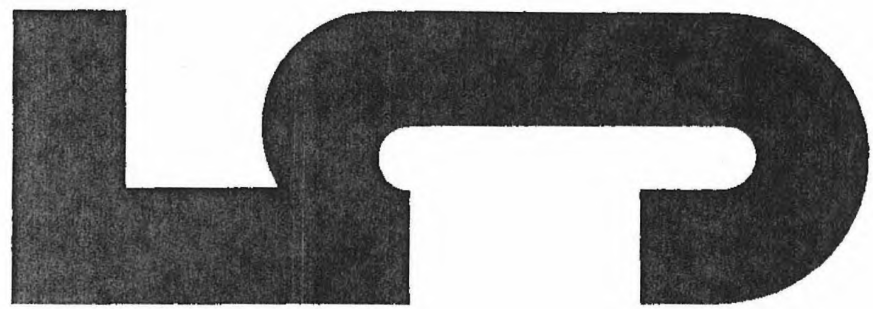
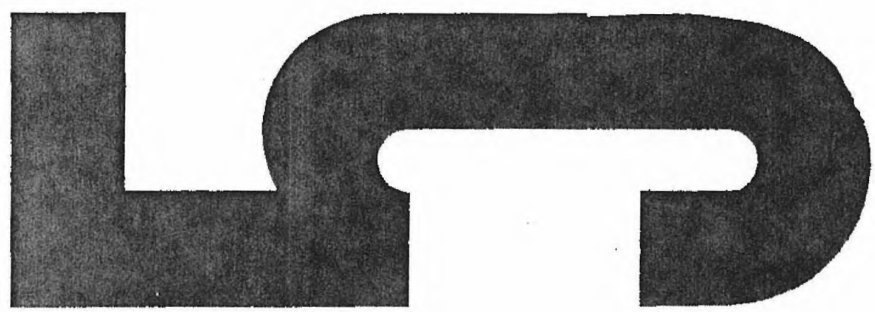
MONSANTO

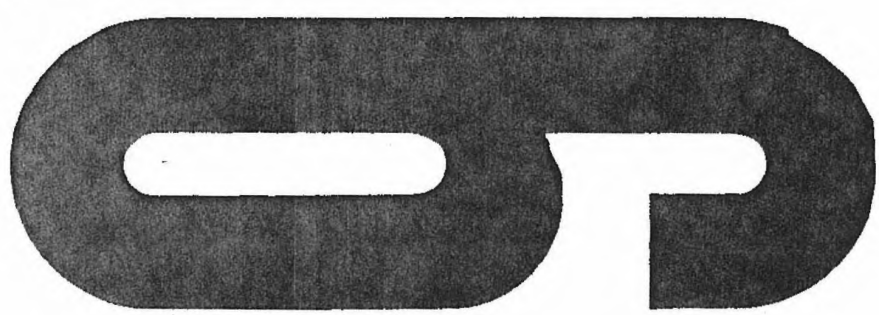
ANNUAL REPORT



MONSANTO



CHEMICAL



COMPANY



MONS 351559

TOWOLDMON0014002



THUMBNAIL REVIEW FOR 1955

Income:	
From sale of our products	$522,349,097
From licenses, dividends, interest, etc.	3,383,584
Our total income was	$525,732,681
Deductions from Income:	
For raw materials, fuel, supplies, etc.	$297,369,246
For depreciation, obsolescence and depletion	35,029,074
For interest on long term debt	4,870,732
For our partners in subsidiary companies	64,303
These expenses totaled	$337,333,355
Which left	$188,399,326
Distribution of Balance:	
To employes	$101,958,805
To shareowners as cash dividends	20,800,520
For taxes	44,270,551
Retained for future growth	21,369,450
Net Income	$ 42,169,970
Per Share of Common Stock:	
Net income	$ 1.98
Cash dividends paid	.91 2/3
Book value	16.42

MONSANTO

TABLE OF CONTENTS

Message	1
New Construction and a New Division Contributed to Monsanto's Expansion	4
New Products, New Uses Aided Sales	10
Monsanto's Manpower Needs	14
Search for More and Better Ways	16
Planning is Part of Every Sale	19
Promoting Monsanto's Products	20
Events and People	23
Financial Review	28
Statement of Consolidated Financial Position	30
Statement of Consolidated Income	32
Statement of Consolidated Surplus	33
Accountants' Certificate	34
Historical Data	35
Directors and Officers	38
Sales Offices	39
Plant Locations	40

MONS 351560

TOWOLDMON0014003

FIFTY-FOURTH ANNUAL REPORT

to the shareowners of Monsanto Chemical Company

OUTSTANDING during the year under review was the acquisition of Lion Oil Company, which became effective September 30. It brought to Monsanto a well-staffed, integrated oil company with sources from which, in time, raw materials for both our petrochemicals and organic chemicals can be made. Development work toward this goal is under way. In addition, the merger made available to other divisions low-cost ammonia, an important raw material for the company and its affiliates.

It brought, also, 13,000 new Monsanto shareowners. Another factor contributed to the rise in the number of shareowners to 42,000 at the year end. On July 1, the board's recommendation for an increase in authorized common shares from 6,000,000 to 25,000,000 and a three-for-one split of the then-outstanding shares was approved. During the past two years, there had been a decrease in the number of our shareowners. When the split became effective, market prices evidently came within a range that was attractive to more investors, including a large number of employes who then availed themselves of the company's stock purchase plan. Now there are almost two shareowners of the company for each of its employes.

Endeavoring to make annual reports more useful to this enlarged group as well as to analysts, and motivated by the old Chinese maxim regarding the relative values of pictures and words, we revised our former style of presentation. A substantial number of illustrations make, we hope, much of our message self-evident.

Nineteen fifty-five was a prosperous year, world-wide, which Monsanto reflected in record sales and profits in both the parent company and its overseas affiliates. Our domestic affiliates, The Chemstrand Corporation and Shawinigan Resins Corporation, likewise participated and Mobay Chemical Company's New Martinsville, West Virginia plant turned over successfully in November. We anticipate making substantial inroads this year into its accumulated deficit incurred by development costs.

Demand for many products taxed our capacity, making expansions advisable. Forty-five million dollars was expended for modernizing units, application and research laboratories, new plant and ancillary facilities. Important additions were made to our phthalic anhydride, *Viran*, phosphoric acid, *Santocure*, vinyl chloride and aspirin capacities, which came into production and contributed to sales volume during the year's later months. Most of the teething troubles of our Texas City high-pressure polyethylene and methanol plants were overcome and, barring the unforeseen, these new units should be at capacity during 1956.

A unit at Kearny, New Jersey, for phosphate salts and packaging of consumer products was completed, as were facilities at Texas City for the production of tertiary

MONS 351561

TOWOLDMON0014004

butylamine, an intermediate. Enlargements of manufacturing capacities for ethylene, *Lustrex* styrene plastic and phosphorus also were started.

To achieve better intracompany liaison, our board has decided to consolidate our four separate offices in the St. Louis area. Completion of new headquarters in St. Louis County is expected in 1957. Construction of a new Inorganic Chemicals Division research center on the same site will proceed simultaneously.

Our associated companies, Shawinigan Resins and Chemstrand, announced expansions. The former is constructing additional plant facilities for polyvinyl alcohol adjacent to its Springfield site. This product is used as an adhesive in paper, wood and foil. Ground was broken by Shawinigan for a vinyl butyral unit at our Trenton location, where we are building facilities to convert this resin into *Saflex* safety-glass interlayer. Record automobile production with larger, wrap-around windshields is taxing present facilities.

Chemstrand is completing an 8,000,000-pound addition to its Pensacola nylon plant and is beginning another, to bring its annual capacity up to 88,000,000 pounds. In order to broaden the *Acrilan* market, its price was reduced approximately 20 per cent. The wisdom of this move has become manifest in greatly increased trade interest. Fabricators are scheduling many new 1956 applications. Chemstrand formed a British subsidiary to produce *Acrilan* in Great Britain.

Our subsidiary and associated companies in Canada, Mexico, Great Britain, France, Australia and Japan expanded the scope of their operations with added capacities and new products.

Research pushed ahead on many fronts. A number of new organic and inorganic chemicals and plastics were introduced. Among the new organic products were *Vyram*, a solvent resistant elastomer; *Randox*, a herbicide; bisphenol A, a key ingredient for epoxy resins; adipic acid, a resin intermediate for polyester resins; and several petroleum and rubber chemicals. A dry bleach, a better calcium pyrophosphate for toothpaste, a special grade of lampblack for use as a propellant in liquid oxygen explosives, and phosphorus pentasulfide were added to our inorganic chemicals. The last named is used in oil and grease additives, in ore flotation agents and in the manufacture of insecticides. Ten new models of styrene, 20 of polyvinyl chloride, 14 new phenolics and eight new forms of aminoplasts were added to our list of plastics. Lion Oil's new gasoline additive, *Lionite*, produced a marked increase in station sales since its introduction in October.

Research made progress, also, in lowering costs through improved yields and new processes.

Lion Oil Division produced more oil, gas and liquefied petroleum products than in any previous year. It had an active and successful drilling year. Outstanding was the discovery of a substantial gas and light hydrocarbon reserve in Brazoria County, Texas, only 40 miles from our Texas City plant, which is a large consumer of these products.

At their July meeting, the shareowners increased by 300,000 the number of shares of common stock available for stock options and extended the stock option plan for five years. On January 1, 1956, 90 options to 85 individuals to purchase 503,947 shares of stock had been accepted and were outstanding. These included 19 options previously granted under Lion's stock option plan, which were converted into options for Monsanto shares.

On February 10, 1956, bonus awards for 1955 were granted to 415 employes. The awards comprised $1,163,804 and 12,816 shares of stock. The bonus awarded was $275,156 less than that reserved from the year's profits, as computed under the bonus plan's provisions. This sum was added to the bonus reserve which had been drawn upon in previous years.

A not entirely unexpected decline in the demand for ammonia and derivatives occurred after midyear. Large competitive additions to the nation's capacity produced a buyers' market. Our customers reduced inventories and hesitated to commit for future requirements.

Tariff reductions, imports and threats of imports of plastics and organic chemicals from low-wage-rate but efficient European manufacturers compelled several price reductions which were uncompensated by lower costs. Manufacture of four pharmaceuticals was discontinued. In addition, our caffeine operations at Norfolk have been closed since March because of low-priced theobromine and caffeine imports, their effective tariffs having been reduced 75 per cent since 1930. Several other organic products are now borderline.

In this regard, it may not be inappropriate to point out that the increases in wage rates, pensions and associated costs negotiated with Monsanto employes this year approximate the average hourly wage paid in the plants of our associated Japanese company—about 15 cents an hour. Our wage rates are four times those paid in our British plants and five times those paid by our very efficient competitors in Germany.

During the past several years, we have mentioned developments which, at the time, appeared promising. These included synthetic cortisone, titanium, *Krilium* soil conditioner and atomic power. They have not borne fruit. In 1953, we announced that we were pilot-planting a synthesis of cortisone from toluene, a scientific achievement of some magnitude. Activity on synthetic cortisone was

MONS 351562

TOWOLDMON0014005

discontinued, however, when it became apparent that market demand was not outgrowing naturally based raw material supplies and, therefore, construction of a plant for a wholly synthetic material would not be warranted.

Pilot-plant work on the titanium process has been discontinued and we have returned to the bench. The pilot plant demonstrated that our process had insufficient proven technological advantages for private operation.

We continue research on *Krilium*. However, we have not yet been able to develop applications which will take full advantage of its properties or reduce its cost to the point where large-volume uses would be economical. Sales effort has been curtailed but not abandoned.

Monsanto was one of the first companies to enter the atomic energy field. We operated Clinton Laboratories at Oak Ridge and another plant, for purposes still classified, for the Manhattan District during World War II. Postwar, we continued our interest in chemical applications of neutrons and atomic power, maintaining an excellent team of scientists on these problems. A dual-purpose reactor was designed for the Yankee Atomic Electric Company, which was embodied in Yankee's proposal to the Atomic Energy Commission to construct a large power plant in Massachusetts. Guided by a new policy, the Atomic Energy Commission decided against authorizing any dual-purpose reactors whatever. Monsanto's prime interests are neither in power production, per se, nor in constructing plant for others. Therefore, activities concerning design of atomic reactors for power have been discontinued; our efforts are now concentrated on using radiation for chemical reactions. We continue to operate Mound Laboratory at Miamisburg, Ohio, for the Atomic Energy Commission.

The usual quarterly dividends of 62½ cents a share were paid on the old common stock in the first two quarters and, during each of the last two quarters, 25 cents a share on the new shares was paid, followed by a year-end stock dividend of two per cent.

In order to finance our expansion during recent years, Monsanto has issued preferred stock and debentures and called upon shareowners for additional capital by issuing rights. At the end of 1955, the company had outstanding $156,200,000 of long-term debt, amounting to 31 per cent of the capital employed. Common stock constitutes 69 per cent of the capital employed—a not-unfavorable ratio when compared to similar chemical companies.

However, your directors believe that if earnings in excess of the regular $1.00-a-share dividend can be conserved and reinvested, foreseeable expansion can be financed without adding to debt. Hence, they believe your interests will be served best by supplementing the regular cash dividends with year-end stock dividends which would be negotiable evidence of the reinvestment of such earnings. The two per cent stock dividend paid last December reflected the initial implementation of this policy.

Your directors are of the opinion that stock dividends may be advantageous to shareowners, as individuals, as well as joint owners of our enterprise. No federal income tax is payable by the recipient if stock dividends are held; and, if sold, he may avail himself of the capital-gains rate of 26 per cent provided he has owned for more than six months the stock upon which the dividend was paid.

We hope the following pages will interest you. We shall welcome suggestions from our shareowners for the betterment of this form of reporting and inquiries regarding any of the company's affairs.

For the Board of Directors:



Chairman of the Board

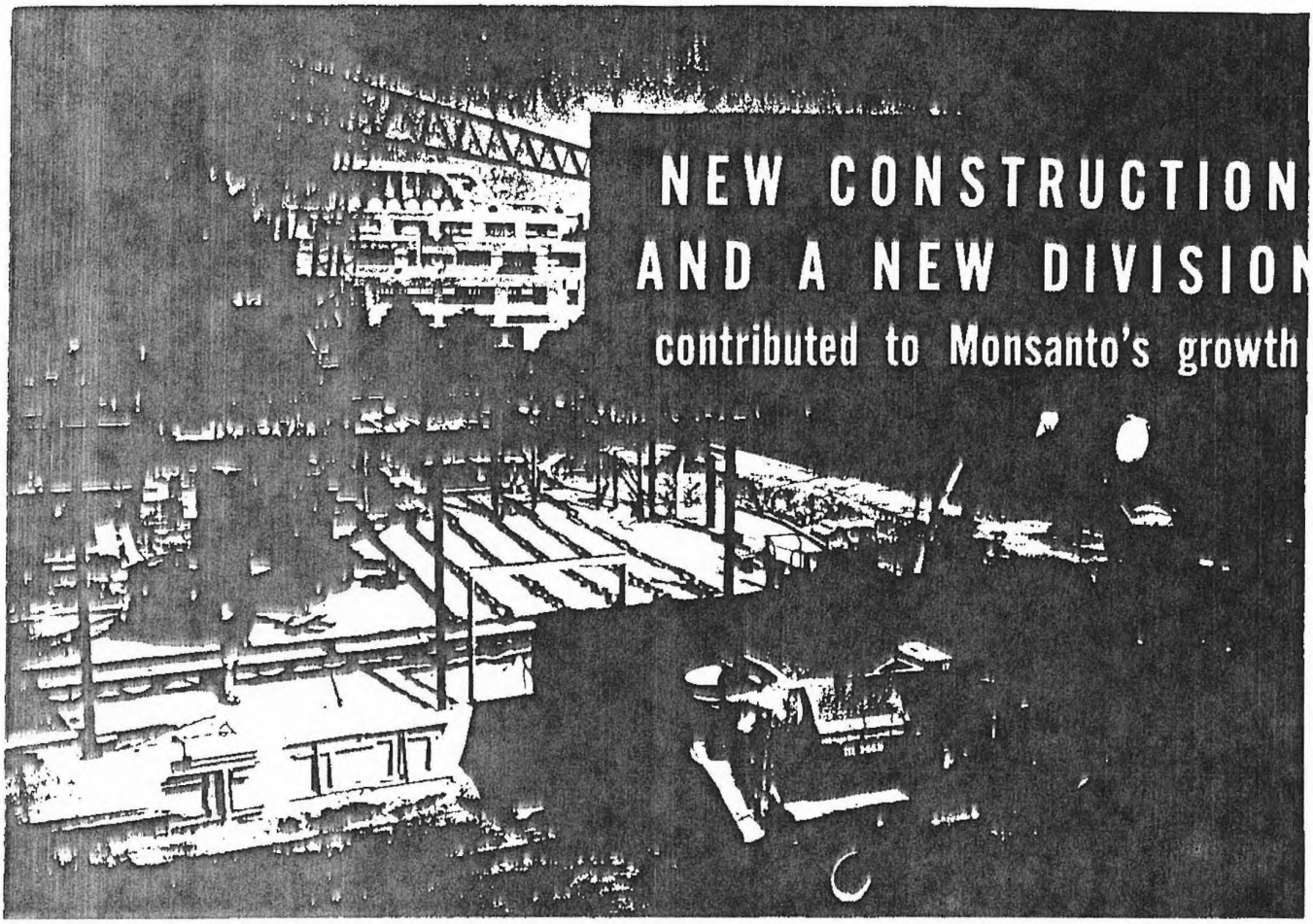


President

St. Louis, Missouri
March 12, 1956

MONS 351563

TOWOLDMON0014006



NEW VINYL CHLORIDE UNIT at Springfield will double capacity when completed in 1956. Vinyl chloride polymers and copolymers are used in floor tile, phonograph records, shower curtains, rain coats, electrical insulation and automobile upholstery.

Every operating division participated in the $45 million expended for new facilities in 1955. An additional $4 million was spent to increase capacities in foreign plants and $12 million was Monsanto's share of associated companies' outlays for expansion here and abroad.

Most plants achieved record production. The Norfolk plant was the exception. Operations have been suspended there because of low-priced caffeine imports.

Enlarged capacity at Springfield for *Lustrex* Hi-Test 88, a high-impact polystyrene plastic, made available larger quantities of this material for manufacture of refrigerator and air-conditioner parts, toys and other volume applications. Expansion of other plastic-producing units resulted from heavy demands from floor tile, phonograph record, automotive, plywood and molding industries.

Construction of additional ethylene facilities at Texas City began last fall with completion scheduled for early 1957. Ethylene is a raw material for styrene, vinyl chloride and polyethylene plastics.

Increased demands from the detergent, food, textile and fertilizer industries were met by construction and process improvement at the Monsanto, Tenn.; Monsanto, Idaho; Kearny, N. J.; Trenton, Mich.; Carondelet, Mo.; and Monsanto, Ill., plants. The company strengthened its position as the leading producer of elemental phosphorus and phosphate products. A unit for packaging Monsanto's consumer products, including *"all"*, was built at Kearny.

