PERSONAL

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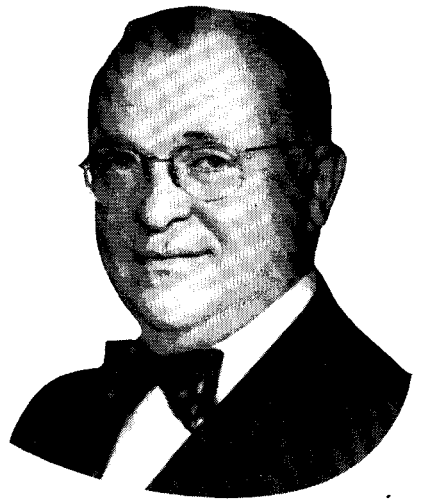
Olin Mathieson's vice president started a trend with high analysis pelletized fertilizer and led the way for recovery of sulfur from waste gases



Samuel L. Nevins

Vice president for operations (Fertilizer Division and Sulfuric Acid Division), Olin Mathieson Chemical Corp. Born April 1, 1898, St. Louis, Mo.; University of Missouri 1920, B.S. in chemical engineering. Chemist, Monsanto Chemical Co., 1920–21; chemist, Southern Acid & Sulphur Co., 1921–22; plant manager, SASCO, 1922–37; general manager, SASCO, 1937–48; general manager, Ammonia Department, Mathieson Chemical Corp., 1948–49; vice president and director, ag chemical sales, Mathieson Chemical, 1949–52; president, Agricultural Chemical Division, Mathieson Chemical, 1952–54. WPB Advisory Committee on Sulfuric Acid, WW II; WPB Advisory Committee on Superphosphate, WW II; OPA Advisory Committee on Fertilizers, WW II; Industry Nitrogen Advisory Committee, Department of Commerce, 1948.

SAM NEVINS is not only the father of high analysis pelletized fertilizer, but he has also blazed many trails in the field of fertilizer technology. Part of his work has yet to reach its full impact on the industry, even though certain trends can be measured in dollars and cents, and in production figures. It may be many years before the ledger can be closed on the accomplishments of this man—a combination engineer, executive, and supersalesman.

In the fertilizer industry, some leaders may know him best for the friendly but strong competition he has given them by introducing high analysis pelletized fertilizers. The idea for this development goes back 15 years, when Nevins started to lead the crusade for high analysis materials. He realized the farmer could save money, but he also realized that the farmer insisted on buying, and the industry on making, materials which contained inerts of no plant food value. Although Nevins' idea was financially sound, it still had to be sold against considerable resistance.

Superselling Convinced Many of the Conservatives

The nation's first plant to manufacture high analysis pelletized fertilizer, at Pasadena, Tex., reflects ingenuity on the part of Nevins early in his career with Southern Acid & Sulphur Co. At the time of the plant's inception, during World War II, alkylation gasoline capacity was coming in fast, and there was no place to dispose of the by-product spent acid. While serving on several committees for the War Production Board, Sam spotted an opportunity to launch one of his pet projects. He convinced the Government that his company could build a single and triple superphosphate plant to operate on spent acid. It turned out that triple super could not be made easily from spent acid, so the plant operated partially on white acid, but this did not detract from the importance of the project.

Besides making a valuable contribution to the war effort, Nevins actually made money for the Government; the Government got every nickel back on its Pasadena plant investment, plus 4.5% interest. February of this year marked the Pasadena plant's 10th anniversary.

After the war, Nevins talked his way into ammonium phosphate sulfate. With minor adjustments to the triple super units, the company was soon making ammonium phosphate sulfate by a process that operates well on spent acid.

American Cyanamid was the first to produce ammonium phosphate sulfate (16-20-0) under the trade-mark name of Ammo-Phos, which became well established in some foreign companies. When Mathieson needed a gimmick to promote its product, Nevins negotiated to buy the name.

One Process Developed into a $10 Million Industry

In the early 40's SASCO and Texas Gulf Sulphur were racing to develop a practical method for recovering elemental sulfur from sour natural gas. Both were trying to modify the Claus process developed in England before the turn of the century. Texas Gulf had a pilot plant at McKamie, Ark., SASCO at Magnolia, Ark.

Many natural gas wells in the southern part of the state had been capped; escaping hydrogen sulfide had killed both animals and people. Interest ran high because of the demand for gas and sulfur; enough hydrogen sulfide existed to produce 100 tons of sulfur per day. Seeing another opportunity, Sam departed for New York to negotiate with Standard Oil of New Jersey and returned with a gas contract. Sam Nevins still holds basic patents on the process in this country, and he was responsible for the first commercial plant at McKamie.

Soon afterward six companies started designing plants, including Fluor Corp., Foster Wheeler, Ralph M. Parsons, Graf Engineering, E. P. Badger, and General Chemical. In 11 years sulfur recovery has blossomed into industry with a sales volume approaching $10 million and a producing capacity somewhere between 350,000 and 400,000 long tons per year. Even the most conservative estimates evaluate plant investment at a minimum of $8 million and possibly $10 million. There are 31 producing units in the United States, two in Canada, and one in Mexico. Recovered sulfur last year amounted to 6.5% of the Frasch sulfur produced in the United States.

Determined not to let his "baby" get too far from home, Sam recently sold Olin Mathieson on forming a new division, the Sulfur and Acids Division, to conduct research on the modified Claus processes.

Sam's most recent engineering development is that of recovering sulfur dioxide from acid plant stack gases at Pasadena. Before the merger, Mathieson wanted to increase its sulfuric acid plant capacity, but the company was faced with the problem of disposing of the increased quantity of sulfur dioxide in the tail gases. This time Nevins went to Canada and returned with rights from Consolidated Mining & Smelting Co., Ltd., to develop a scrubbing process using ammonia solutions. The unit has many economic advantages over other processes, which lose costly solvents, because it returns ammonium sulfate solution as a raw material for the fertilizer plant.

Mathieson was able to boost plant through-put 20% without polluting the atmosphere and is now licensing the process. Other entries into the ledger of Nevins' career are in the making.