

profile...

During World War II Hercules made its first venture into chemicals for agriculture with an insecticide. Now it has an insecticide, a miticide, a repellent, and nitrogen fertilizers for agriculture

LESS THAN A YEAR AGO, Hercules Powder announced plans to build a 10,000-tons-per-year urea unit in California. Not two months later, even before construction began, officials decided to double the project's size. Surprising? Not really. For Hercules has found the agricultural chemistry market a sales boon.

Proof: in 1957 the company's total net sales set a new record exceeding \$245 million, up a healthy 103% from the 1949 level. But during the same period Hercules' chemical shipments to agriculture—fertilizers and agricultural chemicals—more than quadrupled, far outstripping the overall growth. From less than \$4 million in '49, agricultural sales hit more than \$17 million last year; they currently account for 7 to 8% of total volume.

Hercules' move into the industry came during World War II, when company researchers came up with a terpene thiocyanacetate insecticide, marketed as Thanite. This development was an outgrowth of its naval stores activity, and even today Hercules' agricultural chemical activity is part of its naval stores department.

Thanite, intended for household use in the fledgling industry, has some odor and irritation properties, but has continued to maintain a share of the market. During the war, the firm made DDT; in fact, notes Hercules vice president Paul Mayfield, "we produced all the aerosol-grade DDT used." After the war special aerosol-grade was no longer needed, and Hercules dropped out of the business.

Meanwhile its chemists were looking at chlorinated hydrocarbons based on terpenes, as potential insecticides. Camphene, chlorinated to 67 to 69% chlorine, proved best—and toxaphene was born. Birthdate: 1947; com-

mercial production followed the next year.

Toxaphene sales grew every year until 1951; they dropped off then,



The President. . .

Albert E. Forster

To Agriculture to Broaden the Market

but have now come back stronger than ever. Company officials expect this growth to continue.

More recent ag chemical activity at Hercules has produced a miticide, Delnav (2,3-*p*-dioxanedithiol-bis-diethylphosphorodithioate), and the USDA-developed insect repellent, diethyl toluamide, which it markets as Delphene. Officials expect great things of each, and emphasize that Hercules will stay away from the consumer market—leaving that to its

customers—and limit its work to manufacture of the basic materials.

Mayfield notes that the company would like to make more insecticide products. Testing programs at its modern ag chemical laboratory have gone on at the rate of more than 100 new compounds per month. "But while we've come up with many which are good insecticides, the economics weren't enough better to warrant the expense of testing and getting the required approvals." The firm says it has nothing now on the threshold of commercial development, but its extensive research program could come up with something soon.

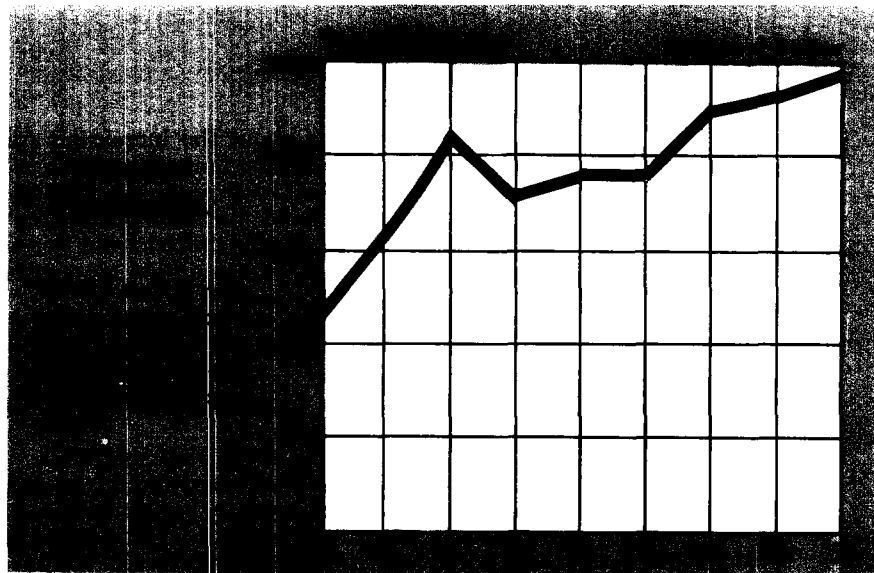
In the food field Hercules supplies such processing aids as cellulose gum, monosodium glutamate, hydrolyzed vegetable protein, and antioxidants. Sales to the food processing industry now account for about 4% of total dollar volume.

