CORPORATE

profile...

For decades a leader in coke oven ammonium sulfate, "Big Steel" is now basic also in ammonia and ammonium nitrate

U. S. STEEL'S general business objectives read like this: "To make and sell quality products competitively, and to perform these functions at the lowest attainable costs . . . so as to return an adequate profit after taxes for services rendered." Often heard around the steel industry is the comment, "We make steel, not chemicals." So it is significant that USS's creed does not say "to make and sell steel" only; it applies to any product the corporation makes.

Naturally iron and steel are the big factors that contribute to USS's sales, which last year exceeded $4 billion. Coke is needed to make iron, and USS, as an integrated producer, has made coke from coal for decades. Early in this century the firm installed its first chemical recovery unit at Joliet, Ill.; it has served agriculture and the chemical process industries ever since.

4000 Coke Ovens

Today, over 4000 USS coke ovens convert coal into coke at nine plants in the U. S. In the East are plants at Fairless and Clairton, Pa.; in the North at Duluth, Minn.; in the South at Fairfield, Ala.; in the Midwest at Lorain and Cleveland, Ohio, and Gary, Ind.; in the West at Provo and Geneva, Utah. These plants make over 1.5 million tons of coal chemicals a year including benzene, toluene, xylene, naphthalene, creosote, tar acids and bases, ammonium sulfate, anhydrous ammonia, ammonium nitrate, and nitric acid. A significant amount goes to agricultural markets.

The Manager, Coal Chemical Sales . . .

C. W. Baldwin

Sound Market Development

Usually each ton of coal charged to the coke ovens yields about 20 pounds of ammonium sulfate and about 90 pounds of tar. When processed further, the tar in turn yields about 22 pounds of creosote oil. Each ton of coal thus has traditionally carried a direct agricultural potential of 42 pounds of chemicals for farm and ranch use.

Comes a New Concept

A little over a year ago, USS brought a new concept in coal chemicals recovery to the U. S. It involves making ammonia from coke oven hydrogen gas—a procedure practiced in Europe for some time. USS's Columbia-Geneva Steel Division built an $18-million, 200-tons-a-day anhydrous ammonia plant at Geneva, Utah. The plant also makes nitric acid and ammonium nitrate. Columbia-Geneva uses its own coke oven hydrogen, gets nitrogen from the air, and uses the by-product oxygen in steel making operations.

Geneva marked the first time in the U. S. that an integrated steel producer had entered the anhydrous ammonia business. The success of this operation could start a trend in the steel industry when the nitrogen market gets out from under its present overcapacity.

Agricultural Markets

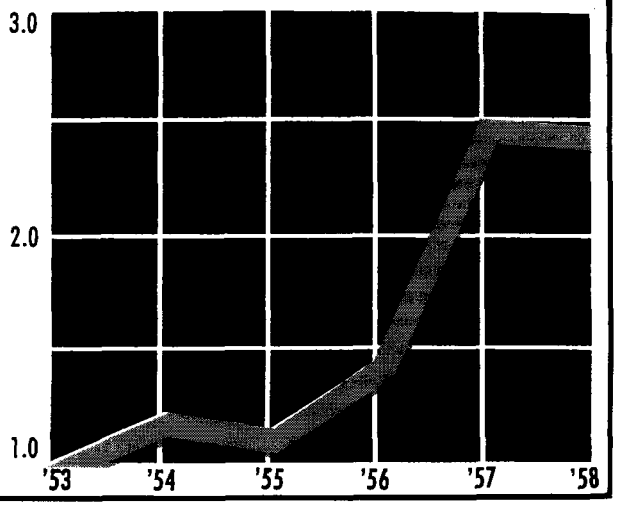
USS markets nitrogen products and creosote oils for agricultural use. Nitrogen is available as ammonium nitrate, either prilled (33.5% nitrogen) or as an 83% solution; as anhydrous ammonia (82% nitrogen); or as ammonium sulfate (21% nitrogen). The latter is made as a granular material at some plants and at others as the regular crystalline grade.

The Coal Chemicals Sales division of U. S. Steel markets these products, as well as others made through chemical recovery. Many sales go to chemical manufacturing companies who in turn convert them into other products —including many chemicals for agriculture. The list of companies who use USS chemicals reads like a who's who of the American chemical industry.

When USS first got into the chemical business its sales were handled by a reseller. In the early 1930's, it switched to about a 50–50 arrangement of sellers and direct sales of its chemicals. But in 1947 the reseller set-up was eliminated, and USS assumed complete control of marketing its chemicals directly to users.

Unlike chemicals sold to manufacturers, ag chemicals often maintain a direct U. S. Steel identity all the way to the final user. With this fact in

MERCHANDISING EXPENDITURES TO EXPAND KNOWLEDGE AND USE OF COAL CHEMICALS IN AGRICULTURE



U. S. Steel Corp.

The company believes the answer to sound market development is sound education on a chemical's potential. That's why its expenditures for merchandising chemicals to agriculture have increased 250% in five years.

(1953 = 1.0)

mind, USS has invested heavily in ag chemicals marketing and distribution. Over the past five years its merchandising expenditures to expand knowledge and use of coal chemicals in agriculture have increased some 250%.

USS believes the answer to sound market development is sound education on a chemical's potential. If a farmer, for example, is convinced that he can get more and better crops per acre at lower cost by using more plant food, then indirectly, this can increase USS's sales.

To get this point across, USS has published over 50 pamphlets designed to tell the farmer how coal chemicals can increase his efficiency and help him build more durable farm buildings—the latter aimed at creosote sales. Such booklets show, for example, ways to improve soil in various geographic areas; each is tailored to suit the area in which it is distributed.

Beyond charts and booklets, USS has sponsored production of coal chemical agricultural films, and has participated in soil and fertilizer test plot programs. For years, the company has sponsored grant-in-aid projects in many states to evaluate performance of ammonium sulfate in plow-down and blending programs.

Increase in Market Development

In the future, U. S. Steel plans to increase its activities in developing agricultural markets. And the firm may well go further in agricultural chemicals production. But there are no immediate plans here; much depends upon the ag picture as it unfolds. USS, like others, feels that if farmers were to accept and follow the recommendations of state universities and agricultural extension services on the use of plant food, the overcapacity which exists today would be wiped out. In fact, the company feels, it's a question whether this nation could then make enough fertilizer to meet demands without materially increasing present productive capacity.