

# profile...

## A success story with research as hero is Victor Chemical's 60-year history. Its phosphates go to food growers and processors

IF EVER THE VALUE OF RESEARCH WAS dramatized in the growth of a chemical company, it has been so dramatized in the history of Victor Chemical Works. Now one of the nation's leading producers of food chemicals, ranking consistently among the top three or four companies in terms of food chemicals sales, Victor traces the very fact of its incorporation back to the successful research program of a part-time chemist.

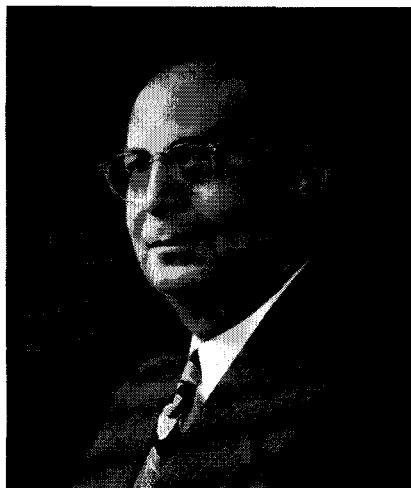
Victor was founded as a corporate entity in 1902, but its roots were established some five years earlier. The firm of Petersen & Mansar, Chicago flour merchants, had accepted in payment of a debt a small chemical plant engaged in manufacturing monocalcium phosphate for baking powder. The product was non-uniform and the plant was expending \$2000 monthly to produce material salable at \$1200. The plant was located at Chicago Heights, in a section appropriately designated "Hungry Hill."

In 1897, management of the plant was taken over by August Kochs of Petersen & Mansar; Kochs's first major action was to procure the part-time services of a chemist to study the product and the manufacturing process. Their combined research efforts led to a practical method of eliminating free phosphoric acid from the product, yielding a pure, dry monocalcium phosphate markedly superior to the former hygroscopic material.

The firm of Petersen & Mansar, which had initially lost \$50,000 on the venture, became convinced after a few years of satisfactory progress that prospects warranted construction of a real chemical plant. Largely through the efforts of Kochs, \$150,000 in new capital was raised, and Victor Chemical Works was incorporated on Feb. 21, 1902. Ground was broken in May at a new site in Chicago Heights, and within a few months the plant began producing "undiluted" monocalcium phosphate and "pure" phosphoric acid from phosphate rock. In a forward-looking mood that has remained characteristic, the fledgling company hired several full-time chemists and established a research laboratory.

From its inception Victor has stressed

the value of the laboratory and has maintained substantial facilities and budgets for research, control, and testing operations. This policy has paid off continuously in improvement and development of processes and products, application of products to new uses, and closer manufacturing controls.



The President . . .

**Rothe Weigel**

Blast furnace to front office

Among other accomplishments in its early years, Victor initiated research resulting in perfection of this country's first process to eliminate arsenic from food grade phosphates. Soon after, a new process for concentrating phosphoric acid was developed, with lead troughs replacing uneconomical porcelain lined kettles, required in large numbers. To rid the finished products of objectionable lead thus introduced, sulfuric acid was added to the concentrated phosphoric, precipitating lead sulfate, and permitting production of a high grade food product.

From this research-rooted beginning has grown an organization with basic phosphorus producing plants at Mt. Pleasant, Tenn., Tarpon Springs, Fla., and Silver Bow, Mont., and processing plants at Chicago Heights, Ill., West Nashville, Tenn., Morrisville, Pa., and South Gate, Calif. A total of seven modern electric furnaces are in operation at the basic production units, and

more than 10,000 acres of phosphate land reserves held by Victor assure plentiful raw materials for many years to come.

The four processing plants currently turn out more than 100 phosphorus products and compounds. Food chemicals, highly significant in the company's 53-year growth, still rank near the top of Victor's product classifications—second only to chemicals for detergents and soap. In 1954, when Victor's sales hit an all-time high of \$43.3 million, and after-tax net earnings at \$3.7 million were just a shade under the record set in 1950, sales to the food and beverage industry accounted for about 25% of the total, and those to the soap and detergent industry about 40%. Much of the nation's detergent and sanitary chemical production, of course, eventually finds its way into plants processing agricultural and food products.

### New Food Products Consume Victor's Chemicals

The food products which consume the greatest quantities of Victor chemicals include self-rising and pancake flours, prepared biscuit and cake mixes, process cheese, evaporated milk, soft drinks, instant puddings, and yeast. Food preservation and mineral enrichment of foods and animal feeds are also of major importance. The Victor products which enter these markets include numerous phosphates—monocalcium, monoammonium, dicalcium, diammonium, tricalcium, potassium, disodium, and trisodium—as well as phosphoric acids, sodium acid and sodium iron pyrophosphates, tetrasodium pyrophosphate, ferric orthophosphate, and sodium tripolyphosphate.