Nitrogen Fertilizer Interests

Agricultural nitrogen ties right in with Hercules' explosives production. Its ammonia interests go back to 1940 in California, where it set up a 40-tons-per-day anhydrous ammonia plant, including oxidation units for nitric acid and ammonium nitrate for explosives use. Nearly ten years later, in 1949, the company added a 50-ton ammonia unit (because of increased explosives requirements)—but later found it had a small surplus. The surplus was sold as fertilizer, for both direct application and mixed goods formulation. Then in 1953, a 60-ton unit was added—this time devoted entirely to the agricultural trade. Today, 75% of the firm's total California ammonia output goes to agriculture.

Its other nitrogen unit is at Louisiana, Mo. Originally, Hercules built and operated the plant for the Government during World War II. It was shut down after the war, and later put up for bids. Hercules bought it from the Government in 1954, and currently has annual ammonia capacity there of 39,000 tons. Added to the 55,000-ton potential at Hercules, Calif., the Missouri works brings overall ammonia potential to 94,000 tons yearly. In addition Hercules owns jointly (with Alabama By-Products) Ketona Chemical, which has 47,000 tons of annual ammonia capacity at Tarrant, Ala. Between 75 and 80% of Hercules' annual nitrogen output goes to agriculture.

With its 20,000-tons-per-year urea unit due for completion on the west coast in October, Hercules is looking for further diversification possibilities. Urea-ammonium nitrate solutions will be stressed, and other urea compounds



motional activity—primarily educational in nature—directed at the farmer in the southern United States, Latin America, and the cotton-growing areas of Asia and Africa. This program emphasizes proper planning and economical use of pesticides. Several million copies of handbooks, written in English, Spanish, Portuguese, Arabic, and other languages, and showing principal cotton pests in full color, have been distributed to cotton farmers. Information on pest handling methods (both preventive and remedial), insect infestation movements, and government programs is relayed to farmers either directly or through advertisements. Films for county agents' use, radio work, and other modern communication techniques are all employed.

Intends to Grow

As president Albert E. Forster notes in the company's latest annual report, "Hercules participates in the large field of agricultural chemicals wherever it is logical to our business. Thus the agricultural market supplements and broadens the industrial chemical market on which Hercules mainly relies." And Hercules intends to see that this agricultural market continues its rapid growth.

will be added to the nitrogen line. The production of urea at Louisiana, Mo., is a possible future move, but no decision has yet been reached. The area market is favorable; no other producers are in the immediate vicinity; raw materials (ammonia and carbon dioxide) are already there.

Hercules has laid out almost \$60 million for new facilities during the past two years. It expects to continue

expanding, although probably at a somewhat slower pace.

Hercules is optimistic about the future, both long-range and immediate. It expects its agricultural sales to be up slightly in 1958, setting another new record. Officials see a growth of 15% in its pesticide business this year, but expect ammonia sales to be off slightly.

One way they're pushing pesticide sales upward is through intensive pro-

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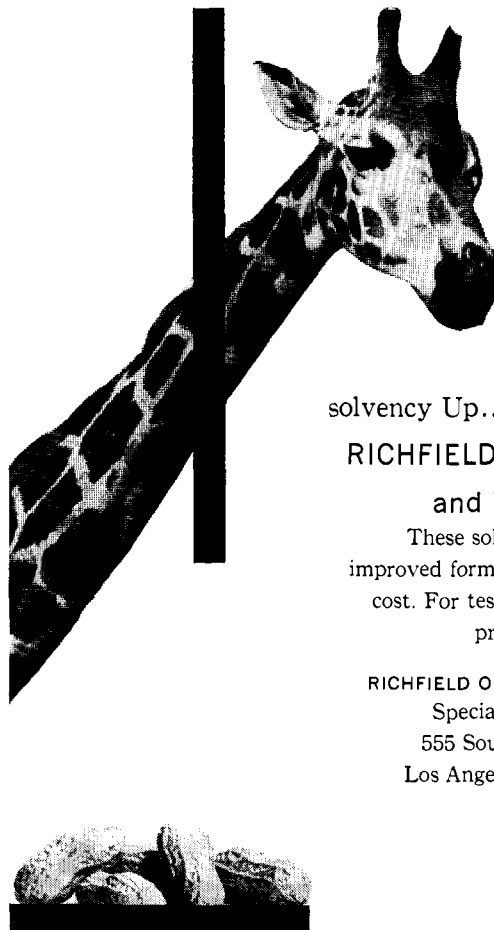
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