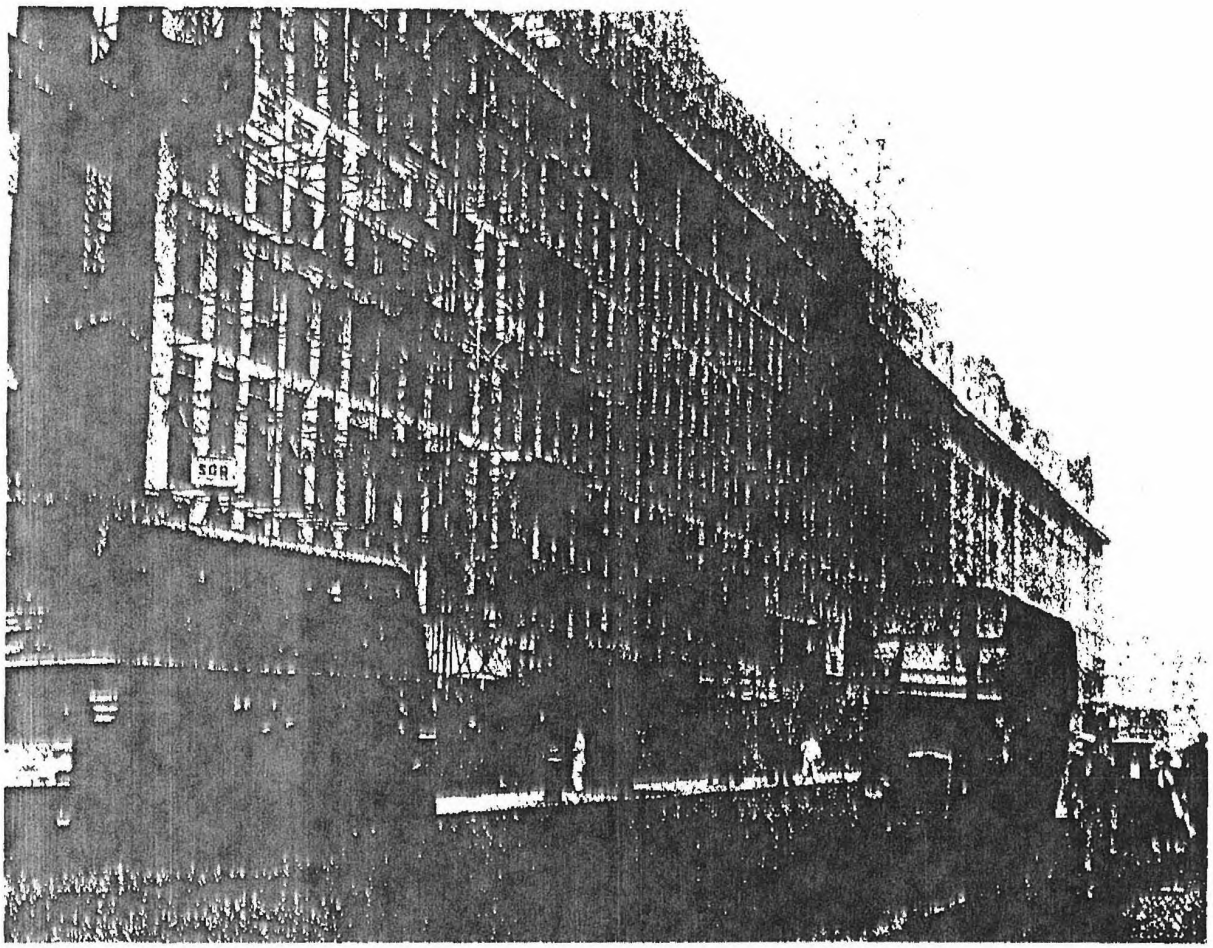
Facilities were completed at Nitro, W. Va., for manufacture of *Niran*, an insecticide, and *Santocure NS*, which speeds the curing of rubber. Monsanto, long one of the world's largest producers of aspirin, completed a new plant which has improved our important position in this market. A new phthalic anhydride unit enlarged our capacity for this important intermediate used in pharmaceuticals, alkyd-based paints and automobile finishes. Production of tertiary butylamine, a versatile intermediate, began at Texas City. Research labs at St. Louis were enlarged.

Monsanto Chemicals Limited's plants for phenol, phthalic anhydride, maleic anhydride and rubber chemicals were enlarged. Monsanto Mexicana, S. A., began in mid-December production of salicylic acid, and facilities for the manufacture of aspirin are expected to be completed early in 1956. Monsanto Argentina, S.A.I.C., is building a polystyrene plant near Campana.

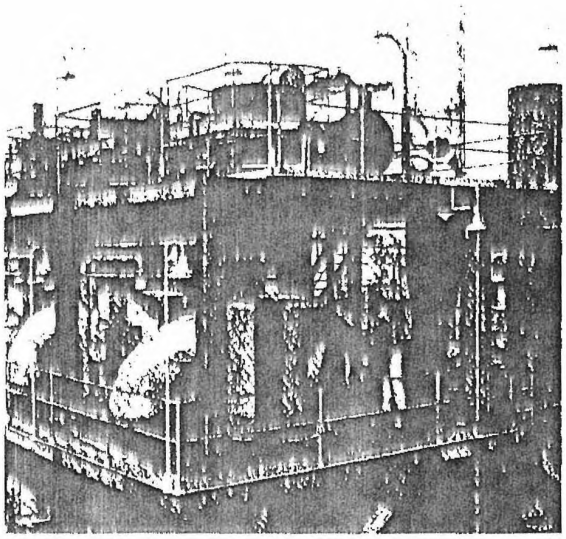
In Japan, Monsanto-Kasei Kogyo Kabushika Kaisha has constructed an acetylene generating unit at Yokkaichi City. Acetylene is a raw material for its polyvinyl chloride. It is also constructing a polystyrene plant.

MONS 351564

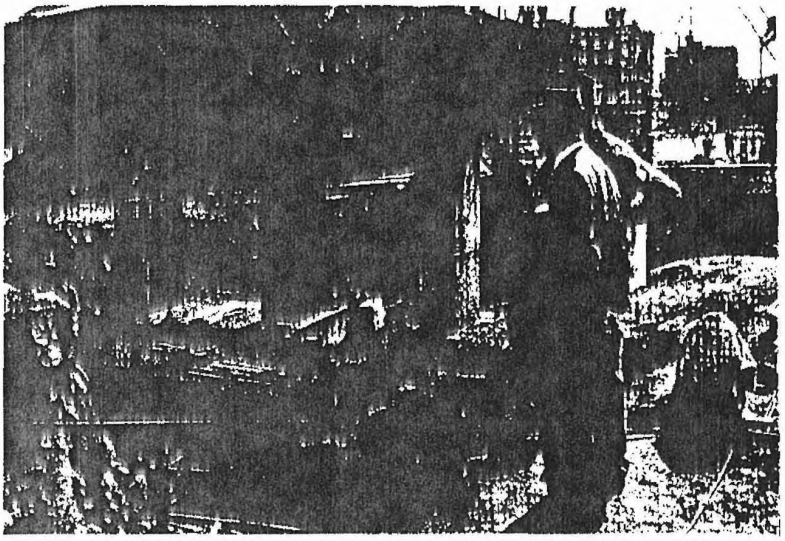
TOWOLDMON0014007



LONDON OFFICE BUILDING will be completed this year. With 240-foot frontage at 10-18 Victoria St., building will be called MONSANTO HOUSE. It will accommodate 500 employes who have been scattered at six separate Monsanto office locations in London.



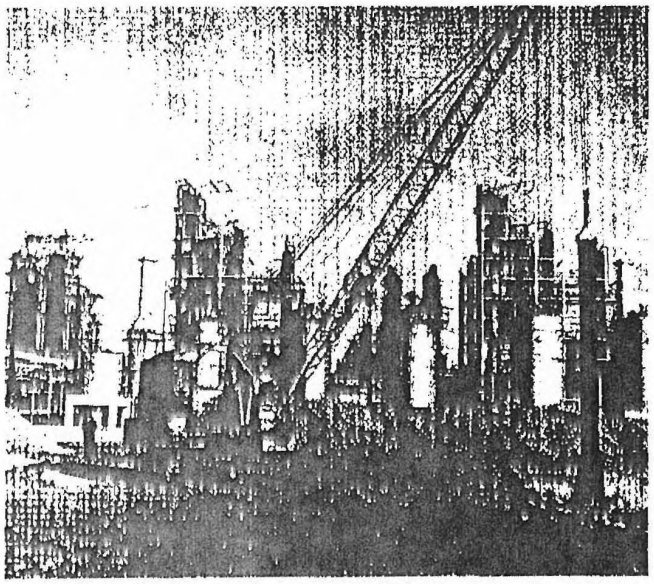
PHTHALIC ANHYDRIDE unit was completed at St. Louis. Monsanto was the first U. S. producer of phthalic, an ingredient for pharmaceuticals, paints and plastics.



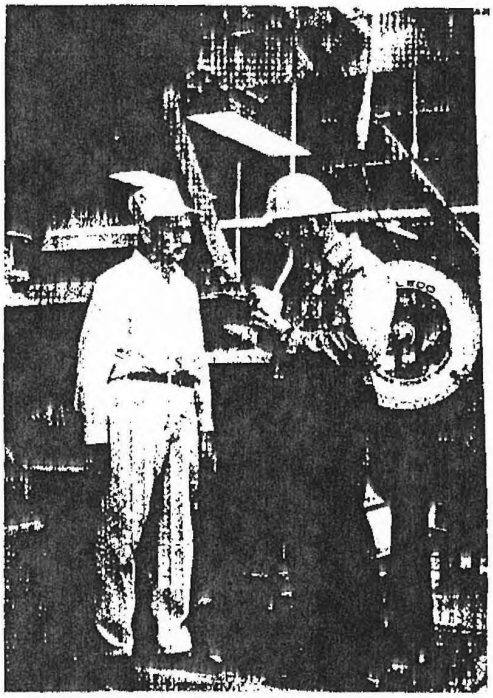
PHOSPHATE ORE PREPARATION capacity at Monsanto, Tenn., will be increased by new burden plant. Executive Vice President R. R. Cole views construction during a visit representing the Executive Committee.

MONS 351565

TOWOLDMON0014008

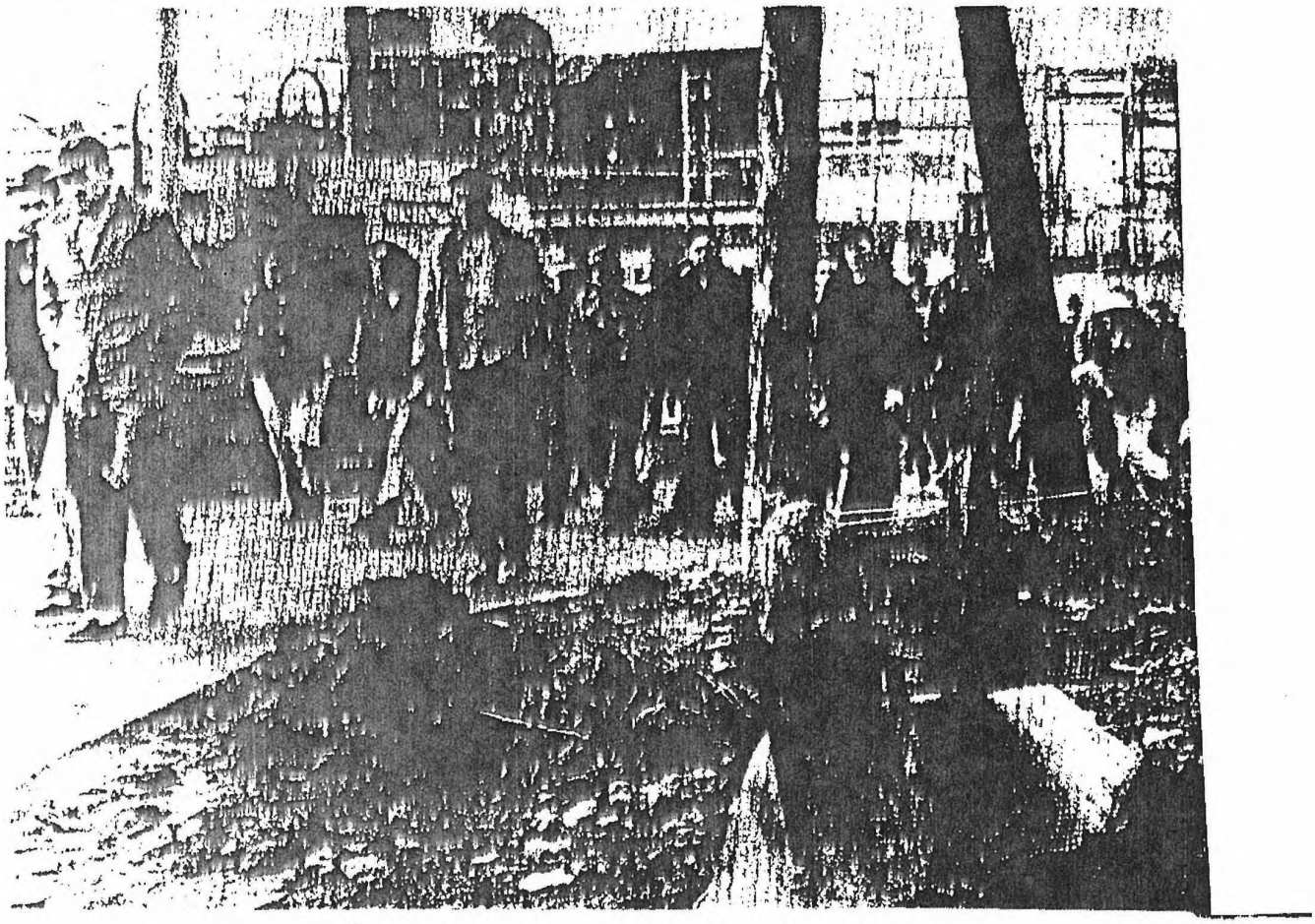


A 150 PER CENT increase in ethylene capacity will result from expansion of facilities at Texas City. Ethylene is a raw material for other company products including styrene, polyethylene and vinyl chloride plastics.



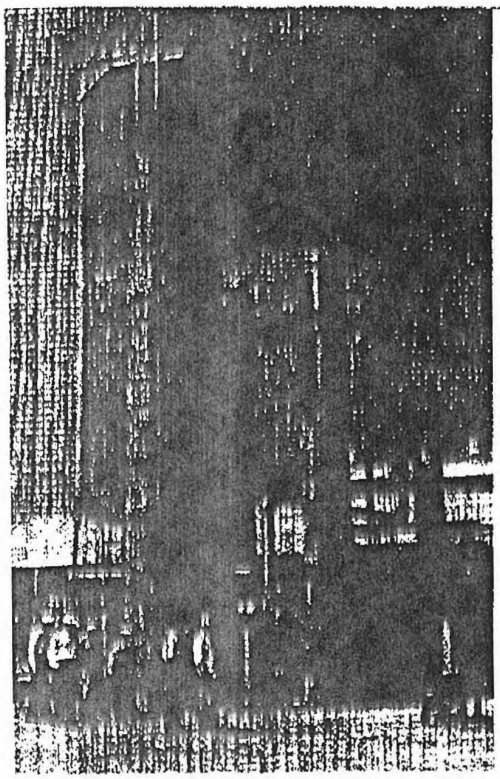
A NEW ASPIRIN PLANT uses a newly developed Monsanto process yielding a superior product to insure company's preeminent position in the world market.

AT THE PEAK, MORE THAN 1,000 CONSTRUCTION WORKERS RUSHED MOBAY'S WEST VIRGINIA PLANT TO COMPLETION IN 11 MONTHS.

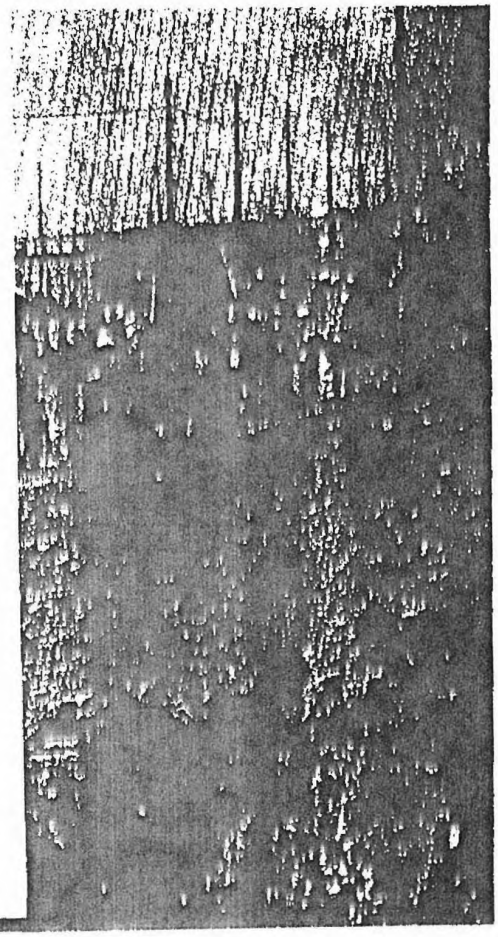


MONS 351566

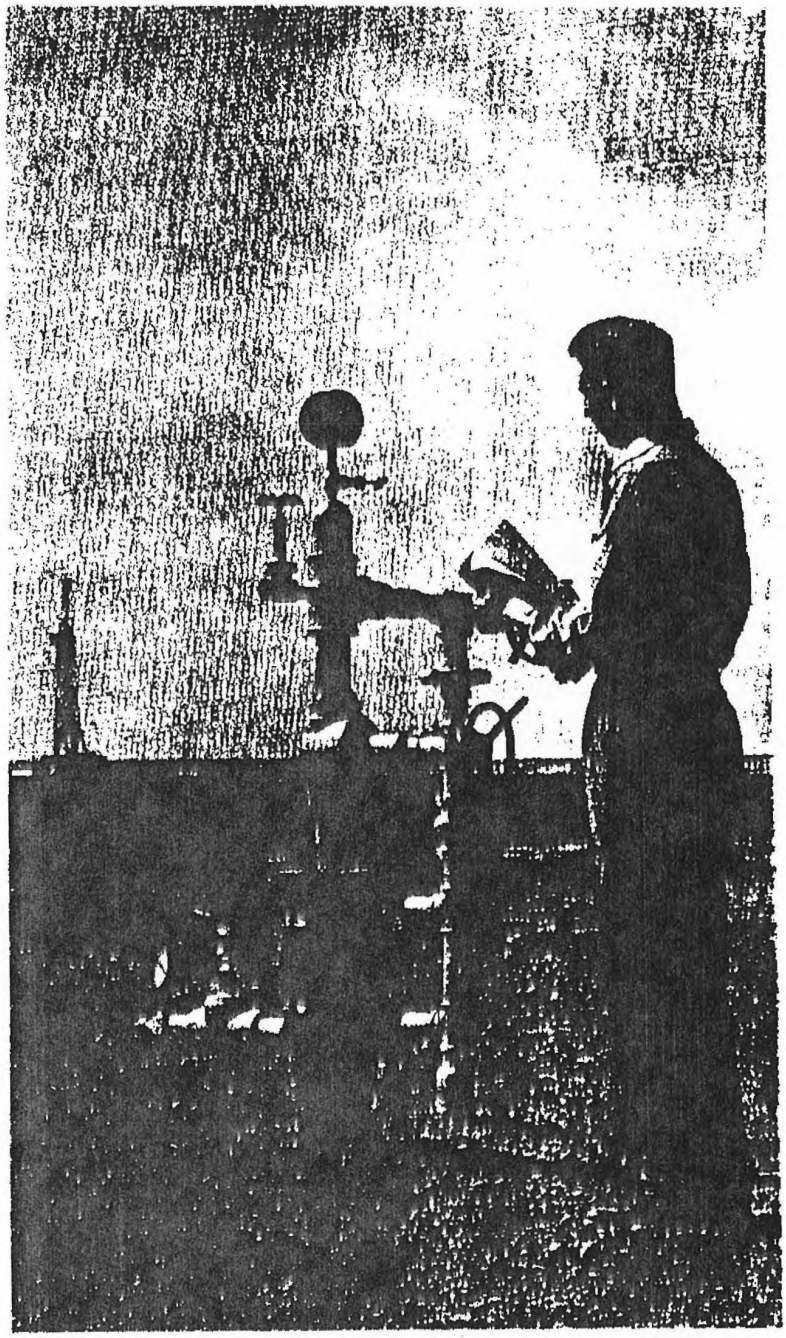
TOWOLDMON0014009



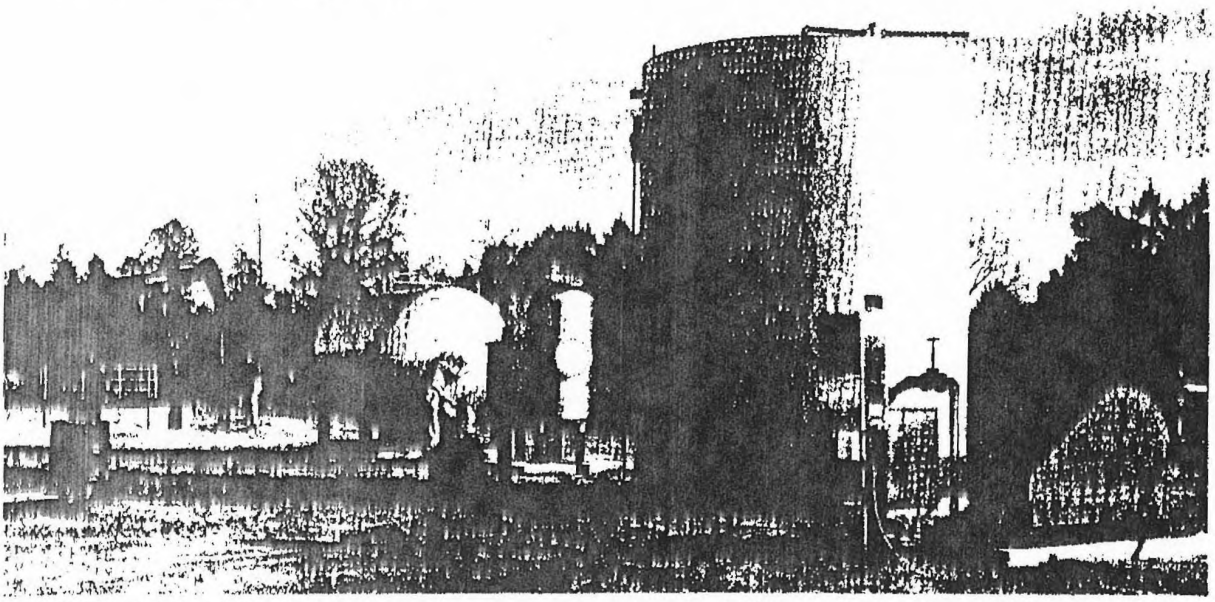
JAPANESE EXPANSION in 1955 saw polyvinyl chloride output doubled at Monsanto-Kasei Kabushiki Kaisha plant in Yokkaichi. Our associated companies—Monsanto-Kasei, Etino-Quimica and Monsanto Argentina will begin manufacture of polystyrene plastics in Japan, Spain and Argentina during 1956



AN OIL MAN'S DREAM is a flowing well. No pumping is needed as underground pressure does the job. Frank C. Adams Jr. checks gauge on this oil well



TOWOLDMON0014010



AN IMPORTANT oil field development of the year was in Cottage Grove field of Bossier Parish, La., where 40 oil wells were completed. Monsanto has participated in drilling 52 producing wells and has a full ownership equivalent to 47.7 of these wells.

