7  | <i>7</i> 6.8  |
| Paint and Varnish and Printing Ink . . . . .        | <i>5</i> 6.9  | <i>6</i> 7.7  | <i>4</i> 7.5  | <i>2</i> 8.8  | <i>6</i> 6.9  |
| Petroleum . . . . .                                 | <i>6</i> 6.3  | <i>8</i> 5.7  | <i>8</i> 6.0  | <i>6</i> 6.6  | <i>4</i> 7.4  |
| Glass and Vitreous Products . . . . .               | <i>7</i> 6.1  | <i>5</i> 7.8  | <i>6</i> 7.1  | <i>4</i> 8.4  | <i>2</i> 8.9  |
| Food . . . . .                                      | <i>8</i> 5.4  | <i>7</i> 5.8  | <i>5</i> 7.2  | <i>5</i> 6.8  | <i>5</i> 7.1  |
| Metal Fabricating . . . . .                         | <i>9</i> 4.3  | <i>9</i> 4.1  | <i>9</i> 4.1  | <i>10</i> 4.8 | <i>8</i> 6.0  |
| Textile . . . . .                                   | <i>10</i> 4.1 | <i>10</i> 4.0 | <i>10</i> 3.8 | <i>12</i> 3.7 | <i>12</i> 3.4 |
| Laundry, Cleaning and Polishing Compounds . . . . . | <i>11</i> 3.9 | <i>13</i> 3.3 | <i>11</i> 3.6 | <i>14</i> 3.1 | <i>15</i> 2.2 |
| Paper and Printing . . . . .                        | <i>12</i> 3.6 | <i>11</i> 3.6 | <i>12</i> 3.5 | <i>13</i> 3.2 | <i>13</i> 3.2 |
| Iron, Steel and Related Products . . . . .          | <i>13</i> 3.1 | <i>14</i> 2.9 | <i>15</i> 2.3 | <i>15</i> 2.2 | <i>14</i> 2.7 |
| Lumber and Timber . . . . .                         | <i>14</i> 2.9 | <i>12</i> 3.4 | <i>13</i> 3.3 | <i>11</i> 4.7 | <i>10</i> 5.7 |
| Colors and Dyestuffs . . . . .                      | <i>15</i> 2.7 | <i>15</i> 2.8 | <i>14</i> 2.9 | <i>9</i> 5.3  | <i>9</i> 5.7  |
| Non-Ferrous Metals . . . . .                        | <i>16</i> 1.3 | <i>16</i> 1.8 | <i>16</i> 1.4 | <i>16</i> 1.4 | <i>16</i> 1.5 |
| Other . . . . .                                     | 6.5           | 6.0           | 6.9           | 7.0           | 6.7           |
| Total . . . . .                                     | <u>100.0</u>  | <u>100.0</u>  | <u>100.0</u>  | <u>100.0</u>  | <u>100.0</u>  |

NOTE—Numbers in italics indicate order of importance.

### *Plants*

Anniston, Alabama  
Camden, New Jersey  
Carondelet, Missouri  
Cincinnati, Ohio  
Everett, Massachusetts  
Long Beach, California  
Monsanto, Illinois  
Monsanto, Tennessee  
Nitro, West Virginia  
Norfolk, Virginia  
St. Louis, Missouri  
Santa Clara, California  
Seattle, Washington  
Soda Springs, Idaho  
Springfield, Massachusetts  
Texas City, Texas  
Trenton, Michigan

### *Sales Offices*

Akron, Ohio  
Birmingham, Alabama  
Boston, Massachusetts  
Charlotte, North Carolina  
Chicago, Illinois  
Cincinnati, Ohio  
Cleveland, Ohio  
Detroit, Michigan  
Houston, Texas  
Los Angeles, California  
New York, New York  
Philadelphia, Pennsylvania  
Portland, Oregon  
St. Louis, Missouri  
San Francisco, California  
Seattle, Washington  
Springfield, Massachusetts

### *Research Laboratories*

Anniston, Alabama  
Akron, Ohio  
Dayton, Ohio  
Everett, Massachusetts  
Nitro, West Virginia

St. Louis, Missouri  
Santa Clara, California  
Seattle, Washington  
Springfield, Massachusetts  
Texas City, Texas

### *Associated and Subsidiary Company Plants*

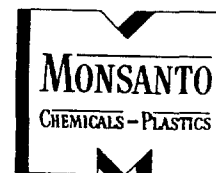
THE CHEMSTRAND CORPORATION (*Associated*) Decatur, Alabama and Pensacola, Florida  
NEALCO-MONSANTO COMPANY (*Subsidiary*) Everett, Massachusetts  
SHAWINIGAN RESINS CORPORATION (*Associated*) Springfield, Massachusetts

### *Foreign Plants*

Argentina *Buenos Aires*  
Australia *Brisbane and Melbourne*  
Brazil *Sao Paulo*  
Canada *Montreal and Marpole*  
England *Ruabon, North Wales and Newport, England*  
Mexico *Lecheria*  
Japan *Nagoya and Yokkaichi*

### *Foreign Sales Offices*

Argentina *Buenos Aires*  
Australia *Adelaide, Brisbane, Melbourne and Sydney*  
Canada *Montreal, Toronto and Vancouver*  
England *London*  
India *Bombay*



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