

Research and technical field service is the key which has made California Spray-Chemical a pioneer and now the nation's leading formulator and distributor of pesticide chemicals

NO ONE can get very far in examining the agricultural chemicals industry of the United States today without realizing California Spray-Chemical Corp. is one of the most prominent companies in the field. Its product list covers the entire gamut of pesticide chemicals; dust mills and liquid formulating plants are located in strategic agricultural centers of the U. S., as well as in Canada, Mexico, France, and other countries; field men in all sections of the country give personal attention to individual grower needs; new products and formulations come out of the research department constantly to meet pest menaces wherever they occur; its home garden supplies blanket the nation.

How has it accomplished this? "Research gave this company its start," says Leo Gardner, vice president and manager of research, "and research has been a key down through the years to the progress we have made." Calspray was formally organized in 1907 as the result of a series of experiments begun four years earlier. Codling moth was proving particularly troublesome for Watsonville (Calif.) apple growers in 1903. C. W. Woodworth, then head of University of California's department of entomology, was consulted on the problem. He found Paris green to be too injurious to foliage, and deciding extended study was called for, he assigned a UC student to the problem.

W. H. Volck, UC entomology student, journeyed to Watsonville, where he was later joined by chemist E. E. Luther. The following year in July, Volck and Luther applied for their first patent, which became the basis for founding Calspray. Their discovery: a new method for making lead arsenate which reduced its cost several cents a pound. In addition to this first process, in which litharge was the lead source instead of the conventional lead acetate, Volck and

Luther also got patents on a new way to make a basic lead arsenate. Such an arsenate caused no damage to apple foliage, was also safe for use on other arsenic-sensitive trees, such as peaches



The President . . .

A. W. Mohr

Emphasizes Technical Service

and walnuts. That specific codling moth problem was solved, and royalty payments and patent infringement adjustments in succeeding years added many a dollar to the company treasury.

Calspray remained an independent company until 1931, when new capital was added through affiliation with Standard Oil of California and Standard Oil of New Jersey. In 1947 it became a wholly owned subsidiary of Standard Oil of California and in 1954 it became an operating company of Standard.

Calspray's main manufacturing plants are at Richmond, Calif., St. Louis, Mo., and South Plainfield, N. J. These supply smaller formulating plants scattered

throughout the country with concentrates and bulk shipments of major formulations. Separate research centers are maintained at Richmond and at Haddonfield, N. J., where the company still carries on a broad research program which has been the basis of its growth.

Technical Field Largest Outside Government

A major item in Calspray's service to growers is its technical field staff. The company has the largest agricultural technical field service team outside of government. All these men—about 250—are experts on crop diseases and insect problems in their particular areas. They cooperate with state experiment stations extension services, agricultural commissioners, and work with farmers to develop what Calspray calls "Ortho programs." These programs are designed to advise farmers on latest pest control and chemical developments and on what chemicals to apply and how, a service that is free. Calspray attributes to such a service a good share of its success in an industry which is faced with what can seem a bewildering set of variables in pests, climates, crops, soils, and agricultural practices.

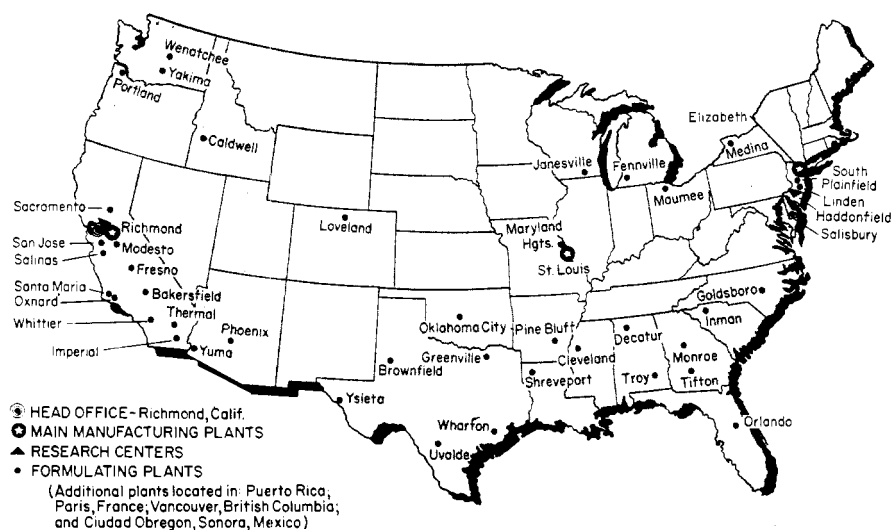
Calspray has far from rested on its 1907 accomplishments with lead arsenate. In intervening years its patents have covered methods for making lime sulfur and powdered sulfur, extracting and recovering alkaloids, self-emulsifying oils, new spray methods, first practical insoluble copper fungicides, white oil sprays methods of TEPP manufacture, lindane development, and many more. Today the company stands ready to furnish virtually any type of agricultural chemical.