COMPLETION OF MOBAY PLANT, CHEMSTRAND ADDITION, LION MERGER EXTEND MONSANTO'S HORIZON

Construction of Mobay Chemical Company's plant at New Martinsville, W. Va., was completed under direction of Monsanto's Research and Engineering Division. Mobay is owned jointly by Monsanto and Farbenfabriken Bayer, A. G., of Leverkusen, Germany. The plant manufactures isocyanates and polyesters for the new urethane synthetics which are used in rigid foams for aircraft; flexible foams for automotive, apparel, furniture, bedding and other industries. Urethane resins will be used in synthetic rubber paints, wire coatings and adhesives.

The Chemstrand Corporation, also an associate company, is enlarging its Pensacola nylon plant to 88 million pounds a year. Shawinigan Resins Corporation, likewise an associate company, is constructing additional facilities for polyvinyl alcohol at Springfield and has broken ground for a vinyl butyral unit at Trenton.

La Societe Monsanto-Boussois, S. A., plant at Wingles, France, doubled its polystyrene capacity.

Lion Oil Company joined Monsanto as a division in September. Lion operates two chemical plants—one at El Dorado, Ark., and one at Luling, near New Orleans. Both manufacture nitrogenous chemicals for agriculture and industry. Lion's petroleum operations cover exploration for, and production of, crude oil and natural gas and marketing of refined petroleum products. The division has more than 1,000 producing wells in 11 states from the Canadian border to the Gulf of Mexico. Its exploration for new oil and natural gas reserves reaches into almost one-third of the nation. Lion operates gasoline plants in South Arkansas and Scurry County, Tex., and owns interests in five other plants. Lion also owns one sulfur recovery plant and shares ownership in another.

A 150-mile pipeline from El Dorado to Helena, Ark., a port on the Mississippi River, and water terminals at Memphis, and at Nashville on the Cumberland River, assure low-cost transportation of Lion products into important and expanding markets.

The El Dorado chemical plant is located on a 1,350-acre site. Its capacity for ammonia and derivatives approximates 450,000 tons annually. The Barton plant, near New Orleans has deepwater frontage on the Mississippi River. Located on a 1,400-acre site, it has a capacity for producing about 250,000 tons of ammonia and derivatives annually. To better serve coastwise and export markets, a dock for ocean-going vessels and intracoastal barges was erected. Additional tankage was constructed, also.

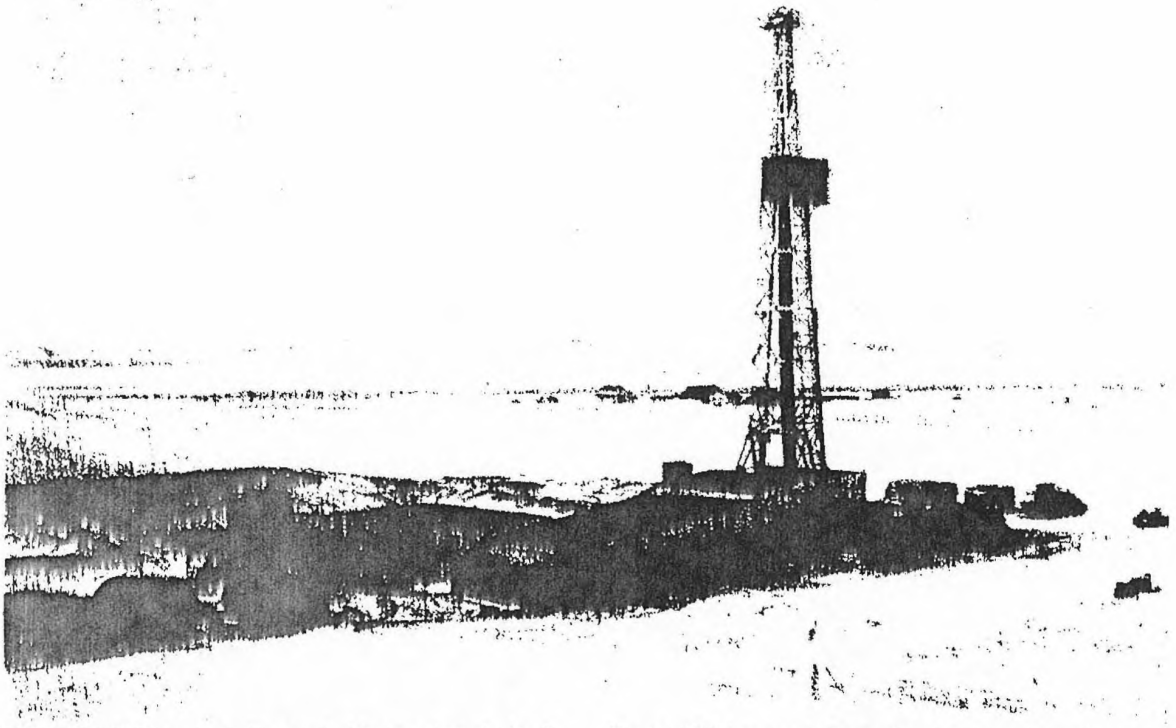
Lion's El Dorado refinery has a daily processing capacity for 27,500 barrels of crude oil. Covering 257 acres, it manufactures more than 70 petroleum products ranging from high-octane gasolines and liquefied petroleum gases to heavy fuels and specialty asphalts.

During 1955, Lion increased its facilities for ammonium sulfate and nitrogenous products. A long-range modernization program at the El Dorado refinery was continued.

Motorists in eight southern states are served by 1,840 service stations and dealers bearing the Lion emblem.

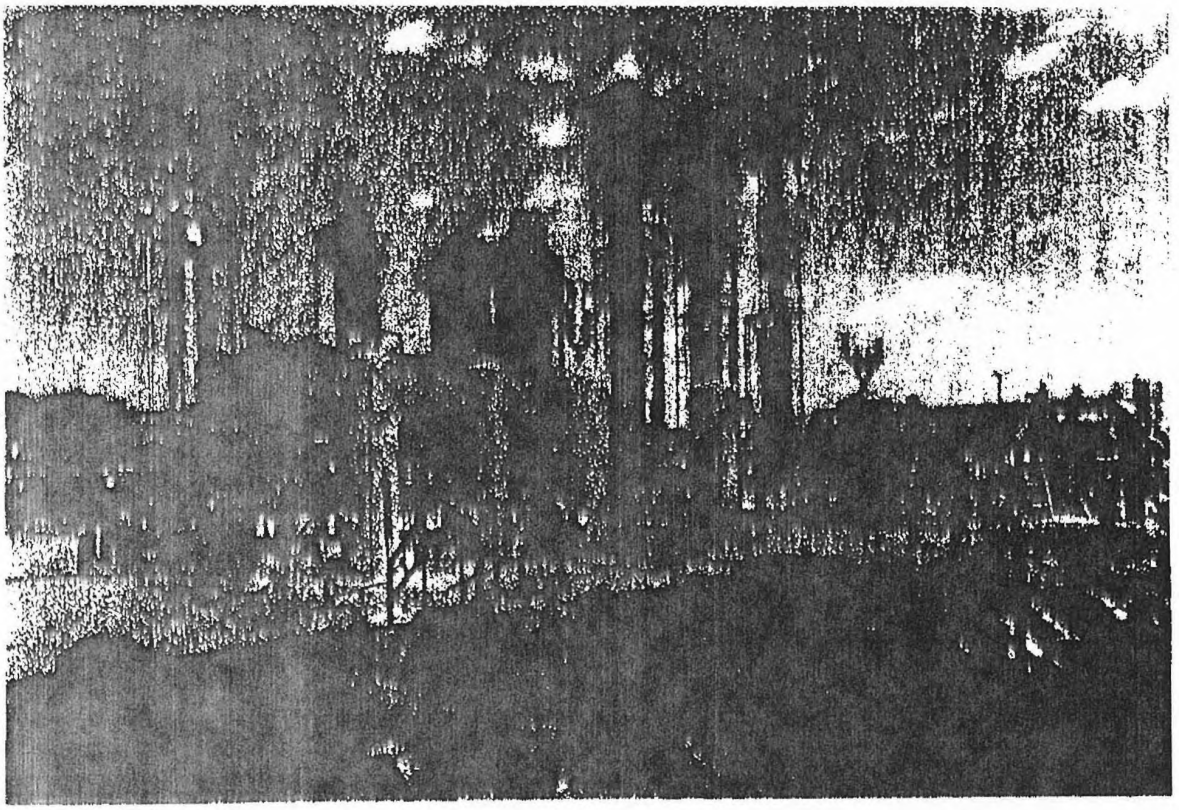
MONS 351568

TOWOLDMON0014011



DRILLING RIGS such as this one in Montana brought in oil and gas wells in Louisiana, North Dakota, Colorado, New Mexico, Kansas, Oklahoma and Texas. Lion's interest in producing oil and gas wells is equal to 1,062 wells, located in 11 states.

FIELD GASOLINE PLANT at Scurry County, Tex., contributed to 1955's record production of natural gasoline and liquid petroleum gas. We run two such plants, share ownership in five others which extract natural gasoline, other liquids from oil field gases.



MONS 351569

TOWOLDMON0014012

NEW PRODUCTS, NEW USES AIDED

New products and new applications of old products contributed to record sales of $522,349,097.

Net income was $42,169,970, indicating that our plants operated at high rates. Price levels tended lower, and reductions in several product groups included plastics and phosphate products.

The chemical industry has increased its capacity approximately 52 per cent since 1950, yet its production has increased only half that amount, which emphasizes the importance of efforts to find new applications and new markets, as well as the need for operating economies and process improvements.

With the establishment of the Lion Oil Company Division, Monsanto substantially broadened its base as a major producer of agricultural chemicals. Already a large producer of phosphorus and phosphate products, the company became a major producer of nitrogenous chemicals. Phosphorus and nitrogen are two principal ingredients of most plant foods. Monsanto has long maintained large-scale research, development and sales programs for insecticides, herbicides, fungicides and other farm chemicals.

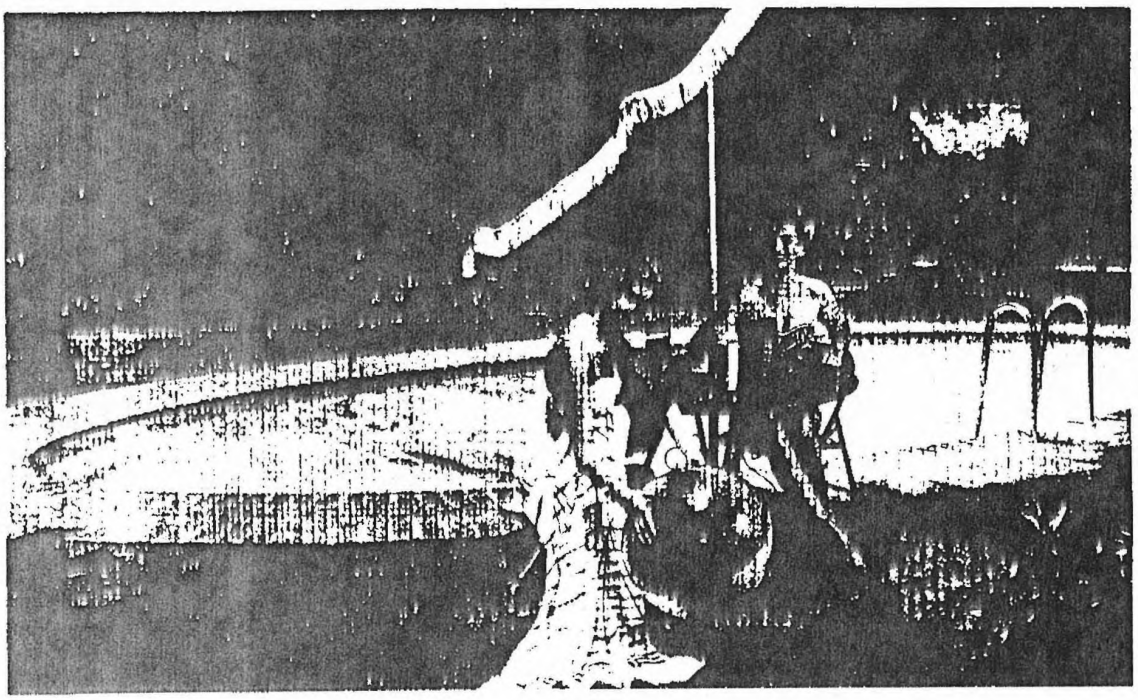
Integration of agricultural chemical research by the Lion Oil Company Division with that of other divisions in this field has begun.

Plastics sales increased substantially. The synthetic rubber industry, after its transfer from Government to private ownership, increased its consumption of styrene monomer. New styrene polymers were well received. Sales of other plastics, plasticizers and resins were keyed to record operations in the automotive, construction and appliance industries. The use of plastics in a new prefabricated swimming pool portends diversified future uses of plastics in large-sized products.

An increase of approximately 50 per cent was achieved in sales of functional fluids used by the aviation industry and by hydraulic equipment manufacturers. Development of new paper-sizing chemicals led to a similar increase in sales of these materials. New applications of adipic acid were found in manufacture of polyester resins.

Dishwasher *"all"*, a companion product for *"all"*, is being recommended by nearly all manufacturers in the growing electric dishwasher field.

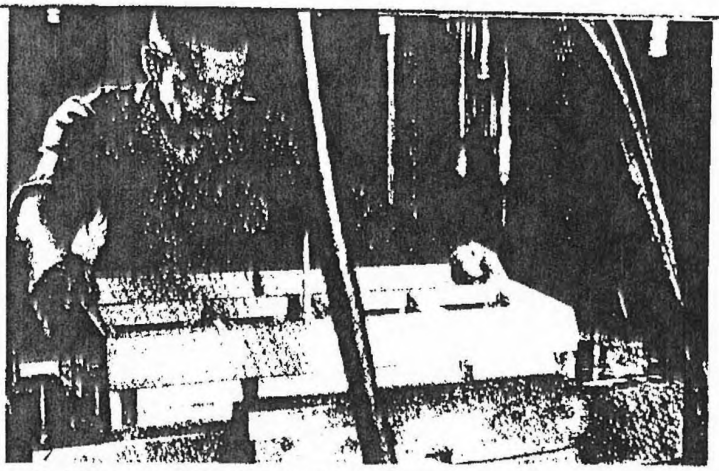
REINFORCED PLASTIC swimming pool, introduced in 1955, costs about $2,800 installed with filter and accessories. The 15 x 30 foot pool weighs 750 pounds when assembled. Our styrene, maleic and phthalic anhydrides are combined with glass fiber to form the plastic shell. Made by Cinderella Glass Pool Co., of Los Angeles, pool is an example of the trend to use plastics in construction.



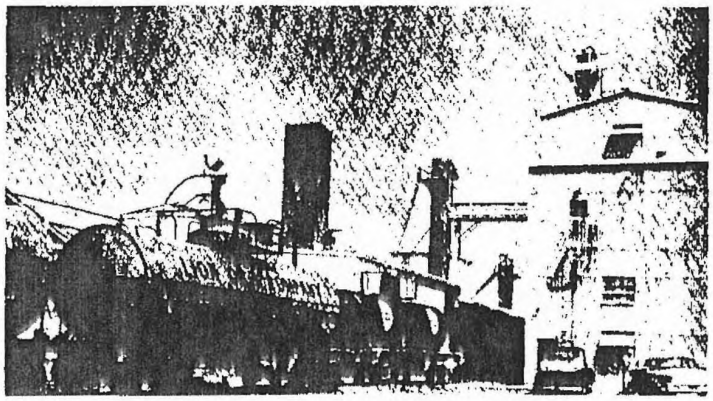
MONS 351570

TOWOLDMON0014013

SALES



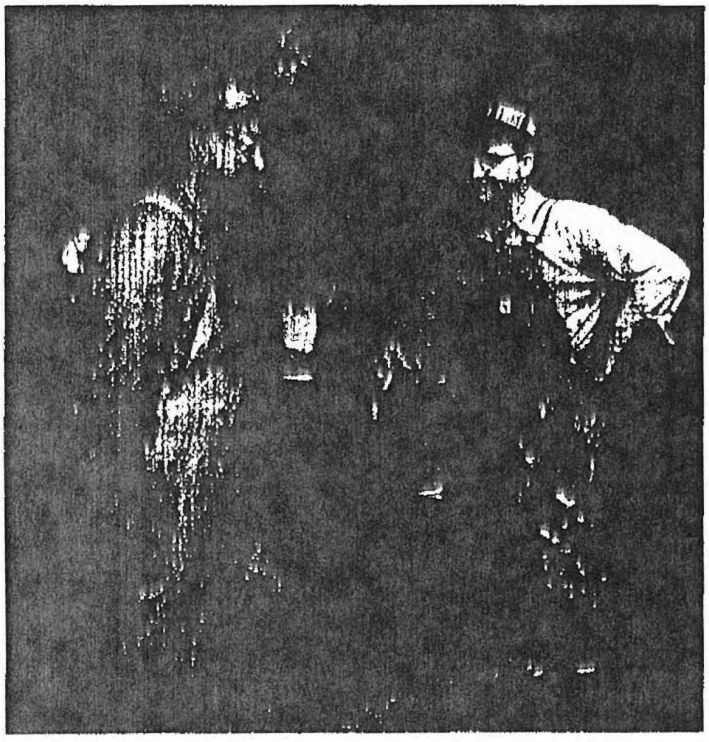
TEN NEW MODELS OF LUSTREX styrene were placed on the market. This injection molder uses a high impact LUSTREX for air conditioner grills.



MONSANTO AMMONIA and phosphoric acid proved economic raw materials in fertilizer granulation systems through Arkmo Plant Food Company tests.

