cost of a formulation. For example, the cost of DDT in a 25% emulsifiable liquid is only about 60% of the total, so a 10% reduction in DDT only lowers the cost of the finished product by 6%. There has been an increase in cost in the other items since 1948 so actually the price reductions of formulations in relation to cost have been fully as drastic if not more so than on technicals.

Profits suffered considerably in 1952, and I am told have pretty well vanished for most companies this year.

I am sure that the entire industry has higher operating costs in 1953 than in the 1950–51 period. Labor, salaries, raw materials, freight rates, taxes, and practically every miscellaneous cost of doing business are all up. It is, therefore, thoroughly understandable with increased costs and decreased selling prices that profits have vanished. This is in rather sharp contrast to the chemical industry as a whole. Financial reports of the major chemical companies for the first six months of 1953 show a fairly substantial gain in sales dollars and profits.

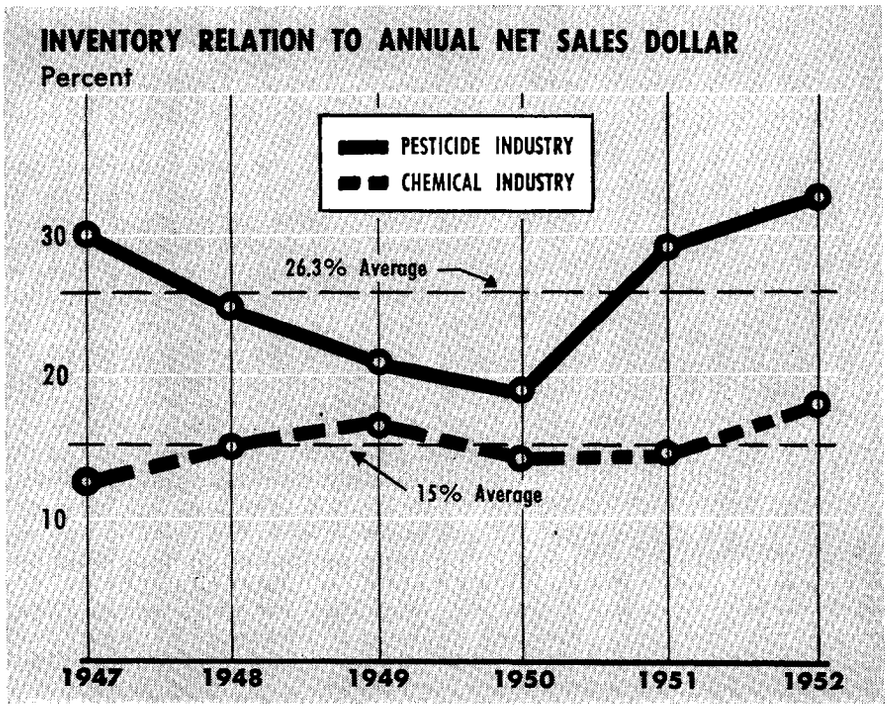
The pesticides business, as compared with the chemical business has a number of problems which should command a greater rather than a lesser percentage of return on the sales dollar. The first of these is inventory requirements in relation to sales. Figure 2 shows the inventory relation to annual net sales dollar. The solid line shows the percentage of average inventory in relation to annual sales for the pesticide industry, the broken line shows the same ratio for the chemical industry as a whole, and the horizontal dash lines show a six-year average for each. Our industry has required a $26 average inventory investment for each $100 of sales, or about 1.75 times as much as the $15 inventory investment for the chemical industry. Since an inventory dollar is an investment in business, there should be a proportionate return on this investment.

A second problem is product liability. The association has received reports on claims against our industry totaling $6,968,000 in the past few years, which is not complete, since not all companies report. The ratio of liability to profits compared to the chemical industry is out of all proportions.

Shouldn't there be a greater return on the sales dollar for a business which is required to carry high inventories, which is exposed to high liability costs, which is lax in credit administration with high receivables, and which frequently indulges in consignment practices?

As to the prospects for 1954, I am sorry to be pessimistic, but all indications point to acreage allotments on certain crops for next year and a consequent shrink in market potential. With no move to cut productive capacity appearing, the oversupply situation will be aggravated rather than relieved. I cannot see any improvement in exports. Over the longer period, there is little chance of betterment until some of the excess capacity is converted to the manufacture of other chemicals with a better profit potential. After sufficient red ink, this will probably come about, but there is no way to predict when, so it is hard to be optimistic about the next few years.

Figure 2



Public Information Program Needed

TODAY, MANY IN OUR INDUSTRY fail to recognize that the continuation of adverse publicity constitutes a major

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threat to increased sales and new uses of agricultural chemicals. Farmers, home gardners, and housewives must be assured of the safe use of these materials or their use will be unjustifiably curbed. The fact that this problem has been considered by the Food Protection Committee of the National Academy of Science and a report made thereon by this group, and that the World Health Organization has recently issued a 129-page book on the subject, "Toxic Hazards of Certain Pesticides to Man," indicates the importance being given to this subject and the necessity for a sound public relations program.

Federal and state legislation required a larger expenditure of the Association's time and funds during the past year. More than 250 bills related to the industry were introduced during the past year. We are confident that much of this legislation is due to the public fear created by adverse publicity. Federal bills, such as the Delaney bill and the Miller bill, together with numerous state bills, can definitely be attributed to this same cause.

A recent defensive program requiring time and money is the product liability program, which has been vigorously attacked. Liability claims have definitely slowed up research and development in the industry and have created a doubt even on the part of the land grant colleges and the federal government as to their ability to give directions and recommendations for use.

