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## From one basic raw material—coal—Pittsburgh Coke & Chemical Co. produces a host of products for the agricultural and chemical industries in one of the most diversified and integrated plants in the country

STARTING from a single blast furnace, Pittsburgh Coke & Chemical Co. has grown steadily during the past 27 years into nine highly integrated and diversified divisions. On a firm basis of coke, pig iron, and cement production, Pittsburgh Coke is also providing a growing list of chemical and agricultural products.

Interest in chemicals came in 1929 when, what was then the Davidson Coke & Iron Co., modernized the Neville Island, Pittsburgh furnace and started building 70 by-product coke ovens and a cement plant. A short time later an ammonium sulfate plant and a light oil distillation unit for recovery of benzene, toluene, and xylene went into operation.

An unusual part of Pittsburgh Coke's operations is that all products come from one basic raw material—coal. From coal baked in ovens for 17 hours or more, the gaseous vapors are recovered and converted into creosote, pipe coatings, sulfuric acid, and agricultural chemicals, to name but a few end products. Strictly for the record, every ton of coal that is charged into the coke ovens produces about 1500 pounds of coke. Also, it yields vapors that include some 11,000 cubic feet of gas, 10 gallons of tar, and approximately three gallons of light oil.

### Emphasis on Chemicals Naturally Led to Agricultural Products

In 1936, the company was reorganized as the Pittsburgh Coke & Iron Co. and the present name adopted in 1944 to reflect a growing interest in chemicals. Actually, this emphasis began to assert itself in 1940 when a company development program saw the creation of, among other facilities, a tar still, naph-

thalene plant, tar acid plant, and a sulfuric acid unit.

World War II halted the company's development program temporarily.



The President . . .

**Henry Hillman**

Research to gain position

Soon after the war, a five-year \$34 million expansion and improvement plan was launched. Included was an agricultural chemicals expansion program. Although long-time manufacturers of ammonium sulfate for use as fertilizer, PC&C aimed its new program strictly at organic chemicals. Quite naturally, this necessitated the formation in 1948 of the Pittsburgh Agricultural Chemical Co. as a division of the company.

Shortly after the formation of Pittsburgh Agricultural Chemical Co.,

PC&C, interested in expanding its interest in the field, joined with Geary Chemical of New York to form Chemagro Corporation, to produce and market in the U. S. and Canada, certain organic agricultural chemical developments of Farbenfabriken Bayer A. G. of Leverkusen, Germany. Later, this was expanded to an equal partnership between the three companies.

### Broad Family of Pesticides

Products marketed by the agricultural division and Chemagro include a broad family of insecticides, weed killers, and brush killers. These include such products as BHC, parathion, 2,4-D, and 2,4,5-T acid technical esters and their formulations.

The first product to be produced by the agricultural division was 2,4-D, sometime after World War II. This was followed by several formulations of esters and amines. Later this included 2,4,5-T. It is interesting to note that PC&C was the first to demonstrate the effectiveness and safety of isooctyl esters of 2,4-D and 2,4,5-T by extensive field tests.

Pittsburgh Coke also takes pride in the fact that it produced for Chemagro the first systemic insecticide ever approved for use in this country. Known as Systox, the product was originally developed by Farbenfabriken Bayer and trade-marked by Chemagro Corp. Chemically classified as an organic phosphate, the new material has become a vital factor in the control of destructive aphid and spider mite in cotton due to its systemic action in plants. The product also holds considerable promise for use in food crops. USDA registrations have been granted for its use on potatoes and apples among others.

Another interesting product developed by Farbenfabriken Bayer is Dipterex, a powerful fly killer. Again working with Chemagro, PC&C markets this compound as Dipterex-199, a fly bait for control of flies in dairy barns, stables, refuse dumps, etc. Dipterex is also used by PC&C in its formulation for control of houseflies, which is aimed at the household consumer market. Dipterex is also being field tested for further uses in agriculture.

Virtually all agricultural chemicals of PC&C are manufactured or formulated at the Neville Island plant in Pittsburgh. Located a few miles down the Ohio River, this manufacturing facility is considered one of the most highly integrated and diversified manufacturing units in the country. Also, 20 warehouses are strategically located in the center of all important agricultural markets.

### Neville Island Diversification and Integration

Agricultural chemicals are not the