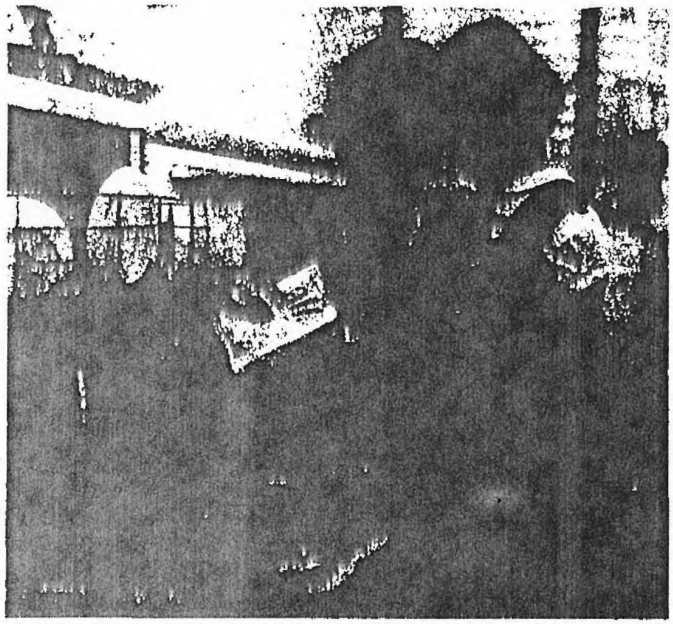


VERSATILITY OF ACRILAN is demonstrated in two photographs. The fashionable coat (above), and the rugged overalls worn by Monsanto employe C. A. S. Hatridge (left) in the photo at right, both contain ACRILAN. Dior-designed mandarin coat of silk and ACRILAN shantung provides impressive contrast to blended ACRILAN work clothes which offer large economies when compared to the conventional work garment worn by James M. Jackson (right). The work clothing was tested at the William G. Krummrich Plant; both garments were laundered 18 times, had identical exposures.



MONS 351571

TOWOLDMON0014014

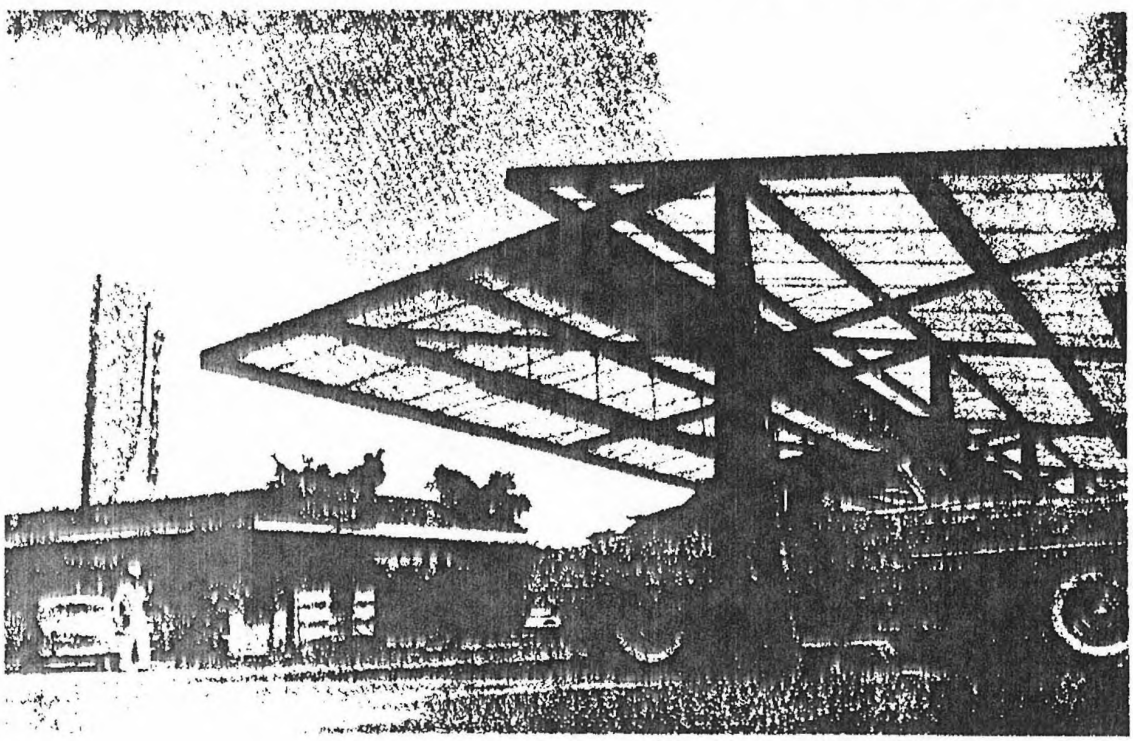


INTRODUCED EARLY IN 1955, Dishwasher "*all*" was designed specially for use in electric dishwashers; leaves glassware, silver and utensils spotless without wiping or polishing. Its purifying qualities leave dishes hygienically clean.



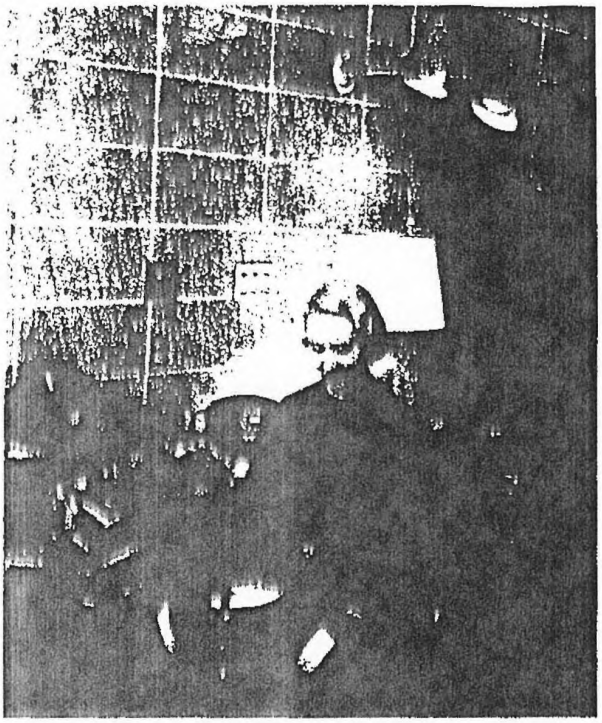
A NEW LEAVENER for refrigerated batters and doughs has long shelf life. It becomes acid when heated, releasing gas which causes cake to rise

PLASTIC BUILDING PANELS caught on in 1955. Using the same resins as the swimming pool pictured on page 10, these sturdy panels are not only colorful but light in weight, so require less costly supporting construction than conventional roofing. This use by the St. Louis Parkmoor drive-in restaurant chain is typical. Panels also are used for walls, awnings, skylights and jalousies



MONS 351572

TOWOLDMON0014015

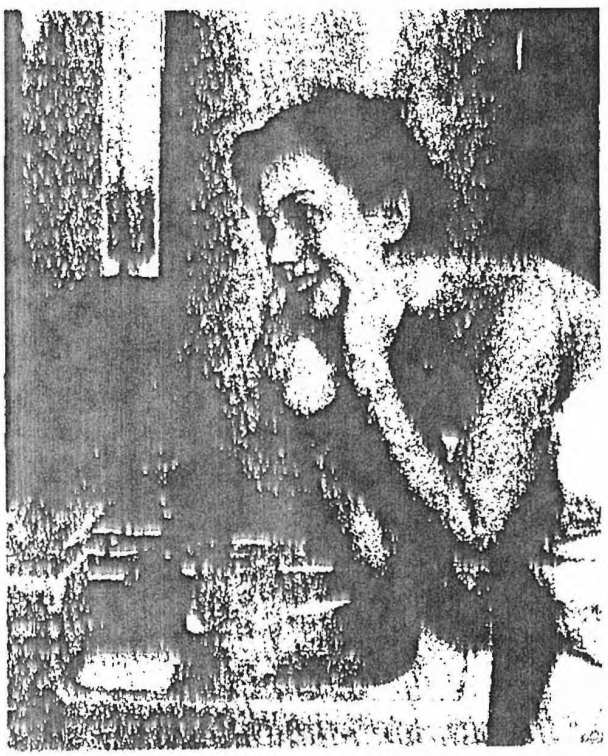


WHEN POLYESTER RESINS are used to face cinder blocks, they require no further finishing or decorating for interior walls of buildings since the plastic imparts the effect of ceramic tile.

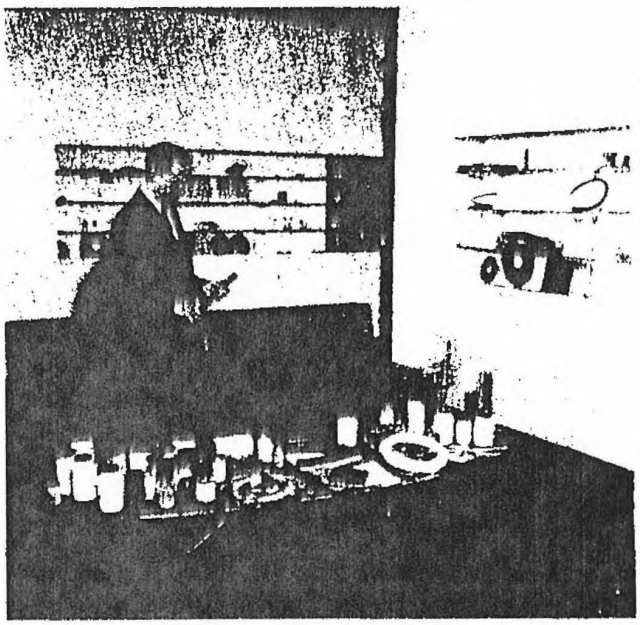


RUBBER TOYS SPARKLE, retain their lustre, can withstand both rough treatment and sterilizing when coated with urethane lacquers. Mobay Chemical Company makes raw materials.

NEW GERM-INHIBITING compounds known as bacteriostats are being market tested by leading soap companies for use in toilet soaps and shampoos to inhibit body-odor-forming skin bacteria.

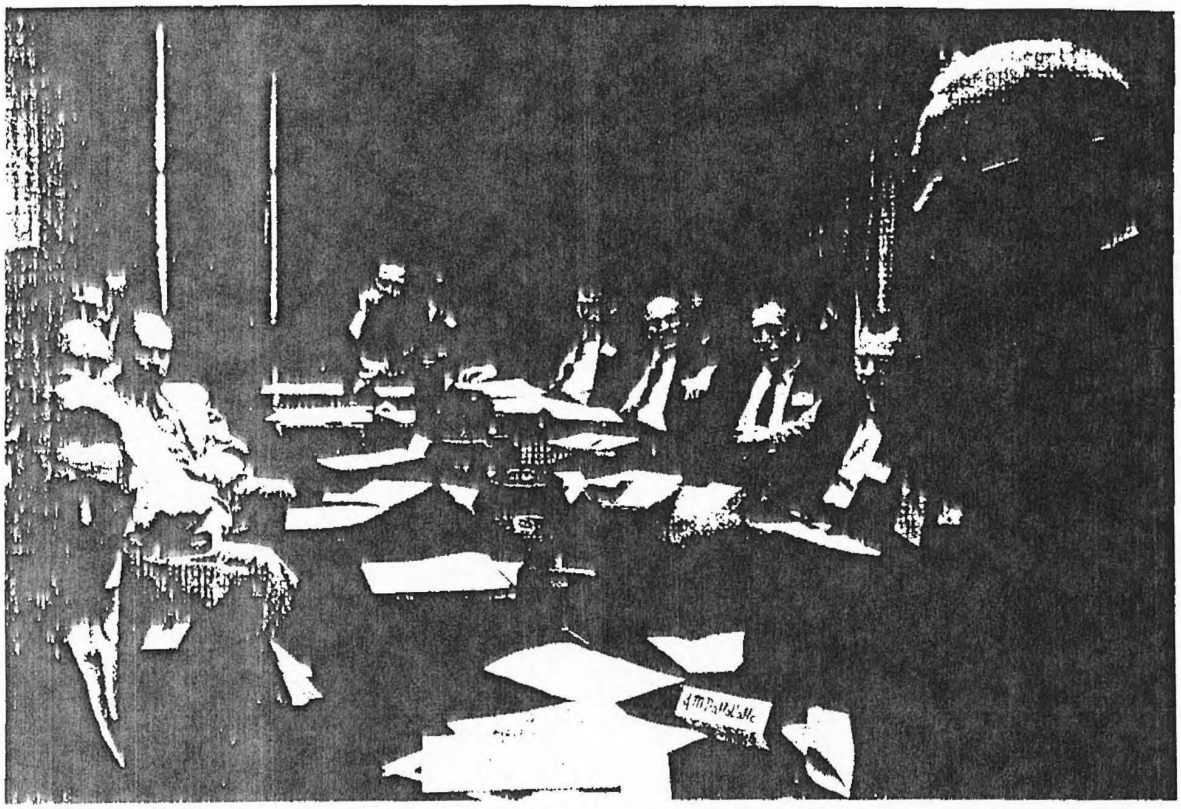


SOME NEW PLASTICS which research turned over to sales in 1955 are exhibited by Harold W. Mohrman, research director, Plastics Division. Included are styrenes, polyethylenes and vinyls.



MONS 351573

TOWOLDMON0014016



"TWO-WAY STREET" PLAN host, Francis J. Curtis, vice president for personnel, reviews operations for 12 chemical engineering professors during a three-day visit to Monsanto. The round table conference in St. Louis included other top company men who discussed personnel problems. Educators had time for private interviews with former students employed by Monsanto.

MONSANTO'S MANPOWER NEEDS

In this technical age, demand for technologists exceeds the campus output. Competition for graduate chemists, physicists and engineers is keen. Monsanto's needs to carry out the increasing tempo of its research and production place great emphasis on recruiting qualified men.

In 1945, the company had 1,122 technologists on its payroll; at the end of 1955, 2,229. To maintain the high standard, Monsanto's staff recruiters visited annually more than 100 colleges, universities, technical schools and army installations to interview prospects. Two hundred and sixty-eight technologists joined Monsanto last year. While college recruiting is not the only source of technical manpower, it is Monsanto's preferred source, as it brings in young talent and gives substance to our policy of promotion from within. Monsanto's formal college interview program has been in effect since 1935. The program has increased in scope from a handful of schools to the present coast-to-coast coverage.

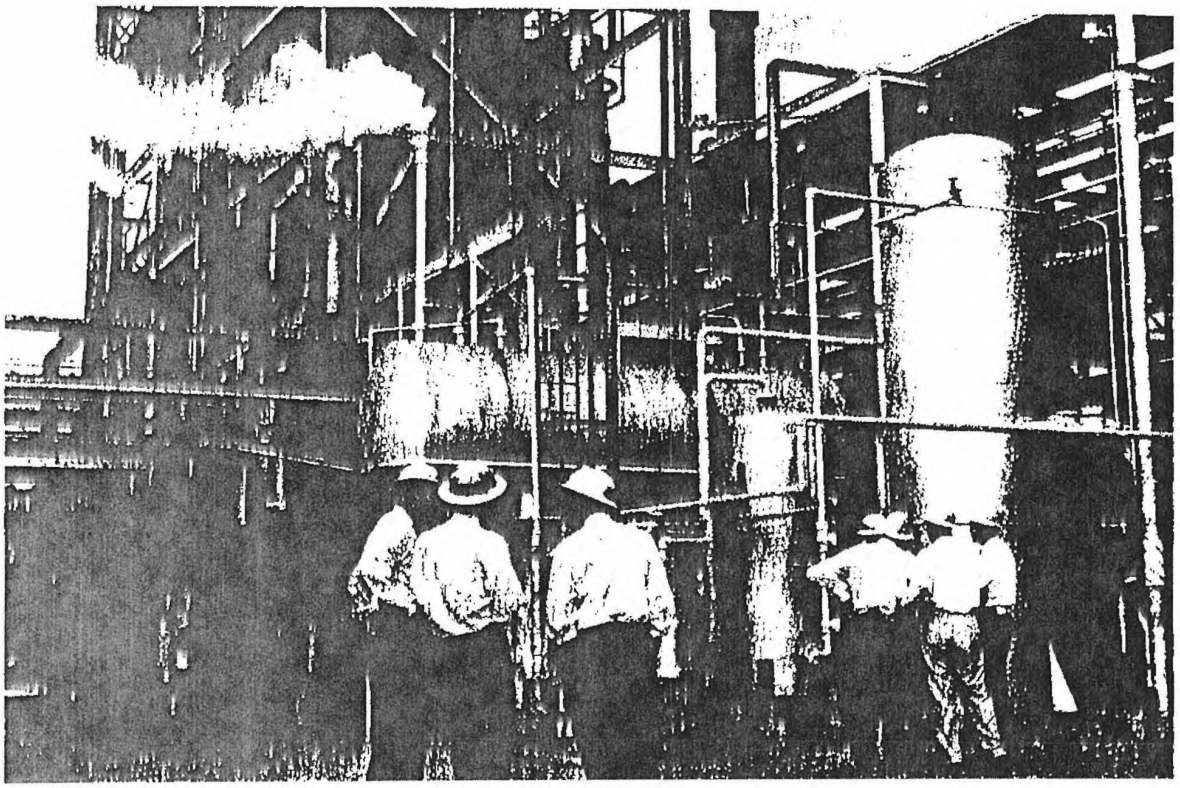
During the 1955-56 school year, Monsanto's financial aid-to-scientific-education program will benefit 53 American colleges and universities through 72 separate direct-aid awards. Included are 16 fellowships, 31 undergraduate scholarships and 25 cash grants.

Under the company's "Two-Way Street" plan, professors visit the company to observe the progress of former students in Monsanto. They inspect operating installations and exchange views with company officials. In return, the company sends executives and scientists back to the campus for advanced studies. Also, Monsanto employs professors and students during the summer and for special assignments; and provides a program whereby some of its technologists return to schools of their choice to pursue a specific interest. Scientific and engineering professors are retained in consulting capacities.

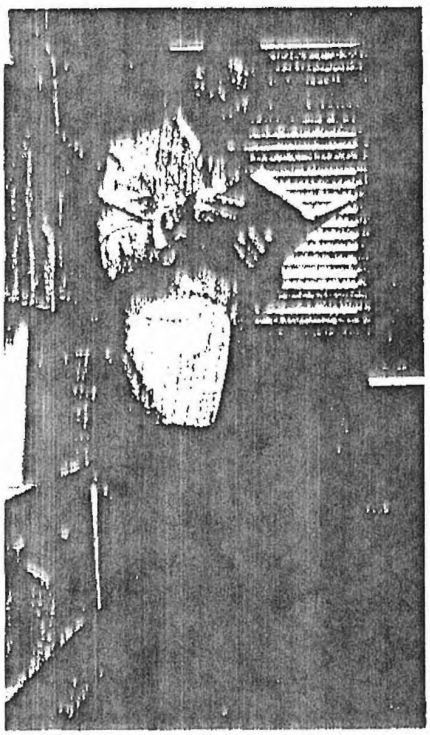
MONSANTO SCHOLARSHIP holder Julian Mayer Babad → studies hard to hold his scholarship and his top rank in chemical engineering department at Washington University. He has no obligation to accept Monsanto employment on graduation

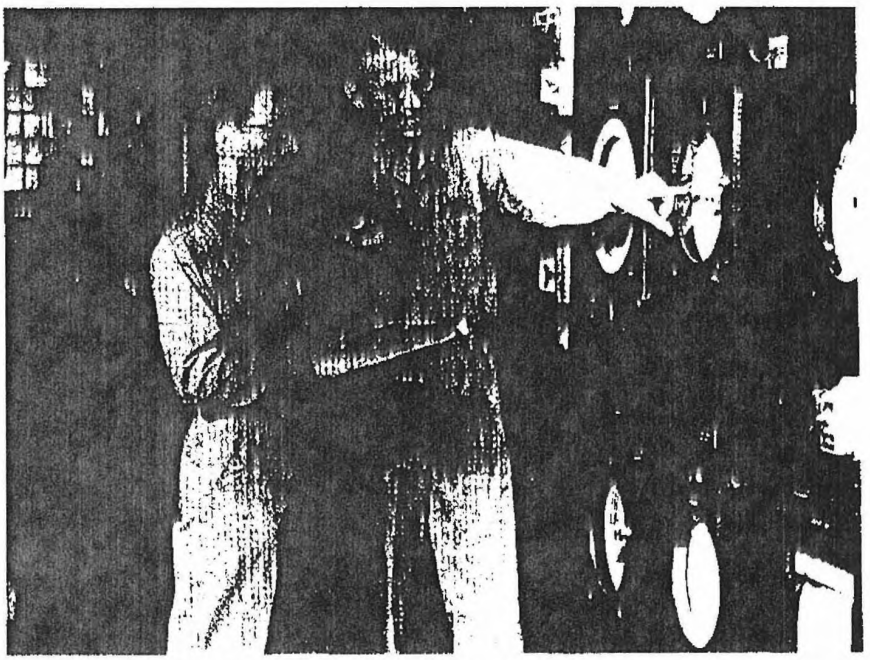
MONS 351574

TOWOLDMON0014017



THE PROFESSORS were flown to Texas City next day to see operations and alumni there. Monsanto believes good communications with educators foster mutual understanding of problems and objectives of industry and education. Represented were Purdue, Delaware, Tennessee, Illinois, Colorado, Pennsylvania, Notre Dame, Iowa, Michigan, Vanderbilt, Carnegie and Georgia Tech.