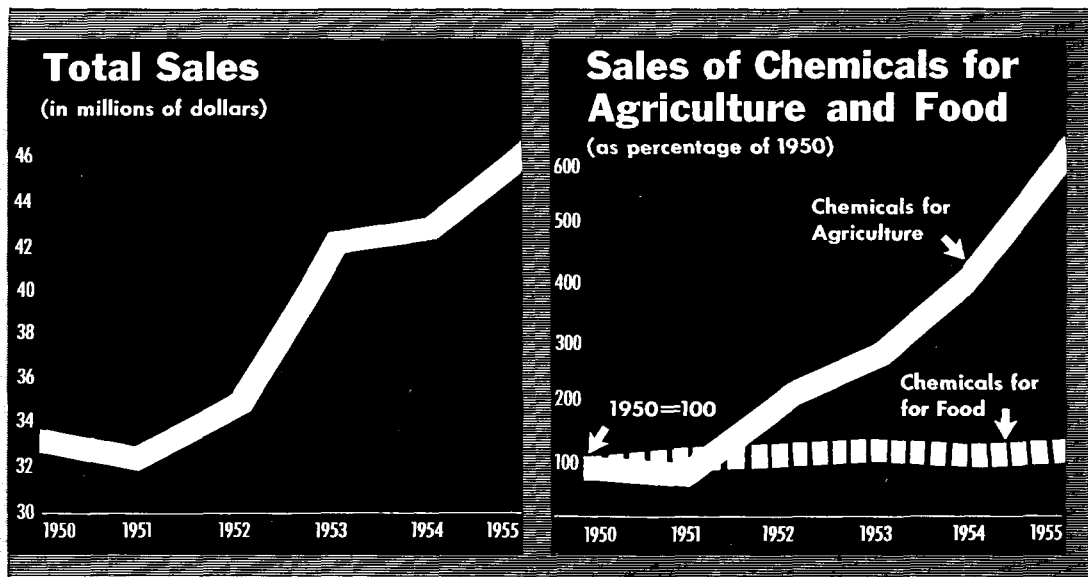
Victor pioneered in development of methods for producing phosphorus, operating in 1918-19 an experimental electric furnace for making phosphoric acid from phosphate rock, silica sand, and coke. Because power rates were too high, the unit was shut down in 1919 despite the fact that it yielded good product. An experimental blast furnace plant was started up in 1923; it was followed with a full scale plant at Nashville, which started early in 1929.

By the late thirties, phosphoric acid production economics had changed considerably. Coke costs for blast furnace acid had risen, while low-cost electric power had become available. Victor completed its first electric furnace for phosphorus production at Mt. Pleasant in May, 1938, and followed it quickly with three additional furnaces in the next two years. The blast furnace was shut down in 1940. Additional electric furnace plants were put on stream at Tarpon Springs in 1947 and Silver Bow in 1951.

Victor had made small amounts of

### Victor Chemical Works

More than 100 phosphorus products and compounds keep sales high. Food chemicals contribute 25% of total sales. Chemicals for agriculture showing spectacular growth



plant-food chemicals prior to World War II, primarily to take up slack in furnace production schedules when sales of food-use and industrial phosphates fell temporarily below productive capacity. Principal product in this group was triple superphosphate for fertilizer. In 1942 Victor's phosphorus "went to war," and the company was allocated only enough of its own production to take care of what were termed essential uses: triple superphosphate was not included in this category. Because of the postwar de-

mand for phosphatic materials, it was not until after completion of the Silver Bow furnace that Victor could again enter the agricultural field. Since that time the company has been highly interested in agricultural chemical developments—particularly the recent trend toward liquid fertilizers—and it is currently swinging increasing attention to agricultural outlets for phosphoric acid and ammonium, potassium, and other phosphates. Chemicals for agriculture have shown a spectacular growth in

Victor's sales, and they show great future promise.

The man now responsible for day-to-day operation of Victor is Rothe Weigel, a 31-year veteran with the company. Victor hired Weigel in 1924 to operate the new experimental blast furnace at Chicago Heights. Chairman of Victor Chemical is August Kochs—the same August Kochs who nearly 60 years ago saw in a tiny phosphate plant the possibility for improvement through research and for growth in a new industry.

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