Captain Sparks Trend to Organic Fungicides

Current pride of Calspray research is its manufacture of Orthocide (Calspray trademark for products formulated with captan). First synthesized by Standard Oil of New Jersey, captan was turned over to Calspray for development about five years ago. A number of other companies had stubbed their toes trying to develop a satisfactory manufacturing procedure but Calspray solved the problem, began turning out a product of 95% purity in volume at Richmond in a small "pilot" unit in 1953. Current production rate there is about 2.5 million pounds a year. In addition, Calhio Chemicals, jointly controlled with Stauffer Chemical, puts out about 10 million pounds a year at Perry, Ohio.

Captan was probably the most prominent fungicide in the limelight in 1954, will probably continue to be so during 1955. It may well have spurred a revolution from inorganic to organic

Location of Calspray Installations



fungicides analogous to that started by DDT in insecticides.

Calspray is considering a European plant for Orthocide, following satisfactory tests there on fruits and vegetables, and particularly grapes in western Europe. It is now used in substantial quantities in Africa, Australia, New Zealand, and Japan.

Direct contact with the consuming public as a whole comes through the home garden field, where Calspray's Ortho products are widely known. As far back as 1926, Calspray started packaging products in limited number for home gardeners. In 1944, having experienced a growing demand from "victory" gardeners for insecticides and fungicides in small packages, Calspray greatly expanded its garden and home products division.

The garden supply business today—seeds, plants, pesticides, equipment—is a \$1.5 billion market at the retail level, and it is expanding by leaps and bounds. Backed by the vast home building program, which has exceeded 1 million new homes each year since 1946 and which hit 1.2 million in 1954, the garden supply business can be developed to a much larger market in coming years.

One of Calspray's major contributions in the home garden field was its introduction of multipurpose chemicals that would control practically every major plant disease and insect problem the amateur gardener might face. The company's garden and home field force constantly works with garden supply stores to assist them in developing business and to help them do an education job for amateur gardeners eager to develop their hobby. Calspray has built up an extensive library of interesting "how to" color and sound movies, which are available to its dealers. Demand by

agricultural groups, garden clubs, and flower shows is brisk throughout the country.

Fertilizers Area for Future Growth?

Calspray, well established as an agricultural chemicals industry leader, could

conceivably find future expansion in the field of fertilizers. Rumors have been rife in fertilizer circles for the past several years that Calspray and its parent, Standard Oil of California, were just about ready to embark on ammonia production. To date, however, both companies have been decidedly mum, both positively and negatively.

Calspray already has a fair-sized business in fertilizers, stemming from its purchase of Mid-State Chemical Co. in the summer of 1953. It also acknowledges it has been training its field men in fertilizer industry technology and techniques for about two years.

Plunge into fertilizers in a big way, as would be associated with Standard Oil's building an ammonia plant, is expected to hinge on an improved form or improved application method for nitrogen fertilizers which Calspray is believed to have worked out. Calspray is reputed to have new and fundamental information which points the way to better growth than do any present fertilizer programs.

Thirty-four new plants in 20 states, territories, and countries; 300 new products for farm and farmer; over 100% increase in employees—this is how Calspray stacks up in postwar growth to make it the nation's leading formulator and distributor of pest control chemicals,

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