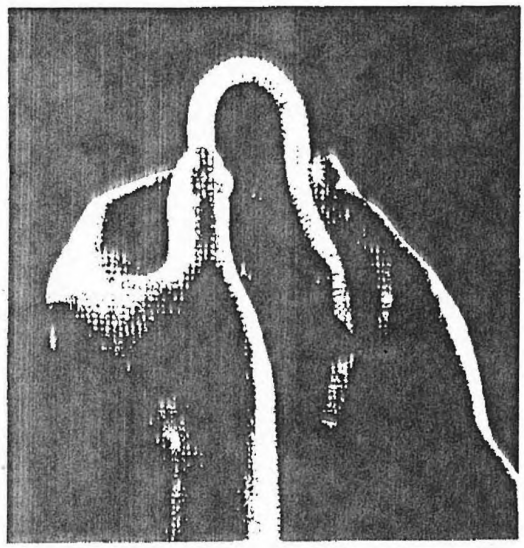




NEW CHEMICAL ENGINEER Ronald Lieber, Massachusetts Institute of Technology graduate, class of 1955, checks out in his new job in the John F. Queeny plant. His supervisor is Jim Knox, Kansas University '42, who joined company in 1944.

MONS 351575

TOWOLDMON0014018



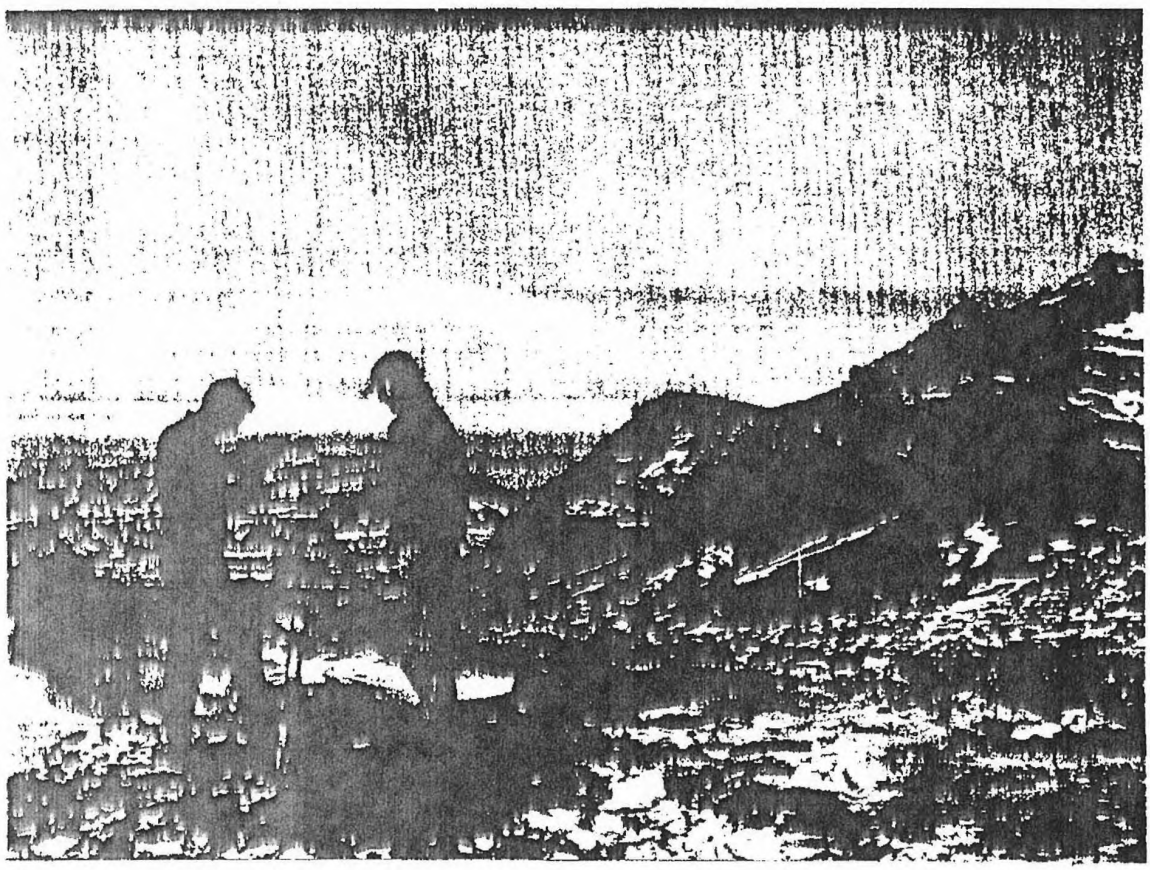
NYLON NO-KINK ARTERY developed by Chemstrand was successfully used to replace damaged blood vessel. Nylon tube restored circulation, prevented amputation of patient's leg.



TOMORROW'S HOUSE of all-plastic construction is being developed jointly with Massachusetts Institute of Technology under a Monsanto grant. A full-scale home will be built sometime during the year.

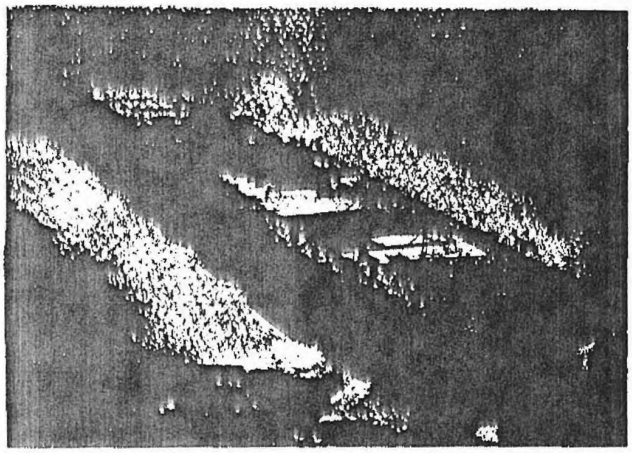
Search for More and Better Ways

THROUGH EXPLORATION Lion added substantially to gas and oil reserves. Geologists prospecting Casper District of Wyoming are T. W. Lins and H. D. Whitner. Company has undeveloped leaseholds in a 15-state area in central part of the U. S.

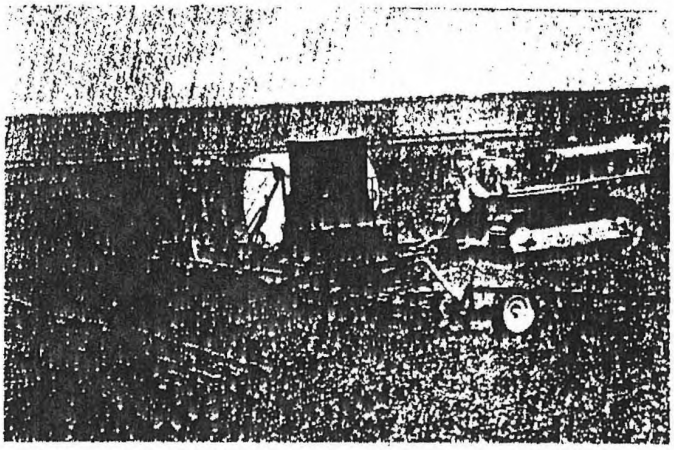


MONS 351576

TOWOLDMON0014019



NEWLY LAUNCHED INSULATED barge has begun hauling molten sulfur to Everett. Special insulation keeps sulfur near 285° without further heating, cuts handling and processing time.



LIQUID FERTILIZERS can be applied in as high nutrient content as dry fertilizers, but without danger of corroding application equipment because of new formulas and uses found by research.

The heart of the chemical industry's keen competition is its constant, three-phase search for the new product, the better technique or the more economic process.

Expansion research seeks growth.

Insurance research pursues quality and cost.

Exploratory research hunts for new techniques.

Monsanto's research activities are conducted along product lines by operating divisions and on a broader basis by the Research and Engineering Division.

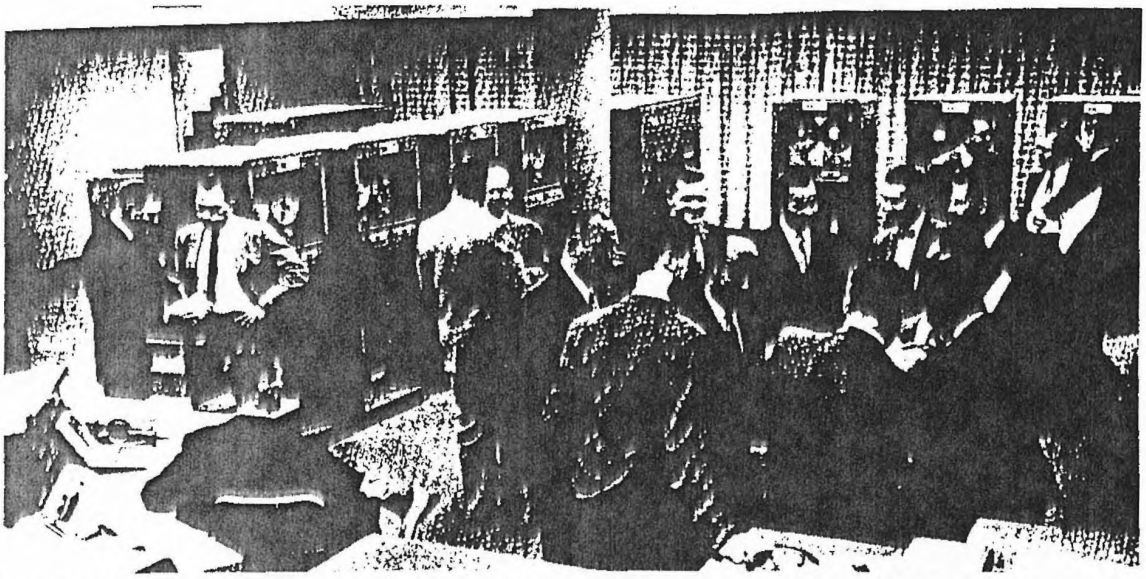
The industry's increasing productivity and ability to hold prices well below commodity averages reflect new concepts and techniques from the three research avenues.

The real gainer is the consumer, heir to new products in a kaleidoscopic parade.

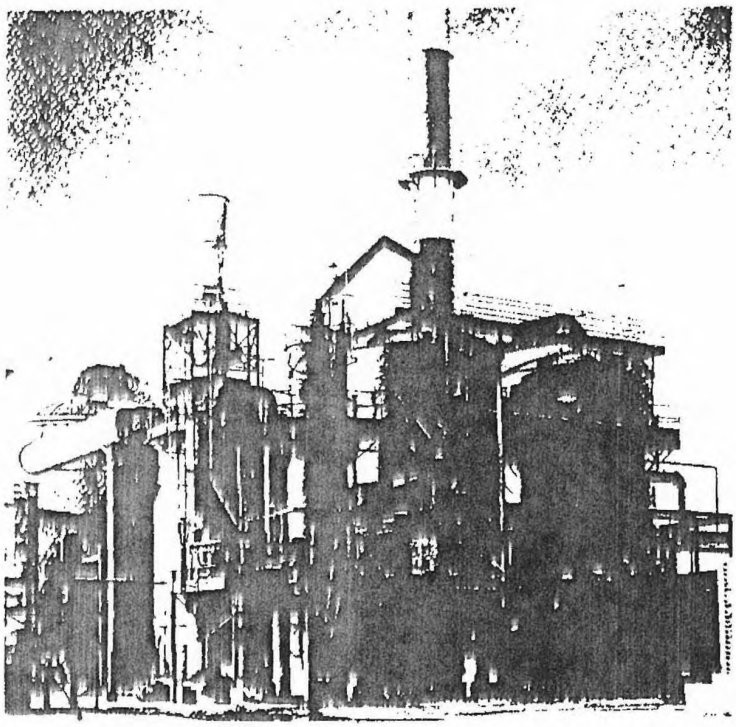
A NEW HERBICIDE, RANDOX, is effective killer of annual grassy weeds but harmless to grass-type crops like corn. Radioactive tracings, as demonstrated by Ernest G. Jaworski at Creve Coeur laboratories, showed that corn assimiliates Randox without harm.



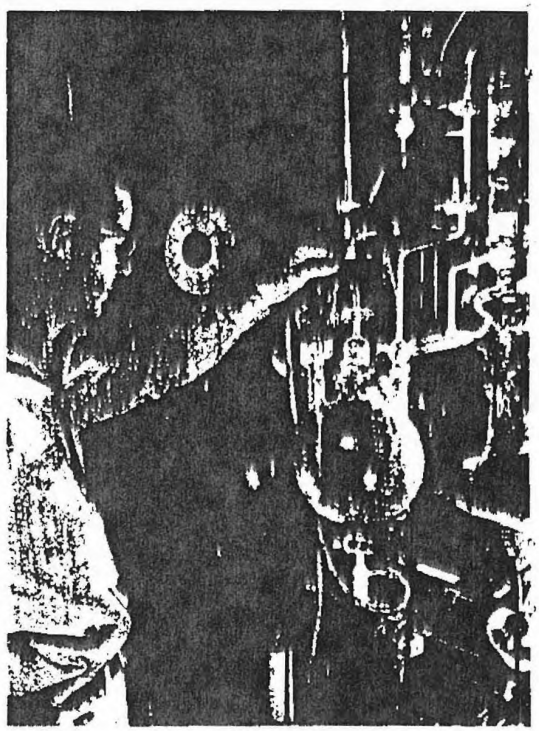
TOWOLDMON0014020



FIRST IBM 702 Electronic data processing machine produced was installed at Monsanto's offices in February. Monsanto worked with IBM to evolve the 702-type machine, designed principally for accounting uses. The "brain" also is available for solving engineering problems. We pioneered in accounting use of card programmed calculator, have used tabulators since 1928.



WORLD'S LARGEST sulfuric acid plant was designed and sold by Monsanto in 1955. During the year, 32 plants with annual capacity of 1,740,000 tons were sold. Monsanto-designed acid plants are located in 30 countries.

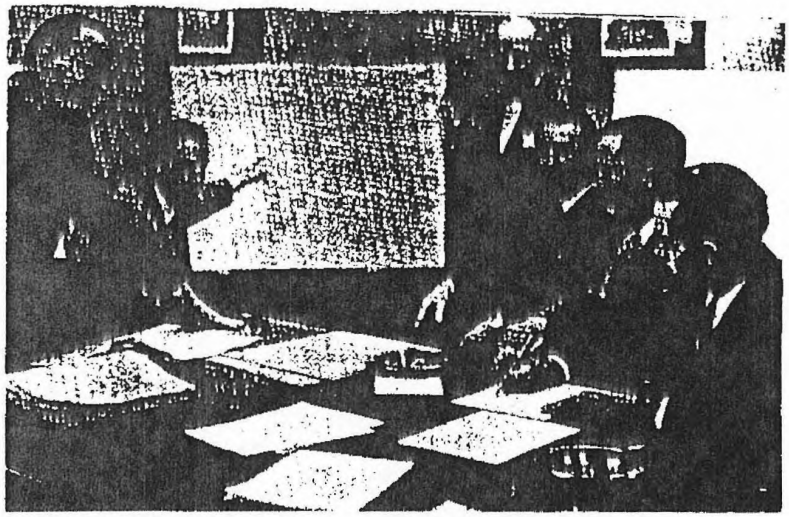


LONG RANGE RESEARCH is performed at Dayton. Investigations under way include high pressure and atomic reactions. Dr. W. R. Richard adjusts apparatus.

MONS 351578

TOWOLDMON0014021

PLANNING IS PART OF EVERY SALE



MARKET RESEARCHERS collaborate on preparation of company's sales forecasts. From the left, G. C. Cook, W. A. Clark, Shea Smith III, M. S. McCauley, F. J. Fitzgerald, Barrie Vve.

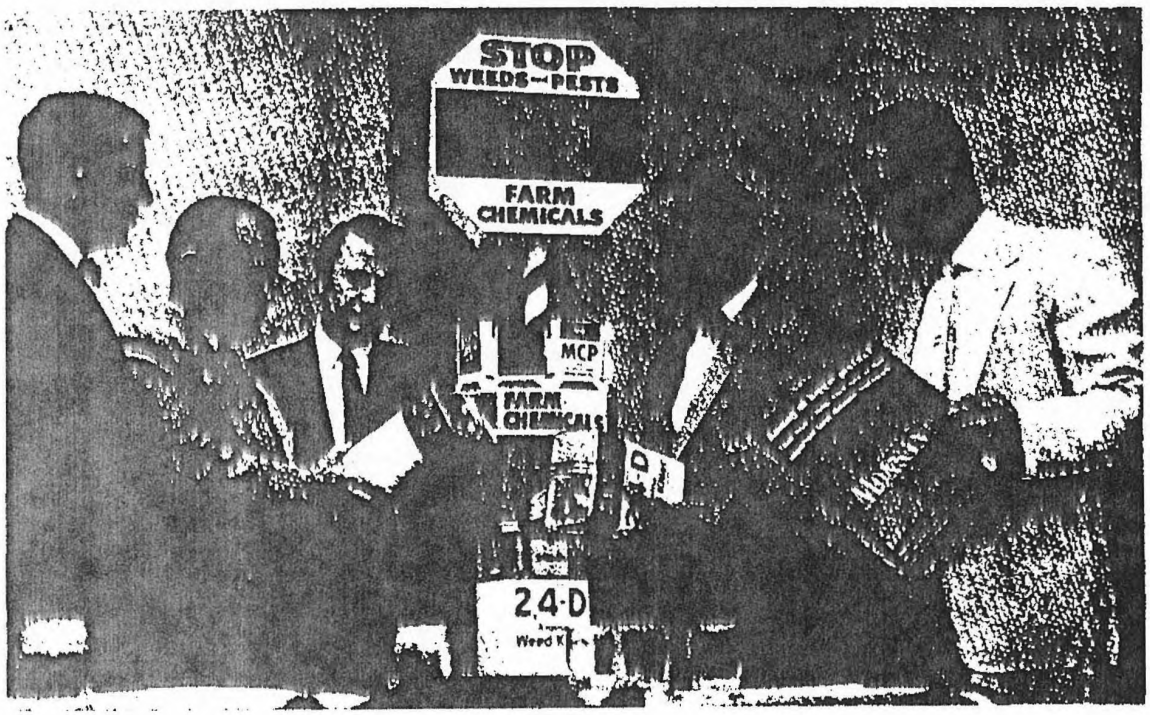
Monsanto products with known applications are used by every major industry. These products, and the raw materials and intermediate chemicals used in their manufacture, are the company's base. It is on this base that chemical and market research within Monsanto build the new products and new applications which are essential to company growth.

Even markets for established products are rarely static. Such markets shift both slowly and suddenly; they must be reviewed constantly.

Markets for potential new products must be evaluated not only to gauge probable acceptance of such products, but to determine whether their manufacture fits into the company's engineering, production and sales framework. New applications of old products, whether developed by the company or its customers, must be studied to learn if existing supplies are adequate or if additional manufacturing capacity is required.

Sales planning is both long and short range. Built on economic forecasts for Monsanto, the chemical industry and consuming industries, this planning demands close integration of research, engineering, production and sales.