A fourth major problem facing the industry today is the confused economic status. Falling markets have completely destroyed the "buy early" program, which, in cooperation with the National Cotton Council in particular, was functioning for several years. Rumors report excess plant capacity for many products, inventory and warehouse problems at all levels of distribution, credit problems indicating that our members are again being asked to become bankers. These reports certainly indicate the need for fundamental data on various economic phases of the industry, with particular reference to trade customs, distribution channels, and other characteristics of the agricultural chemicals industry. This data is needed particularly because of the industry's rapid expansion and the great

opportunity for future expansion if we proceed on a sound economic basis.

Supplementing these broad types of problems, we have a new administration in Washington and the policies set by some of the Washington agencies will have a definite effect upon the industry. A close awareness of their views is essential for successful industry operation.

I want to make five recommendations which I believe must be put in effect and effectively carried out before the industry can get into a healthy position. Most certainly, it would take one to two years to arrive at such a situation, but without a cooperative program no improvement can be anticipated for even a longer period. These recommendations are:

1. A reasonable expansion of our publicity and information program to inform the public of the facts pertaining to pesticide hazards to minimize legislative proposals and, where such legislation is necessary and in the public interest, to maintain it on a practical basis.

2. A modest expansion of our information program for the purpose of assembling data on the economic importance to the grower of pesticides. This should be by crops and growing areas, and to expand present markets and promote new uses, such as protection of stored grain, grassland programs, forest pests, herbicides, etc.

3. A program for the improvement of the quality of our materials and the possible establishment of standards (not standardization), with particular reference to physical characteristics, analytical methods, maintenance of quality in storage, etc.

4. The development of a cooperative promotional program in the world markets to publicize American pesticides, with approved standards and provisions for an industry seal of approval. This must be done to meet similar certification by some of the foreign countries.

5. A study of the economic factors pertaining to the industry, which would include, time of purchase, warehouse and storage customs, credits, etc. Finally, and perhaps the most important of all, the association needs the guidance and help of those in top management who determine company policies.

Table I. Results of Trials on Crosby, Light Colored Silt Loam on a Corn, Soybean, Wheat, Hay[a] Rotation

		Average Crop Yields		
		Corn '43–48	Soybeans '42–48	Wheat '43–47
(1)	No fertilizer	47.0 bu.	21.0 bu.	11.7 bu.
(2)	200 pounds of 0-12-12 on corn 400 pounds of 0-12-12 on wheat	70.6	20.7	20.1
(3)	Double amount of 0-12-12 on corn and wheat as (2), plus 96 pounds N on corn, 30 on wheat	90.9	23.3	28.5

[a] Fertilization increased hay yields about a half ton per acre with very little difference for various treatments.

Table II. The Financial Returns[a] from Fertilizer Application in the Complete Rotation

Fertilizer Cost	Total Production & Harvesting Cost	Yield in Dollars	Net Profit	Profit as % of Profit on Check	Return per $ Spent on Fertilizer
0	$123.18	$191.22	$ 68.04	...	...
$12.90	136.08	269.04	132.96	195%	$5.12
45.30	168.48	339.71	171.23	251%	3.28

[a] Figures from Indiana Agricultural Experiment Station. The costs and yields are from four acres, one each in corn, soybeans, wheat, and hay.

Fertilizer Industry's Educational Program Explained

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IN VIEW OF THE CLOSE PARALLEL between farm income and fertilizer sales, the clouds that appeared on the agricultural horizon a year and a half ago told us we were heading into critical times and that we had better devote our best efforts to doing something about it. This would be true in any time of farm trouble, but the impending supply situation intensified the problem. The fertilizer industry was and is in the midst of the greatest expansion program in its history. Some $600 million in new capital is being invested to expand the output of plant nutrients by 70 to 80% between 1950 and 1955.

In formulating a program to meet this situation we kept in mind three facts: if farmers used the amounts and kinds of fertilizers recommended by experiment stations, even the expanded production capacity would be insufficient to meet needs; financial rewards for the individual farmer are so great that no farmer who understands them will fail to use enough fertilizer if he is able to make the purchase; and there are thousands and thousands of citizens interested in promoting fertilizers as a part of a sound farming program, with whom we should work.

What we set out to do was to interpret scientific data into dollars-and-cents business terms. We wanted to help show the farmer what proper fertilizer use would mean in terms of net profit per acre and cost of production per ton, per bale, per pound, or per bushel; to show what fertilizers could mean to the farmer in a declining farm market.

An example of the type of information we are collecting and disseminating is in Table I, which shows fertilizer use on a long time rotation experiment conducted by Purdue University. It is not very impressive—looks as though a great deal of fertilizer was used to produce the increase. But when these same data are presented in dollars-and-cents terms, which was done by George Enfield of Purdue, the results are impressive (Table II). Profits go up to 251% of those on the unfertilized field. What is more important, if agricultural prices fell to 60% of their present level, these fields on which fertilizer was used would show a net profit, while those without fertilizer would show a net loss.

We have tried to emphasize that fertilizer alone won't bring the high yields that cut unit costs and raise profits—good seed, weed control, insect control, and other good farming practices are also necessary.

How has this information been disseminated? First through the colleges, county agents, and vocational agricultural teachers. The agricultural press has always liked authoritative dollars-and-cents stories, and our information, as well as similar information from other sources, has been featured by them.

Through the *National Fertilizer Review*, we have plugged this idea to some 40,000 agricultural leaders. Special publications have been distributed to banks, agricultural workers, fertilizer salesmen, and others. Our story has been presented at most of the annual state fertilizer conferences. A film, "Cash In On Corn," has spread the doctrine with over 200 copies in circulation. Fertilizer companies have incorporated our materials into their own sales programs.