Dr. Kellogg pointed out that farm production is increasing at about 1.5% per year, about the same as the rate of population increase. With technical aid to farmers production could well increase in the next 25 years more than it has in the past.

He said: "We in America, have not promoted scientific research in agriculture in any way comparable to that in many other fields, such as industrial chemistry. In fact, it is only fair to say that we have just begun to apply the more basic sciences to our soil and water resources in this country. . . . If we choose to devote a bit more of our resources to scientific research in agriculture and technical assistance. . . .there is every reason to think that production per acre would continue to rise and that efficiency would increase as much or more in the next 25 years as in the past 25."

Expert Advises Keeping Public Informed on Pollution Problem

HOUSTON.—Because we failed to keep the public informed, they were of the opinion that we had done nothing to solve our air pollution problems on the Houston Ship Channel, disclosed S. Cottrell, vice president of Mathieson Chemical Corp. Speaking before the Southern Industrial Wastes Conference held here April 21 to 23, Mr. Cottrell explained various problems associated with the operation of Mathieson's fertilizer plant.

It took very little investigation, he said, to determine that the plant's contribution to air pollution was in three major fields: dust, corrosive gases, and disagreeable odors. A few tests indicated that bag-type dust filters would reduce escaping dusts to negligible proportions. Installation of a number of such units resulted in a recovery greater than expected; and the values recovered quickly paid for the installations. External corrosion of buildings and equipment has also been reduced, he said. Cottrell admitted during the conference sponsored by the Southern Association of Science and Industry, the Texas Chemical Council, and the Manufacturing Chemists' Association, that Mathieson has no accurate way of measuring financial benefits accruing from the elimination of dust fall on its property, but indicated that the amount is considerable.

In the Mathieson process, phosphate rock is acidulated, and some of the contained fluorine is released. Long ago their plant was equipped with wet scrubbers, said Cottrell and these are quite effective in preventing escape of the noxious gas.

Mathieson operates a large sulfuric acid plant, which has a volume of exit gases ranging upward of 40,000 cubic feet per minute. To deal with this volume of gases and to recover the relatively low percentage of acidic values poses quite a problem, explained Cottrell. After considerable investigation, they installed a two-stage ammonia scrubber for conversion of recovered acid into ammonium sulfate. This unit, at a cost of about $150,000, has been in successful operation for some six months.

The last problem was one of odor, indicated Cottrell, and by far the most difficult to solve. The Houston plant uses spent alkylation acid from local petroleum refineries, and certain organic residues produce quite a noticeable odor. While they do not find this odor particularly disagreeable at the plant, Cottrell said, "I am sure that if it persisted at my residence, I would class it as a nuisance."

After considerable work, which included activated charcoal absorption, all of the common oxidizing agents, and chemical masking agents, they found only two logical alternatives. One was the use of activated charcoal absorbers, and the other was to heat the gases to about 1500° F. These methods were selected in preference to catalytic oxidation, high pressure fog filters, or conventional scrubbers. Since economic calculations favored the heating operation, Mathieson is now in the process of completing a large incinerator installation which it believes will do the job effectively. There is no economic return in this operation, it's simply a good neighbor policy.

To those who have a pollution problem, Cottrell heartily recommended the Mathieson "three-step program." Find out what your plant is putting into the air, find a commercially possible way of reducing this pollution, and then do something about it. To this he added the fourth most important step: "Keep the public informed."

Industry

Dicalcium Phosphate Plant of Texas City Chemical Operating

Texas City Chemical Co.'s new $8.5 million dicalcium phosphate plant has gone into operation. Uranium is also extracted in the process.