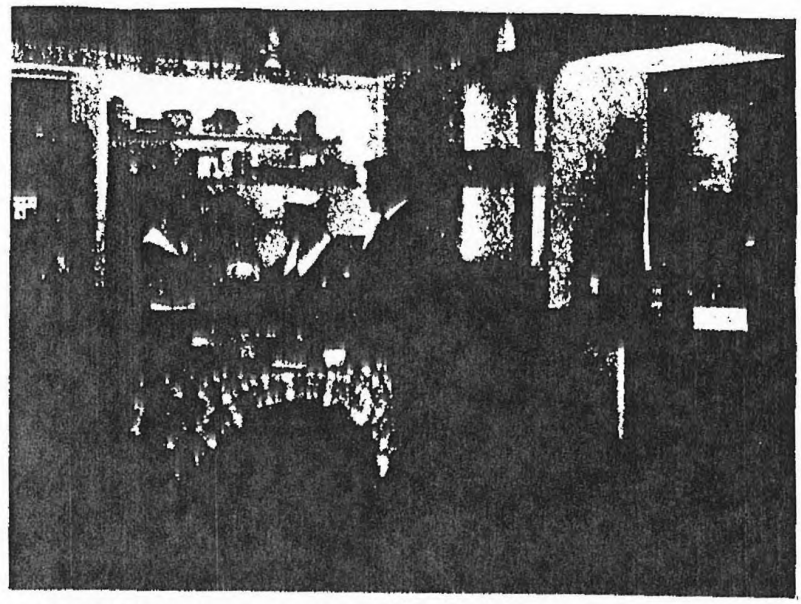
AGRICULTURAL CHEMICALS including 18 herbicides, insecticides and crop desiccants will be sold under Monsanto label as result of market studies made last summer. Distributorships were established in a 15-state midwest area; jobbers' inventories filled for 1956. Checking line are salesmen D. P. Reichert, C. A. Leonard, E. M. Billings, R. L. Olcott and J. G. Rotramel



MONS 351579

TOWOLDMON0014022

PROMOTING MONSANTO PRODUCTS



PLASTICS FAIR is a four-room mobile display illustrating Monsanto's plastics role in the home. A hit in several department stores, the show is committed throughout 1956.

Very competitive markets made it necessary to maintain a high tempo of promotion. Monsanto's increasing interest in selling to consumers led to greater use of mass media both here and abroad.

The heaviest advertising was concentrated on *"all"*, Monsanto's controlled suds detergent, with dominant newspaper ads in 115 major markets. Because the advantages of *"all"* can be demonstrated visually and because most TV homes have automatic washers, TV advertising was tested thoroughly during the year. In September, Monsanto began cosponsorship of its first nighttime network TV show, "WARNER BROTHERS PRESENTS." An hour-long drama on the ABC network, the program is building large audiences.

To make the public as aware of Monsanto as are businessmen, a corporate campaign began in LIFE. Presented in a form similar to LIFE's editorial content, each ad shows how several Monsanto products improve everyday items.

Another step in making Monsanto better known to consumers is participation in Walt Disney's fabulous Disneyland, near Hollywood. Daily, as many as 20,000 people see Monsanto's contributions to housing, clothing, food, medicine and man's other vital needs.

To promote industrial products, Monsanto advertised in more than 100 trade magazines serving markets in which its products are consumed. Supplementing this were 200 mailings of booklets, bulletins and reprints of advertisements to specific groups of customers, prospects, distributors and dealers.

Industrial exhibits and trade shows permit product demonstration and personal contact with large groups of key customer prospects. Monsanto participated in 29 shows, such as the National Packaging Exposition and the Association of Retail Grocers show, and maintains a permanent exhibit at the National Housing Center in Washington, D. C.

Each division also promoted its own products. For example, the Organic Chemicals Division sponsored a "Win-A-Building Sweepstakes" to encourage farmers to use more wood preserved with its penta. First prize was a $3,500 pole-type building of penta-pressure-treated wood, erected on the winner's farm. Through 1,000 dealers, 25,000 farmers in the Midwest entered the contest.

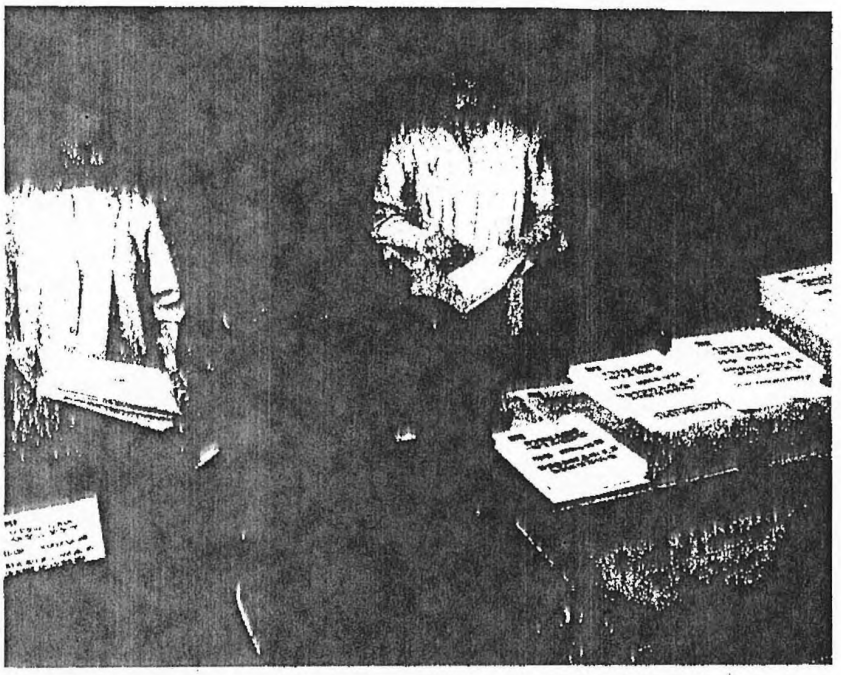
Another typical promotion by the Plastics Division tied in with Disneyland. To encourage plastic toy sales for Christmas, the division offered a free trip to Disneyland as first prize in a jingle contest. Twenty major toy manufacturers, customers for Monsanto styrene, included 15 million entry blanks with their plastic toys. The contest also was promoted on the CBS "WINKY DINK" television program and in comic books.

The Lion Oil Company Division began an intensive campaign to promote gasoline containing *Lionite* additive with large newspaper advertisements, radio spots and TV commercials. Its 1,840 stations carried colorful banners. Sales of gasoline for the last quarter, the traditionally slow selling season, responded well.

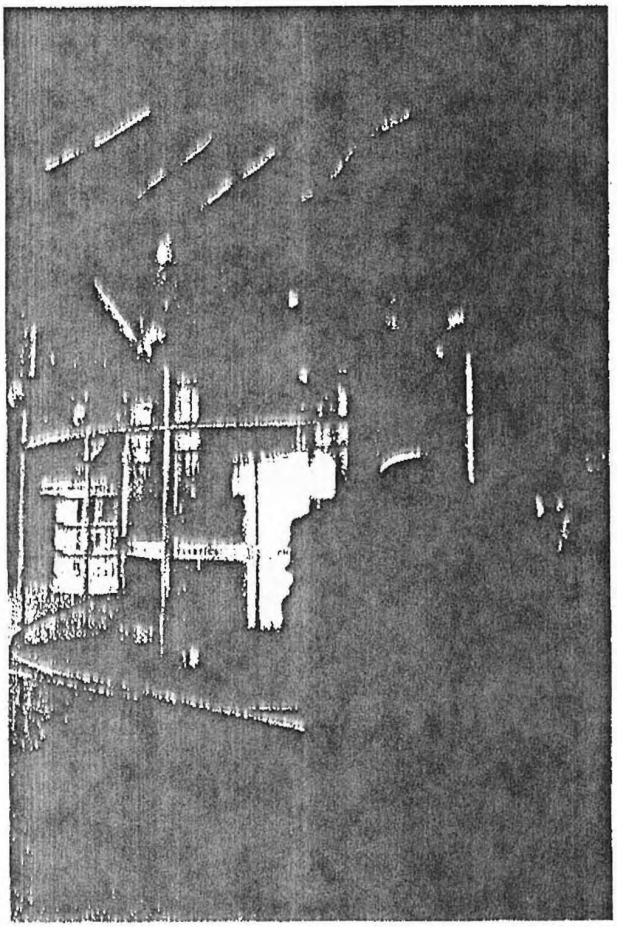
To cover overseas markets, Monsanto advertisements appeared in international editions of LIFE, READER'S DIGEST and TIME and the London ECONOMIST. In addition, local programs were developed; advertising copy, direct mail and technical literature in 10 foreign languages featured Monsanto's products in all areas of the world outside the Iron and Bamboo Curtains.

MONS 351580

TOWOLDMON0014023

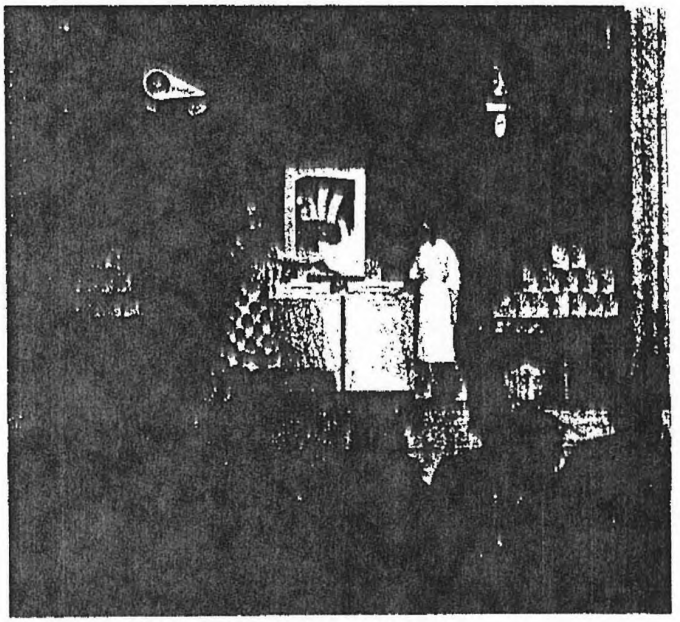


OVER 200 SEPARATE MAILINGS were sent customers and prospects during the year. Monsanto uses direct mail to supplement magazine advertising and to reach small easily defined groups. Advertising reprints, books and technical bulletins also are employed.



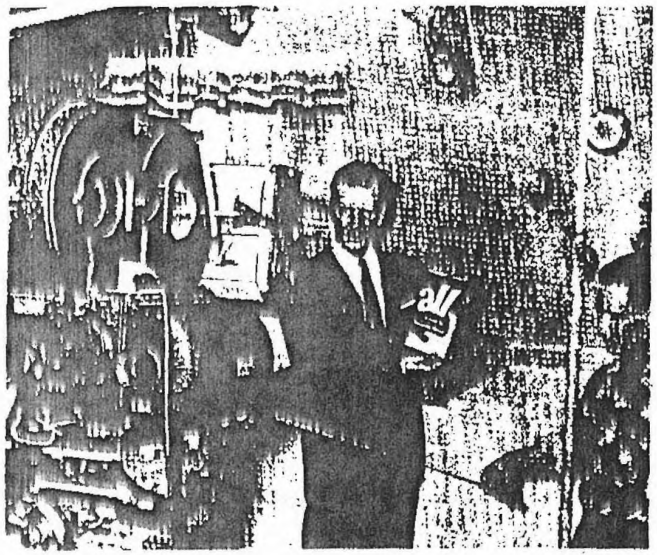
TWO MILLION PEOPLE have visited Monsanto's Hall of Chemistry at the Disneyland Park, Anaheim, Calif., in less than six months since opening. Located in the park's "Tomorrowland" section, the exhibit tells the story of how "Creative Chemistry Works Wonders For You." Monsanto is only chemical company exhibiting.

"NO SOAP OPERA" features a character known as Mrs. Wearwash and a technician with Monsanto's controlled suds detergent "*all*" in the starring role. Over 640 performances were held last year in appliance and department stores to aid sales of "*all*"



MONS 351581

TOWOLDMON0014024

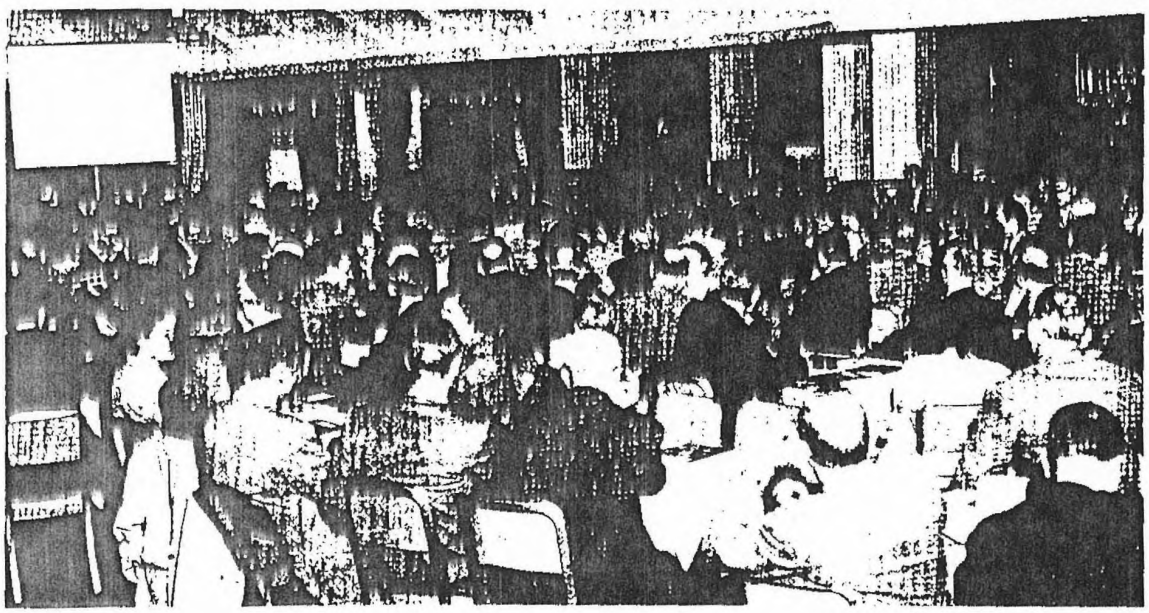


EIGHT MILLION FAMILIES is audience estimate for WARNER BROS. PRESENTS, an ABC Television show which Monsanto co-sponsors with Liggett & Myers and General Electric. Program rating for this hour-long dramatic presentation has risen steadily.



ADVERTISING APPEARED in national periodicals, newspapers and trade publications. LIFE ads such as this in layout elicited good readership and comprehension. Lion sponsored the Highway Patrol TV show in its trade area, also used radio, other media.

A NEW MOTION PICTURE to popularize Monsanto plastics, THE WORLD THAT NATURE FORGOT, was shown in November to plastics customers on the West Coast. The film has attracted favorable attention from film critics, the plastics industry and customers.



MONS 351582

TOWOLDMON0014025

Events and People

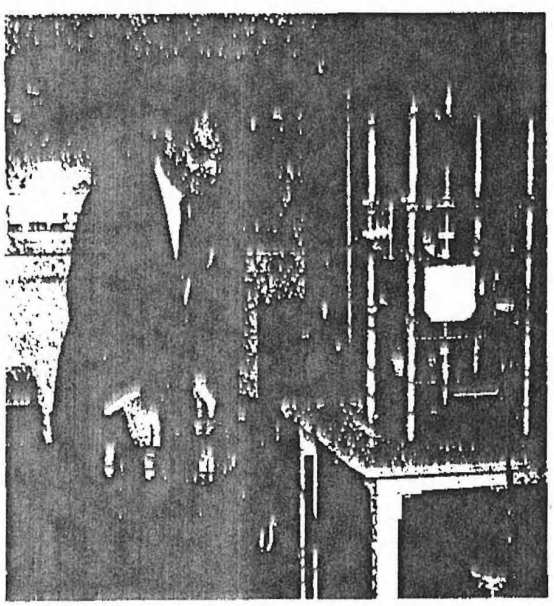
Petroleum industry terms such as driller, sandfrac, whipstock, anticline, dry hole and checkerboard were added to Monsanto's glossary when Lion Oil Company and its 3,000 employes joined the company.

More than 23,000 people now man Monsanto operations which include 24 plants, 32 sales offices and 12 laboratories in the United States and 18 plants in other countries.

The skills of Monsanto people are high and varied. Geologists seek oil and gas beneath the earth's crust in a 15-state area, ranging from Canada to the Gulf, and in Canada itself. Other geologists hunt phosphate deposits in Idaho, Tennessee and Utah. Glass blowers make intricate laboratory apparatus and repair costly pilot plant equipment which otherwise would be lost if damaged. Electronic controls govern some chemical processes; experts are needed to keep them functioning. A "water bailiff" in North Wales checks the River Dee which flows past the Ruabon plant, watches for evidence of any effluent endangering salmon. Plant pathologists raise plants to determine effects of herbicides and plant nutrients and entomologists raise insects for insecticide evaluations. Tree planters in Tennessee reforest strip-mined phosphate land.

During 1955, 17 labor contracts were signed with six different international unions. There were major work

CONTINUED ON NEXT PAGE



ALL PLANTS ARE VISITED each year by at least one Executive Committee member. Plant assignments are rotated among members annually enabling them to meet plant personnel and obtain first-hand knowledge of operations. Dr. C. A. Hochwalt, saw the Springfield plant in 1955 during one of these plant visits.



REPORTING AGRICULTURAL TRENDS in Rio Grande Valley brought a national industrial magazine award to MONSANTO MAGAZINE and Associate Editor C. J. Knapp who picked cotton during research. Bi-monthly magazine tells our story to 100,000 customers, prospects, shareowners, opinion leaders, employes.

MONS 351583

TOWOLDMON0014026

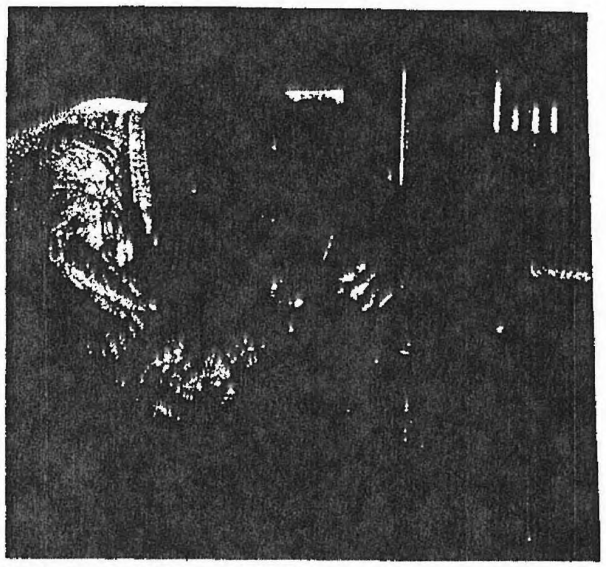
stoppages at five Monsanto locations — St. Louis, Mo.; Monsanto, Ill.; Springfield, Mass.; Trenton, Mich.; and Nitro, W. Va., plants. The shortest was at Trenton, lasting two days; the longest at Nitro, lasting 16 days. Employes at three plants voted against union representation. Camden, N. J.; Kearny, N. J.; Long Beach, Calif.; Monsanto, Tenn.; Luling, La.; Columbus, Ohio, and Monsanto, Idaho, operate as nonunion plants. In addition, Mobay's New Martinsville plant and Chemstrand's Decatur and Pensacola plants are nonunion.

Safety performance in 1955 continued to be most satisfactory. A company accident rate of 1.22 lost-time accidents for each million man-hours worked placed Monsanto second among larger American chemical companies. The accident rate of 1.22 compares favorably with the latest National Safety Council chemical industry accident rate of 4.12.

The President's Trophy awards for best company safety records were won by the Monsanto, Tenn., plant and by Mound Laboratory at Miamisburg, Ohio. Eight plants operated throughout the year without a lost-time accident.

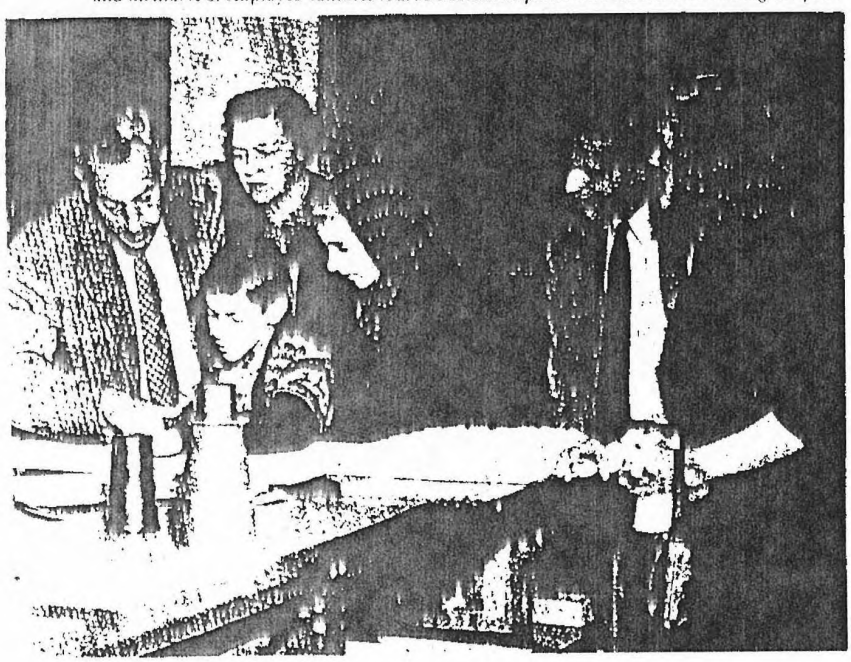
Monsanto personnel continued to receive civic and professional recognition for both on-the-job and personal activities. Top chemical award winner of the year was company President Charles Allen Thomas, who received the Priestley Medal from the American Chemical Society.

