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Mainspring at Calspray is research and development. The man in charge got into pest control at age 14

THIS MONTH, California Spray-Chemical Corp. marks its 50th year in pest control. Leo R. (for Russell) Gardner, Calspray's manager of research and development (and a vice president and director), isn't far behind. He has close to 40 years in the business, the last 30 with Calspray.

Gardner leads a research staff whose interests—and problems—cover much of the world. Its labs are at Richmond, Calif., and Haddonfield, N. J. But since Gardner's staff handles field work, too, every field research man's hatband is a laboratory of sorts. Calspray is the only operating subsidiary of Standard Oil of California that does its own research.

Calspray's research department is the firm's mainspring. Its assigned jobs—and Gardner's—include chemical, biological, and field research in pesticides; chemical and field research in fertilizers; chemical product control; law compliance. Beyond this, it is a source of trained men for marketing and other Calspray departments. And research must see that its results become quickly available in the field.

Chief tool for spreading the word is the Calspray *Research News*. Gardner was its chief author at first and still contributes from time to time. A weekly pesticides issue has been published (internally) for some years. And now that Calspray is in fertilizers in a big way, a fertilizer *Research News* is coming out twice monthly. Gardner likes especially to have research people get preventive technical service dope into *Research News*, to save having to answer nuisance-type questions over and over.

Strong for Safety

Safety has been a strong interest of Gardner's for many years. He's chiefly responsible for Calspray's 24-hour medical referral service. That service took time to develop. It isn't easy, says Gardner, to dovetail such key issues as safe practices, effective labeling, and antidotes.

Basic to Calspray's referral system is the idea that no doctor who isn't a specialist can expect to be able to treat at a moment's notice any case of pesticide toxicity he may encounter. Too many new chemicals come out

each year. Symptoms are too varied. And the patients, too often children, can't always tell the doctor what the trouble is. Calspray puts the needed facts into the hands of key doctors and hospitals all over the country.

To make these medical people easy to reach, Calspray then places safety and emergency data sheets at key points throughout its marketing system. Data include a few basic safety rules and, more important, Calspray telephone numbers at Richmond and at Moorestown, N. J. A call to these numbers during working hours brings contact at once with the nearest informed toxicologist or medical authority. For nonworking hours, home telephone numbers of five Calspray people (including Gardner) in the Richmond area and two at Moorestown are given, as are home and business numbers of USPHS experts at Wenatchee, Wash., and Savannah, Ga. USPHS authorized referral to its own experts (after some negotiation) when Gardner showed that Calspray's program had been saving one or two lives a year.

An Early Start

All of this began back in 1916 when Gardner, age 12, went to work for Armstrong Nurseries at Ontario, Calif. He was into pest control at age 14, took charge of Armstrong's program about the time he entered Pomona College. While at Armstrong he met the late W. H. Volck, then director of research for Calspray. He joined Calspray after finishing at Pomona and doing some graduate work at USC.

Calspray made Gardner a foreign research representative. The job took him over much of the world: Africa, Australia, Tasmania, the Mediterranean countries, and central Europe. For a year and a half in Africa, Gardner covered close to 5000 miles a month checking test plots, traveling by Whippet and Model A. Mrs. Gardner was there, staying in populated centers while he was out tramping the boondocks. It was rough. "The white boss from the land of the black missionary" (Kaffir name) was living and traveling on \$1800 per year total.

Gardner returned to the U. S. in 1936. He had built Calspray oil emulsion plants in Spain, Italy, and



Leo R. Gardner

Born Oct. 8, 1904, at Des Moines, Iowa. Pomona College, A.B. in 1926; graduate work, University of Southern California. Entomologist in charge pest control, Armstrong Nurseries, Ontario, Calif., 1922-26. California Spray-Chemical Corp.: San Dimas, Calif., research laboratories, 1926-29; foreign research representative, 1929-36; domestic research, 1939-40; research coordinator, 1940-44; research manager, 1944-46; manager, research and development, director, and vice president, 1946 to date.

Australia. And he'd picked up valuable know-how solving local pesticide problems, plus a working knowledge of half a dozen languages including a little Kaffir and Swahili.

Back in the states, he published (with W. H. Volck) the first definitive work on physical and chemical properties for spray oils, more or less setting the standard for modern spray oils. Later, Gardner developed many other products, including Ortho 1038 screw worm control.

Today, like plenty of others in the pesticide business, Gardner is bothered most by development costs. He thinks the oft-mentioned figure for bringing a new chemical to market—\$1 million—is if anything conservative. The trick in research, he says, is to be sure you put your money—and especially your time—on the winners. This is easy to say. It can be hard to do.

Gardner advises his own people to work up a profit potential on everything for which the intended outcome is a new or improved ag chemical. He advises also that research and marketing people stay in close touch, keep their respective concepts of profit potential parallel and up to date. In lab, pilot plant, field, FDA clearance—in every development step—Gardner sees a step where costs might be cut.