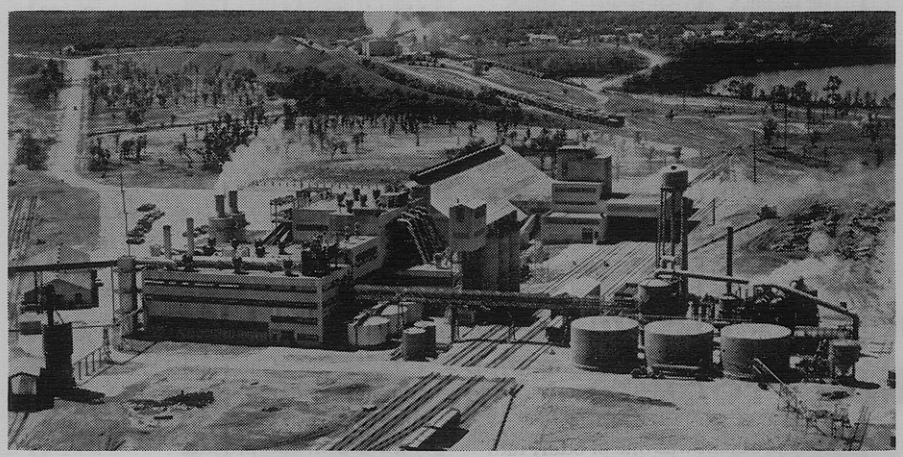
The plant is producing at the rate of 55,000 tons of feed-grade dicalcium phosphate a year and 15,000 tons of fertilizer grade. The feed grade will be sold under the trade name Dikal and the fertilizer grade under the trade name Texaphos. Bradley & Baker will distribute both products and is establishing an office in Houston to handle them.

Stauffer Reorganizes Sales In Southeastern U. S.

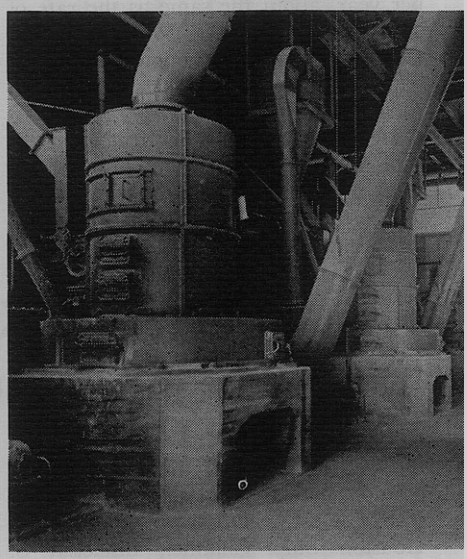
Stauffer Chemical has announced that its Florida sales division will be consolidated with its Southeastern sales area. Melton T. Pearson, who has been in charge of the southeastern area, has been appointed manager of the newly combined area and will transfer his headquarters from Albany, Ga., to Apopka, Fla. The new area will include the states of Georgia, Alabama, Eastern Tennessee, North Carolina, South Carolina, and Florida.

Stauffer expects that the consolidation will enable the company to service its buyers more econimically and efficiently.

Texas City Chemical's new dicalcium phosphate plant, the second such plant to start operation recently (AG AND FOOD, April 14, page 396)



Davison Chemical's new $10.4 million, 200,000-ton, triple super plant at Bartow, Fla. At left is the phosphoric acid section; immediately behind is the triple super manufacturing section and the phosphate rock grinding section. Storage building is farther back with loading facilities extending over railroad spur; sulfuric acid plant is across the tracks on the right