During the year, 57 employes retired, increasing the ranks of pensioners to 529.



AUTOMATIC PROCESS CONTROL is important to mass processing of chemical compounds and requires much intricate electronic equipment. At St. Louis' John F. Queeny plant, Instrument Repairman U. T. Couloy repairs and maintains critical electronic devices. Critical operations depend on his skilled hands.

A "FAMILY DAY" at the Springfield research department in September gave wives and children an opportunity to see where "Daddy" works. Inspecting display were E. P. Burnham and family (left) and Mr. and Mrs. F. A. Carlson Jr. Thousands of students, customers and members of employes' families toured Monsanto plants and laboratories during the year.

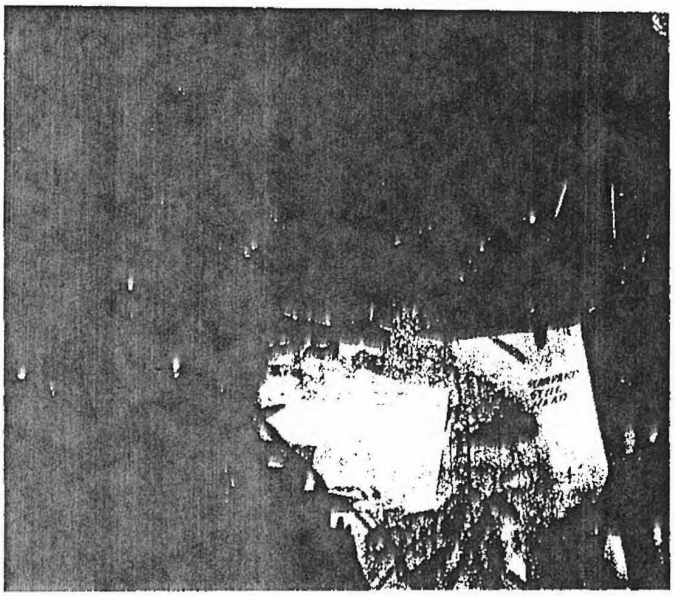


GUATEMALAN PRESIDENT Carlos Castillo Armas, on U. S. tour, saw Queeny plant where Superintendent J. W. McCrackin (right) was plant guide



MONS 351584

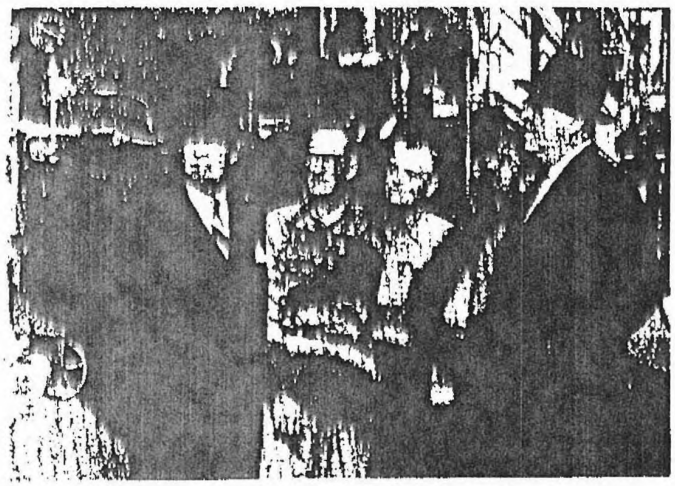
TOWOLDMON0014027



CHEMICAL RESEARCH REQUIRES varied skills. Aiding St. Louis researchers is Glass Blower Ray Rose who makes highly specialized equipment.



MANAGEMENT TRAINING class is addressed by Lion Division President T. M. Martin (left). With Mr. Martin is B. S. Smith Jr., division industrial relations director. The best employe is one who is well informed about his company's operations. One in three Monsanto salaried employes took part in training and orientation activities during the past year.



COL. T. H. BARTON (at left), director and Finance Committee member, is briefed on catalytic cracking unit at El Dorado by P. D. Wolfe, as L. I. Tucker, Homer Harris and W. M. Carney listen in.



EDGAR M. QUEENY, chairman of the board, and E. A. O'Neal Jr., vice president, visited British and European operations during the past summer. At Monsanto Chemicals Limited's plant at Newport, North Wales, Mr. Queeny, second from right, met C. D. Houghton. Others in the photograph, from the left, are T. W. Cornish, Mr. O'Neal and Neville Dyson.

MONS 351585

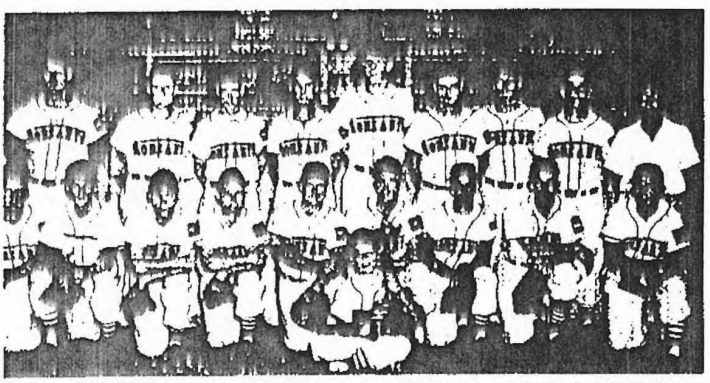
TOWOLDMON0014028



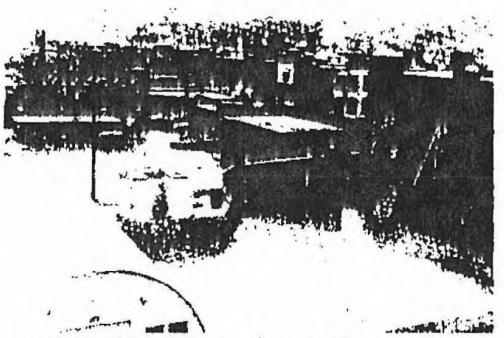
EMPLOYES AT LULING, Columbus and Chemstrand's Pensacola plant rejected unions last year in N. L. R. B. elections by large majorities. Monsanto has seven nonunion plants; Chemstrand, two; Mobay, one.



MEDICAL DEPARTMENT handled 200,000 employe visits to dispensaries and carried out 250 toxicological investigations to assure safe products and working conditions.



COLUMBIA PLANT'S team won Tennessee semi-pro baseball championship for fourth time. There are more than 250 employe group activities in the company ranging from basketball through tennis to curling.



NEW ENGLAND AREA was plagued by floods last summer but over-flowing Chicopee river did little damage to the Springfield plant because of employes' prompt action.

EMPLOYES PICKETED Queeny plant for seven days in April contract dispute. Four other plants had strikes also, but union contracts were re-negotiated without loss of any time at 11 other Monsanto plants.

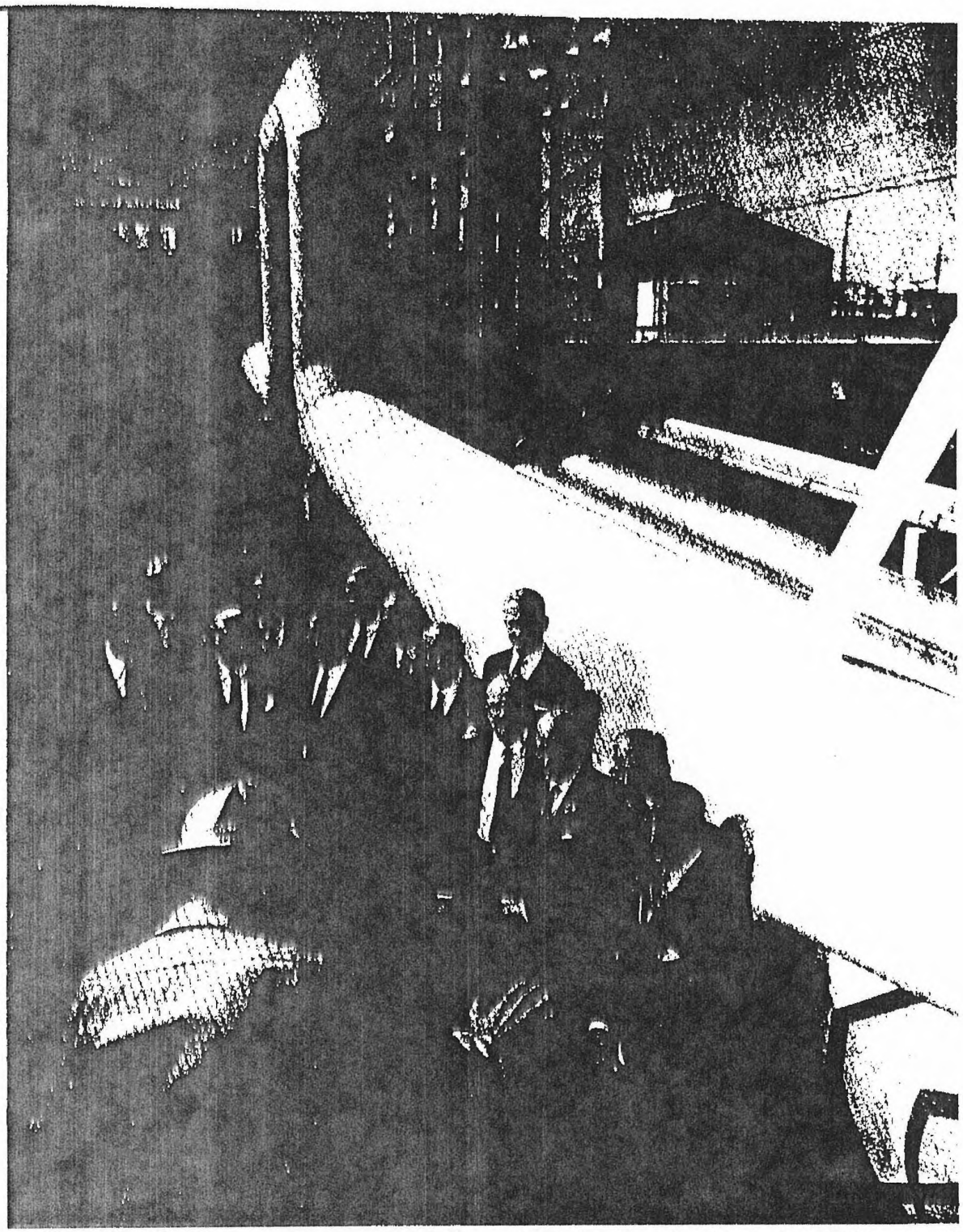


CHARLES ALLEN THOMAS (right), Monsanto president, received the Priestley Medal, highest award of the American Chemical Society, from A.C.S. President Joel Hildebrand.



MONS 351586

TOWOLDMON0014029



BOARD OF DIRECTORS meets at plants away from usual St. Louis headquarters twice each year to give personnel and directors an opportunity to know each other and to acquaint directors with operations and plant problems. October meeting was held at El Dorado where board members toured the chemical plant. Supervisor A. L. Joyner described anhydrous ammonia plant. Front left: C. A. Hochwalt, E. A. O'Neal Jr., F. J. Curtis, C. S. Cheston, F. N. Williams, W. W. Schneider, F. M. Eaton, T. H. Barton, R. R. Cole, J. L. Gillis, President C. A. Thomas, T. M. Martin and Chairman of the Board E. M. Queeny.

MONS 351587

TOWOLDMON0014030

FINANCIAL

Consolidated financial statements which combine the accounts of Monsanto Chemical Company and its domestic and Canadian subsidiary companies are presented on pages 30 through 33. They include also for the entire year, the accounts of Lion Oil Company which was merged into Monsanto on September 30, 1955. These statements should be read in conjunction with the following comments and explanatory material.

Foreign subsidiaries, other than Canadian, are not included in these statements. They, together with our 50 per cent interests in associated companies, are included in a financial consolidation which appears as part of tabular historical data on pages 36 and 37.

Sales for 1955 were $522,349,097. Net income was $42,169,970 which, after provision for preference dividends, was equal to $1.98 a share on the 20,998,945 common shares outstanding at the year end.

Because of the Lion Oil merger, sales and income are not strictly comparable with those reported for 1954. However, sales were 18.6 per cent more than the combined sales of the two companies for 1954, and net income increased 21.3 per cent over that of the two companies for 1954.

Our equity in the net assets of our unconsolidated subsidiaries and 50 per cent owned associated companies, based on unaudited reports, exceeded the December 31, 1955 carrying value of these investments and advances by approximately $20,707,000, as shown below.

Equity in net assets of:	
Unconsolidated subsidiaries	$15,298,000
Associated companies (50% owned)	44,298,000
Total	$59,596,000
Carrying value	38,889,000
Excess of equity in net assets over carrying value	$20,707,000

Our equity in the net income of the unconsolidated subsidiaries only, for the year ended December 31, 1955, as indicated by unaudited reports, was approximately $2,126,000. Dividends of $652,915 were received during 1955 from them and have been included in income.

The merger made advisable certain accounting changes in order to reconcile the differing practices of Lion and Monsanto. This was true especially of the accounting for amortization and obsolescence. Both companies have facilities which were constructed under certificates of necessity. Monsanto had followed the practice of amortizing the certified portion of such facilities at 20 per cent a year, as allowed for income tax purposes, since in management's opinion, such amortization together with depreciation at normal rates on other facilities provided a reasonable allowance for both depreciation and obsolescence on all depreciable property. Consequently, beginning in 1954, Monsanto charged obsolescence to its reserve for depreciation, amortization and obsolescence. Lion had charged its income with depreciation of such facilities at normal rates plus a supplemental amount equal to the reduction in income taxes resulting from taking amortization on such facilities for income taxes.

Under the procedure adopted for 1955, which will govern in subsequent years, obsolescence has been charged to income rather than to the reserve. Depreciation on approximately $73,000,000 of facilities covered by certificates of necessity has been taken at normal rates while amortizing them at 20 per cent a year for tax purposes. An additional charge has been made to income, and credited to the reserve for deferred taxes, equivalent to the reduction in income taxes resulting from taking amortization for income taxes. The supplemental charges to income by Lion prior to January 1, 1955, have been credited to this reserve with a corresponding charge to the reserve for depreciation and amortization.

Another substantial difference pertained to the methods of charging the costs of employe vacations. Monsanto accrued them, Lion did not. Income for 1955 was there-

MONS 351588

TOWOLDMON0014031

REVIEW

fore charged with $558,755—Lion's estimated liability—for vacations earned by the employes of this division at the year end.

The net effect of these changes was to increase 1955 net income $30,461 as shown in the following tabulation:

Monsanto (excluding Lion Oil)		
Charge which would have been made to income under 1954 method for obsolescence and amortization in excess of normal rates		$6,301,619
Charges made to income under 1955 method:		
Obsolescence	$2,499,152	
Deferred taxes	3,277,000	5,776,152
Increase in income		$ 525,467
Lion Oil Division		
Charge to income for accrued vacations to conform to Monsanto's practice		558,755
Decrease in income		$ 33,288
Add—credit adjustment of bonus and income taxes		63,749
Increase in income		$ 30,461

The sum of the years digits method of computing depreciation for both book and tax purposes on property additions subsequent to December 31, 1953, which was adopted by Monsanto in 1954, was continued in 1955 for all divisions except Lion Oil, which will adopt this method of depreciation as to additions made subsequent to January 1, 1956. The excess depreciation provided by this method over the straight line method increased from $215,914 in 1954 to $2,182,225 in 1955.

Charges to income in 1955 for depreciation and obsolescence totalled $32,168,056 and for depletion of mines and wells, $2,861,018.

With the exception of crude oil and its derivatives produced at Lion's El Dorado refinery, inventories are valued substantially at the lower of cost or market. Approximately one-fourth is valued on the last-in, first-out basis. Most of the crude oil we produce is sold as such, and most of that consumed at the El Dorado refinery is purchased. Hence, the crude oil in our inventory is valued at average posted field prices and derivatives produced at the El Dorado refinery are valued at cost based on such prices.

Ninety options to purchase 503,947 shares of the company's common stock were outstanding on December 31, under the Stock Option Plan authorized by shareowners. Option prices range from $28.27 to $46.00 a share, representing the closing prices of the stock on the New York Stock Exchange on the dates options were granted. The prices have been adjusted for the 3-for-1 split of July 11, 1955 and the two per cent stock dividend paid December 20, 1955. Options covering 92,145 shares were exercised during 1955.

During the year the remaining minority interests in Monsanto Canada Limited, amounting to 22 per cent of its common shares, were acquired for 48,534 shares of Monsanto Chemical common, and all the outstanding $850,000 of Monsanto Canada preferred was redeemed.

On March 1, $10,000,000 and on December 15 another $15,000,000 of 3¾ per cent income debentures due in 2002, were sold to the Metropolitan Life Insurance Company. The proceeds of the last sale were used to redeem a like amount of $3.85 preference shares. As interest is a tax deduction and preference dividends are not, an annual saving of $307,500 after taxes will accrue to common stock earnings by the transaction.

Current cash and cash items, and that expected to be generated from operations, should be ample to finance all near-term expenditures which are now foreseen and maintain through the period a satisfactory current position as well.

MONS 351589

TOWOLDMON0014032

STATEMENT OF CONSOLIDATED FINANCIAL POSITION

ASSETS

Current Assets:		
Cash	$ 13,439,543	
Marketable securities	3,980,473	
Receivables, less reserves of $1,191,372	56,652,637	
Inventories	81,354,271	$185,426,924
Investments and Miscellaneous Assets:		
Investment in unconsolidated subsidiaries	$ 2,510,787	
Investment in and advances to associated companies	36,378,242	
Common capital stock held for bonus awards	1,191,792	
Miscellaneous investments, receivables and deposits	4,071,055	44,151,876
Property, Plant and Equipment	$517,319,937	
Less—Reserves for depreciation and depletion	189,537,821	327,782,113
Patents and Processes		1
Deferred Charges		5,175,625
TOTAL		$562,536,539

The above statement should be read in conjunction with pages 28 and 29 of this report.

MONS 351590

TOWOLDMON0014033

at December 31, 1955

LIABILITIES

Current Liabilities:		
Accounts payable and accruals	$ 43,342,133	
Estimated income taxes (less United States Government securities of $23,647,546)	5,301,502	
Sinking fund payments due within one year	1,750,000	$ 50,393,635
Employes' Bonus Awards Payable Beyond One Year		1,778,648
Long Term Debt (Less current portion above):		
2.65% Debentures, due 1971	$ 30,000,000	
3¾% Income Debentures, due 2002	91,000,000	
3¼% Debentures, due 1968	18,750,000	
3⅝% Debentures, due 1972	14,000,000	
Canadian subsidiary	700,000	154,450,000
Reserves:		
Deferred income taxes	$ 5,995,317	
Pensions	4,237,038	
Employes' bonus—unawarded	939,825	11,172,180
Capital Stock and Surplus:		
Common stock—authorized, 25,000,000 shares, par value $2 each; outstanding, 20,998,945 shares	$ 41,997,890	
Surplus:		
Paid-in	142,323,874	
Earned	160,420,312	344,742,076
TOTAL		$562,536,539

MONS 351591

TOWOLDMON0014034

STATEMENT OF CONSOLIDATED INCOME for the year ended December 31, 1955

Income:		
Net sales		$522,349,097
Dividends from subsidiary and associated companies		984,171
Other		2,346,162
Total		$525,679,430
Deductions:		
Cost of goods sold	$365,505,883	
Selling, administrative and research expenses	70,870,589	
Provision for employes' bonus	1,985,062	
Interest expense	4,885,616	
Other	3,364,310	446,611,460
Income Before Provision for Income Taxes		$ 79,067,970
Provision for Income Taxes:		
Current	$ 32,068,391	
Deferred	4,829,609	36,898,000
Net Income		$ 42,169,970

The above statement should be read in conjunction with pages 28 and 29 of this report.

