

## The Way Is Up

**T**HE INDUSTRIAL DEVELOPMENT of the United States is the greatest phenomenon of its kind in history. It has been created by a combination of influences: research, development, production technology, the techniques of creating markets, business drive, and many other factors. Obviously technology is one of the big factors. When science is applied, there is an atmosphere of change. When science is not applied, there is retrogression.

The fertilizer manufacturer is a basic part of that industry which we call agriculture. Technology is playing an increasing role and research is bringing forth new knowledge of value in fertilizer practices. Research ranges from detailed physical studies of particle size and the nutritional effects of specific minor elements to unit processes such as new ammoniation techniques and to the development of entirely new processes, an example of which is the manufacture of phosphate fertilizers without sulfuric acid (page 1050). Research goes on and can continue infinitely into the future. But for the benefit of human welfare, knowledge must be put to use and ideas must be put into effect.

In some quarters, advances in agricultural science and technology have brought very rapidly an understanding of the needs for fertilizer. In other quarters this realization has not yet come, but it is bound to develop in the near future. This has created a greatly increased demand for fertilizer, but there is good reason to believe that it is a demand which is much smaller than the need and which should continue to develop. Research studies in the agricultural experiment stations, in universities, and elsewhere show us that the potential profitable use of fertilizer is not yet half filled. To stimulate the demand which will move toward fulfillment of that potential, there is a need for education. Whether that is a responsibility of the fertilizer industry may be debatable, but it certainly is an opportunity.

In this issue (page 1036) we have surveyed a few of the more striking developments which now are under way. Some of these are based on research. While the amount of research is not large in relation to that done in some segments of the chemical industry, a great deal is being accomplished that shines a light on an attractive future. There are problems to be overcome, but past experience suggests that ways to overcome them will be found. At present, for example, there is a great deal of resistance to the combination of insecticides with fertilizers. Some arguments based on past practice militate against this development. But there may be important advantages and in the future it seems possible that present problems may

be overcome to provide a product of value to agriculture. With that stimulation, it is highly likely that someone will find an acceptable answer to the problems which exist. In our economy it is observed that good products succeed. The producer who drives to success in the search for a thoroughly satisfactory answer rather than opposing new developments on the basis of past knowledge and methods is likely to gain a step on his competitors.

Development beyond research is important and profitable. Consider the direct application of ammonia which has been developed so well in some areas that demand has been exceeding supply. The same is true in some spots for nitrogen fertilizer solutions. These were new ideas 20 years ago; now they are serving agriculture and are growing to be a valuable part of industry. Such examples should prompt the manufacturers of fertilizers to examine other new ideas and to look for more.

With a product so important to a basic industry of this country and with a potential so far beyond the present use, the situation seems to be ideal in its challenge to the right kind of sales and market development. The buyer must be made to realize his need and his desire to fill it must be stimulated. Is not this the job of sales—of the most effective kind of sales promotion?

A desire created needs financial backing to be fulfilled. Financial backing is not difficult for a manufacturing industry which has a sound plan for improving return on its investment. The application of fertilizer can do that for agriculture and there is ample evidence of the soundness of fertilizer loans. Have bankers and financiers been enlightened as to the facts and future possibilities of their relationships with farmers? Here is an opportunity for highly imaginative ideas on improving the present merchandising pattern.

Research has proved valuable and there is much evidence that more is needed. Development of research ideas is paying a profit to manufacturer and farmer; we have not run out of ideas. The agricultural industry, including the farmers, those who finance them, and those who sell to them, has by no means risen to the potential which is there. The task now needing the urgent attention of industry is to put to work what we have.

For the fertilizer industry—the way is up.

**WALTER J. MURPHY, Editor**