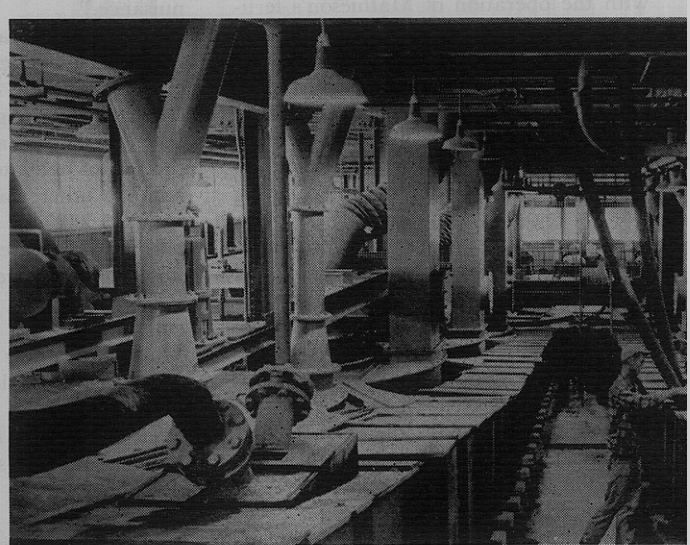
Three Raymond 66-inch roller mills begin the process by grinding phosphate rock

Davison's Triple Super Plant Operating

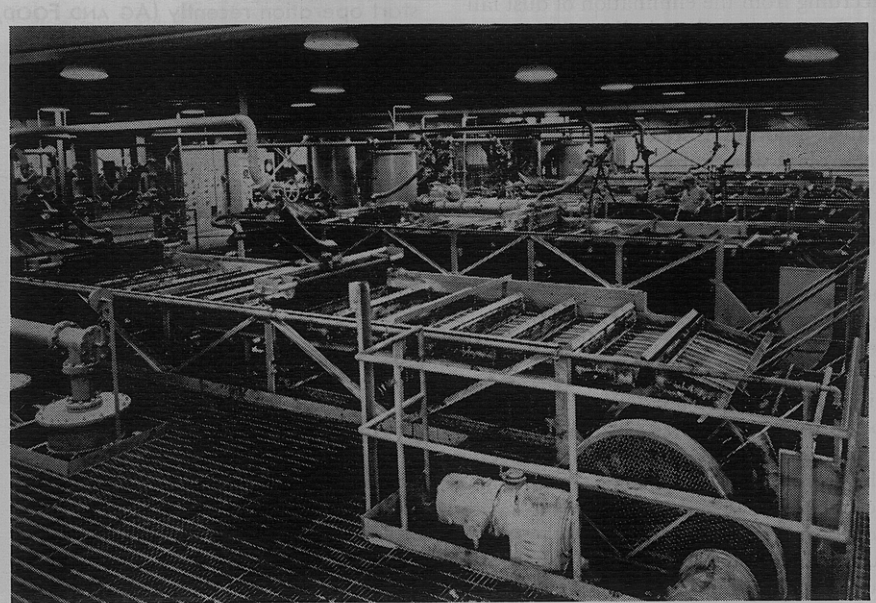
Davison Chemical's large new triple superphosphate plant at Bartow, Fla., has started operating and will soon be producing 200,000 tons of the concentrated fertilizer a year. Approximately 1 million tons of triple super is manufactured in this country annually, and about 80% of the total is produced in Florida. The new plant makes Davison the second largest producer of triple super.

In the process, phosphate rock is transferred to the plant by hopper-bottomed rail cars and stored in three silos, each holding 1100 tons. After grinding, the rock is treated with sulfuric acid in a series of tanks equipped with agitators, producing a solution of phosphoric acid in which gypsum is suspended. The gypsum is removed and used as fill in the mined areas. The acid is then concentrated in three evaporators and mixed with more ground rock in a series of agitated reaction vessels. The product from this reaction is then mixed with recirculated fine triple superphosphate and fed to an oil-fired, direct heat, concurrent rotary dryer. The finished triple super is then screened to separate undersize and oversize particles and undergoes a final curing in the storage building. Davison's warehouse will store about 35,000 tons.

About 20% will be bagged for direct application to the soil; and the rest will be shipped in bulk for mixing with other fertilizer materials by Davison and other mixed fertilizer producers.



Phosphoric acid reaction train where sulfuric acid reacts with phosphate rock to give phosphoric acid



Traveling pan filters remove the gypsum from phosphoric acid, which is reacted with more phosphate rock to make triple superphosphate fertilizer