MONS 351592

TOWOLDMON0014035

STATEMENT OF CONSOLIDATED SURPLUS for the year ended December 31, 1955

PAID-IN SURPLUS

Balance at Beginning of Year		$ 93,620,099
Additions:		
Excess of stated value of common stock of Lion Oil Company outstanding at the time of merger over the par value of common capital stock issued in exchange therefor		32,639,786
Excess of minority interest acquired in subsidiary company over the par value of common capital stock issued therefor		1,110,667
Excess of approximate market value of common capital stock distributed as a stock dividend over the par value thereof		17,141,476
Excess of amounts received over the par value of common capital stock issued under stock option plan		2,495,813
Total		$147,607,841
Deduction—Transfer to common capital stock account in connection with the 3 for 1 split of common stock and the reduction of the par value from $5 to $2 a share		5,283,967
Balance at End of Year		$142,323,874

EARNED SURPLUS

Balance at Beginning of Year:		
Monsanto Chemical Company and consolidated subsidiaries		$100,267,244
Lion Oil Company	$59,223,251	
Less—Adjustment in valuation of certain assets made incident to merger	1,574,669	57,648,582
Total		$157,915,826
Add—Net Income for the Year		42,169,970
Total		$200,085,796
Deductions:		
Dividends on capital stock:		
Cash:		
Preference—Series C	$ 457,125	
Common	15,707,025	
Lion Oil Company prior to merger	4,636,370	
Total	$20,800,520	
Stock dividend of 2% on common capital stock	18,264,964	
Premium paid on redemption of Series C Preference Stock	600,000	39,665,484
Balance at End of Year		$160,420,312

The above statement should be read in conjunction with pages 28 and 29 of this report.

MONS 351593

TOWOLDMON0014036

HASKINS & SELLS
CERTIFIED PUBLIC ACCOUNTANTS

BOATMEN'S BANK BUILDING
SAINT LOUIS 2

February 15, 1956.

Monsanto Chemical Company:

We have examined the statement of consolidated financial position of Monsanto Chemical Company and its consolidated subsidiary companies as of December 31, 1955 and the related statements of consolidated income and surplus for the year then ended. Our examination, except as to Lion Oil Division, 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. As to Lion Oil Division (former Lion Oil Company which was merged into the Company as of September 30, 1955), we were furnished with the report of other independent public accountants and the accounts of that Division for the entire year 1955 have been included in the accompanying financial statements as shown by such report.

In our opinion, based upon our examination and on the report of other independent public accountants referred to above, the accompanying statement of consolidated financial position and statements of consolidated income and surplus present fairly the financial position of Monsanto Chemical Company and its consolidated subsidiaries at December 31, 1955 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied, except for the changes in accounting with respect to depreciation, obsolescence and deferred income taxes, explained under "Financial Review" on pages 28 and 29 of this report, on a basis consistent with that of the preceding year.

Haskins & Sells

MONS 351594

TOWOLDMON0014037

EXPLANATION OF HISTORICAL DATA ON FOLLOWING PAGES

A substantial part of Monsanto's investment and growth, particularly in post-war years, has been in companies owned jointly with other corporate partners and in overseas subsidiaries which hitherto have not been reflected fully in Monsanto's balance sheets and income statements.

In order to portray these participations as part of the company's progress for significant years of the last quarter century, we have consolidated with the parent company our foreign subsidiaries together with that portion of the assets, liabilities, sales, income, employes, additions to property, and other data, which were represented by our ownership in 50 per cent owned enterprises. Included are our proportionate interests in The Chemstrand Corporation, Shawinigan Resins Corporation, Mobay Chemical Company, Monsanto Boussois (France), Monsanto Kasei (Japan), and the following active subsidiaries:

Monsanto Export Company
Monsanto Canada Limited and subsidiary
Monsanto Mexicana, S. A. and subsidiary
Monsanto Overseas, S. A. (Panama)
Monsanto Chemicals Limited (England) and subsidiaries
Monsanto Chemicals Australia Limited
Monsanto Argentina S. A. I. C.
Monsanto Chemicals of India Limited

In years when such enterprises suffered losses, as did Chemstrand prior to 1955, income taxes were reduced in the statements by the amounts they would have been reduced had our portion of the operations been an integral part of the parent company; consolidated net earnings in such years were consequently increased. On the other hand, 1955's consolidation provides for a greater-than-actual income tax liability as Chemstrand benefited from its prior years' loss carry-over; therefore, consolidated income shown in the tabulation for 1955 is less than that which would have been indicated had the operations been reported separately. All the enterprises operated profitably in 1955 excepting Mobay and Monsanto Argentina which are in the development stage. Our participation in the 1955 losses of these companies exceeded $1,000,000.

In the usual course of events a substantial share of each company's earnings is required to finance its growth. However, all earnings of the consolidated foreign and associated companies are available for dividends with the exception of Chemstrand, which dividends are limited to the terms of its indenture, and in some foreign nations dividends are subject to exchange controls. Nevertheless, based on the assumption that all such earnings had been received as dividends, we have included in each year's income taxes an estimated provision for additional income and corporate dividend taxes which would have been payable.

All dollar amounts are stated in thousands except those relating to book values and per share earnings. Foreign currencies are taken at exchange rates ruling at each year's end.

MONS 351595

TOWOLDMON0014038

Consolidating only that percentage of assets and liabilities of associated companies which is represented by Monsanto ownership

(In Thousands of Dollars Except for

	1955	1954	1953	1952	1951	10 Years Ago 1945	25 Years Ago 1930
ASSETS							
Current Assets:							
Cash and marketable securities	$ 83,657	$ 48,849	$ 64,110	$ 77,704	$ 50,787	$21,846	$ 2,081
Receivables, less reserves	72,453	50,461	40,927	42,564	35,995	12,115	1,092
Inventories	100,005	74,979	74,173	64,725	57,627	16,876	3,298
Total	$256,115	$174,289	$179,210	$184,993	$144,409	$50,837	$ 6,471
Miscellaneous Investments, Etc.	$ 6,370	$ 3,970	$ 5,083	$ 4,564	$ 3,320	$ 1,645	$ 86
Gross Property	$639,786	$431,484	$385,166	$331,430	$239,113	$76,164	$17,083
Less—Depreciation, depletion, etc.	219,105	134,580	110,110	92,249	81,154	43,375	5,578
Net property	$420,681	$296,904	$275,056	$239,181	$157,959	$32,789	$11,505
Deferred Charges	$ 6,996	$ 5,806	$ 4,899	$ 3,526	$ 2,500	$ 356	$ 303
TOTAL	$690,162	$480,969	$464,248	$432,264	$308,188	$85,627	$18,365
LIABILITIES							
Current Liabilities:							
Accounts payable and accruals	$ 52,768	$ 38,573	$ 33,700	$ 37,797	$ 28,735	$ 9,942	$ 1,491
Income taxes less tax anticipation securities	13,162			2,110	34,295	850	205
Sinking funds and notes payable	3,125	1,856	988	1,032	863	428	
Total	$ 69,055	$ 40,429	$ 34,688	$ 40,939	$ 63,893	$11,220	$ 1,696
Bonus Payable After One Year	$ 1,802	$ 1,174	$ 1,574	$ 1,628	$ 1,608		
Long Term Debt	$221,420	$161,778	$161,820	$135,661	$ 35,312		$ 2,051
Reserves:							
Future taxation	$ 10,176	$ 5,040	$ 4,480	$ 3,626	$ 4,453		
Pensions, contingencies, etc.	4,370	5,189	6,074	6,905	7,787	$ 4,985	$ 1,920
Employes' bonus — unawarded	940	698	726	866	1,322		
Total	$ 15,486	$ 10,927	$ 11,280	$ 11,397	$ 13,562	$ 4,985	$ 1,920
Capital Stock and Surplus:							
Minority interests in subsidiaries	$ 7,483	$ 8,615	$ 8,202	$ 8,748	$ 8,392	$ 760	
Preference stocks	10,230	25,995	25,995	25,995	25,995	23,063	
Common stock	41,998	26,350	26,350	26,341	24,341	12,679	$ 7,150
Paid-in surplus	151,373	102,627	102,533	102,154	64,479	12,931	3,406
Earned surplus	171,315	103,074	91,806	79,401	70,606	19,989	2,142
Total capital	$382,399	$266,661	$254,886	$242,639	$193,813	$69,422	$12,698
TOTAL	$690,162	$480,969	$464,248	$432,264	$308,188	$85,627	$18,365

See explanation, preceding page.

MONS 351596

TOWOLDMON0014039

AND DOMESTIC AND FOREIGN SUBSIDIARY AND 50% OWNED ASSOCIATED COMPANIES

Consolidating only that percentage of income and expenses of associated companies which is represented by Monsanto ownership

Book Value and Per Share Earnings)

	1955	1954	1953	1952	1951	10 Years Ago 1945	25 Years Ago 1930
Net sales and other income	$632,978	$410,104	$383,170	$306,669	$310,549	$106,801	$13,687
Cost of goods sold	$434,897	$291,622	$271,155	$216,671	$206,932	$ 77,047	$10,757
Selling, administrative, research	83,024	62,072	53,586	40,217	30,230	10,845	1,938
Provision for employes' bonus	2,190	649	1,178	620	2,291		
Income charges	11,413	8,209	7,219	7,718	2,645	723	151
Income applicable to minority interests	1,048	983	942	498	1,145	113	
Provision for income taxes	50,103	21,374	23,475	18,653	43,079	12,397	105
Total	$582,675	$384,909	$357,555	$284,377	$286,322	$101,125	$12,954
Net profit	$ 50,303	$ 25,195	$ 25,615	$ 22,292	$ 24,227	$ 5,676	$ 733
Per common share of parent company, adjusted for splits	$ 2.37	$ 1.56	$ 1.58	$ 1.37	$ 1.62	$ .42	$ .09
Depreciation, depletion, etc.	$ 44,738	$ 30,753	$ 25,891	$ 15,737	$ 12,752	$ 8,040	$ 948
Book value of common, adjusted for splits	$ 17.37	$ 14.68	$ 13.96	$ 13.15	$ 10.92	$ 4.00	$ 1.64
Property additions	$ 61,833	$ 53,339	$ 62,981	$ 96,136	$ 47,544	$ 6,240	$ 1,810
Employes, excluding government plants	26,621	21,608	20,526	19,069	18,509	11,181	2,095
Working capital	$187,060	$133,860	$144,522	$144,054	$ 80,516	$ 39,617	$ 4,775
Employed capital (net worth, debentures)	$603,819	$428,439	$416,706	$378,300	$229,125	$ 69,422	$14,749
Employed capital per employe	$ 23	$ 20	$ 20	$ 20	$ 12	$ 6	$ 7
Parent company: Cash dividends on common shares	$ 20,343	$ 13,148	$ 13,137	$ 12,886	$ 12,140	$ 2,853	$ 516
Shares outstanding: Preference		150,000	150,000	150,000	150,000	210,000	
Common, adjusted for splits	20,998,945	15,810,153	15,810,153	15,804,567	14,604,567	11,410,812	7,722,000
Number of shareowners	42,691	24,222	24,415	24,404	19,527	10,822	3,313

MONS 351597

TOWOLDMON0014040

DIRECTORS AND OFFICERS OF MONSANTO CHEMICAL COMPANY

AT DECEMBER 31, 1955

BOARD OF DIRECTORS

Edgar M. Queeny, *Chairman* ..... St. Louis
Thomas H. Barton ..... El Dorado, Ark.
Charles S. Cheston ..... Philadelphia
Robert R. Cole ..... St. Louis
Francis J. Curtis ..... St. Louis
Fredrick M. Eaton ..... New York
John L. Gillis ..... St. Louis
Carroll A. Hochwalt ..... St. Louis
Trueman M. Martin ..... El Dorado, Ark.
Edward A. O'Neal Jr. ..... St. Louis
William W. Schneider ..... St. Louis
Charles Allen Thomas ..... St. Louis
Felix N. Williams ..... St. Louis

EXECUTIVE COMMITTEE

Charles Allen Thomas, *Chairman*

Robert R. Cole — Carroll A. Hochwalt
Edgar M. Queeny — Felix N. Williams

FINANCE COMMITTEE

Charles S. Cheston, *Chairman*

Thomas H. Barton — Edgar M. Queeny
Fredrick M. Eaton — Charles Allen Thomas
William W. Schneider

Transfer Agent

Guaranty Trust Company of New York

Registrar

The Chase Manhattan Bank

OFFICERS

Edgar M. Queeny ..... *Chairman, Board of Directors*
Charles Allen Thomas ..... *President*
Robert R. Cole ..... *Executive Vice President*
Francis J. Curtis ..... *Vice President*
John L. Gillis ..... *Vice President*
Carroll A. Hochwalt ..... *Vice President*
Edward A. O'Neal Jr. ..... *Vice President*
Felix N. Williams ..... *Vice President*
William W. Schneider ..... *Vice President and Treasurer*
Roy L. Brandenburger ..... *Vice President; General Manager, Consumer Products Division*
J. L. Christian ..... *Vice President; General Manager, Inorganic Chemicals Division*
Trueman M. Martin ..... *Vice President President, Lion Oil Company Division*
R. K. Mueller ..... *Vice President; General Manager, Plastics Division*
Charles H. Sommer ..... *Vice President; General Manager, Organic Chemicals Division*
J. Russell Wilson ..... *Vice President; General Manager, Research and Engineering Division*
Marshall E. Young ..... *Vice President; General Manager, Overseas Division*
Irving C. Smith ..... *Controller*
Edwin J. Putzell Jr. ..... *Secretary*
Edwin J. Cunningham ..... *Assistant Controller*
Alfred W. Long ..... *Assistant Controller*
Walter C. Thilking ..... *Assistant Controller*
Earl J. Wipfler ..... *Assistant Controller*
Charles E. Caspari Jr. ..... *Assistant Secretary*
Jeff Davis ..... *Assistant Secretary*
Elliott W. Atkinson ..... *Assistant Treasurer*
John F. Martin ..... *Assistant Treasurer*
J. Robert Matlock ..... *Assistant Treasurer*
Rolla H. Stocke ..... *Assistant Treasurer*
Edward D. Toland Jr. ..... *Assistant Treasurer*

Regional Vice Presidents

Edward W. Gamble Jr. — Victor E. Williams

MONS 351598

TOWOLDMON0014041

SALES OFFICES

UNITED STATES

AKRON, OHIO—920 Brown Street (11)

ATLANTA, GEORGIA—1401 Peachtree Street, N. E. (5)

BOSTON MASSACHUSETTS—Everett Station (49)

CHARLOTTE, NORTH CAROLINA—1117 Johnston Building (2)

CHICAGO, ILLINOIS—520 N. Michigan Avenue (11)
3553 W. Peterson (45)

CINCINNATI, OHIO—2330 Victory Parkway (6)

CLEVELAND, OHIO—427 Hanna Building (15)

COLUMBUS, OHIO—1147 Chesapeake Avenue (16)

DALLAS, TEXAS—2505 West Mockingbird Lane (19)

DES MOINES, IOWA—725 Insurance Exchange Building

DETROIT, MICHIGAN—827 Fisher Building (2)

EL DORADO, ARKANSAS—222 N. Washington Avenue

HOUSTON, TEXAS—904 City National Bank Building (2)

KANSAS CITY, MISSOURI—1020 East 63rd Street (10)

LITTLE ROCK, ARKANSAS—210 N. Woodrow Street

LOS ANGELES, CALIFORNIA—714 W. Olympic Boulevard (15)

MEMPHIS, TENNESSEE—4671 Kaye Road

MINNEAPOLIS, MINNESOTA—Foshay Tower (2)

NEW ORLEANS, LOUISIANA—1508 National Bank of Commerce Building

NEW YORK, NEW YORK—445 Park Avenue (22)

PHILADELPHIA, PENNSYLVANIA—600 Old Lancaster Road,
Bryn Mawr, Pennsylvania

ST. LOUIS, MISSOURI—1700 South Second Street (4)
800 North Twelfth Boulevard (1)
710 North Twelfth Boulevard (1)
7 North Brentwood Boulevard, Clayton (5)

SAN FRANCISCO, CALIFORNIA—111 Sutter Street (4)
1355 Market Street (3)

SEATTLE, WASHINGTON—911 Western Avenue (4)

SPRINGFIELD, MASSACHUSETTS—812 Monsanto Avenue (2)

WASHINGTON, D. C.—Suite 301, 918—16th Street, N. W. (6)

WILMINGTON, DELAWARE—4335 Governor Printz Boulevard (99)

OUTSIDE UNITED STATES

ARGENTINA

BUENOS AIRES—Edificio Ultramar, Av. Alem 619-3° Piso

AUSTRALIA

MELBOURNE, VICTORIA—Somerville Road,
West Footscray W-12

BRISBANE, QUEENSLAND—Kingsford-Smith Drive,
Eagle Farm, N. E. 2

SYDNEY, NEW SOUTH WALES—106 Mullens Street, Rozelle

ADELAIDE, SOUTH AUSTRALIA—256 Flinder Street

CANADA

MONTREAL, QUEBEC—425 St. Patrick Street, Ville La Salle

TORONTO, ONTARIO—183 Front Street East

VANCOUVER, BRITISH COLUMBIA—1550 Rand Avenue (14)

OAKVILLE, ONTARIO

ENGLAND

LONDON—Victoria Station House, Victoria Street, S. W. (1)

MANCHESTER—Royal Exchange Building

FRANCE

PARIS—22 Boulevard Malesherbes

INDIA

BOMBAY—Wakefield House, 11, Sprott Road,
Ballard Estate (1)

CALCUTTA—The Exchange, 5, Mission Row (1)

NEW DELHI—3/8 Ajmeri Gate Extension Scheme,
Near Turkman Gate

JAPAN

TOKYO—Number 6, 6-chome, Ginza-Nishi, Chuo-ku

MEXICO

MEXICO, D. F.—Tonala 136

MONS 351599

TOWOLDMON0014042

PLANT LOCATIONS

UNITED STATES

Addyston, Ohio
Anniston, Alabama
Avon, California
Camden, New Jersey
Carondelet, Missouri
Columbus, Ohio
El Dorado, Arkansas *(Refinery)*
El Dorado, Arkansas *(Chemical Plant)*
Everett, Massachusetts
Kearny, New Jersey
Long Beach, California
Luling, Louisiana
Magnolia, Arkansas
Monsanto, Idaho
Monsanto, Illinois
Monsanto, Tennessee
Nitro, West Virginia
Norfolk, Virginia
St. Louis, Missouri
Santa Clara, California
Seattle, Washington
Springfield, Massachusetts
Texas City, Texas
Trenton, Michigan

AFFILIATED COMPANY PLANTS

United States

The Chemstrand Corporation: Decatur, Alabama, and Pensacola, Florida
Mobay Chemical Company: New Martinsville, West Virginia
Shawinigan Resins Corporation: Springfield, Massachusetts

SUBSIDIARY AND AFFILIATED COMPANY PLANTS

Outside United States

Brisbane, Australia
Buenos Aires, Argentina
Campana, Argentina
Epierre, France
Ghent, Belgium
Grangemouth, Scotland
Lecheria, Mexico
Melbourne, Australia
Nagoya, Japan
Newport, England
Oakville, Canada
Porto Marghera, Italy
Ruabon, Wales
Stockholm, Sweden
Vancouver, Canada
Ville La Salle, Canada
Wingles, France
Yokkaichi, Japan

LABORATORIES

Akron, Ohio
Creve Coeur, Missouri
Dayton, Ohio
El Dorado, Arkansas
Everett, Massachusetts
Monsanto, Tennessee
Nitro, West Virginia
St. Louis, Missouri
Santa Clara, California
Seattle, Washington
Springfield, Massachusetts
Texas City, Texas

GOVERNMENT-OWNED, MONSANTO-OPERATED LABORATORY

Miamisburg, Ohio

NATURAL GASOLINE PLANTS OPERATED BY LION OIL COMPANY DIVISION

Shuler Unit—(Shuler Field)—El Dorado, Arkansas
Sharon Ridge—Diamond M—Snyder, Texas

MONS 351600

TOWOLDMON0014043

1955

MONSANTO CHEMICAL COMPANY ANNUAL REPORT

MONS 351601

TOWOLDMON0014044