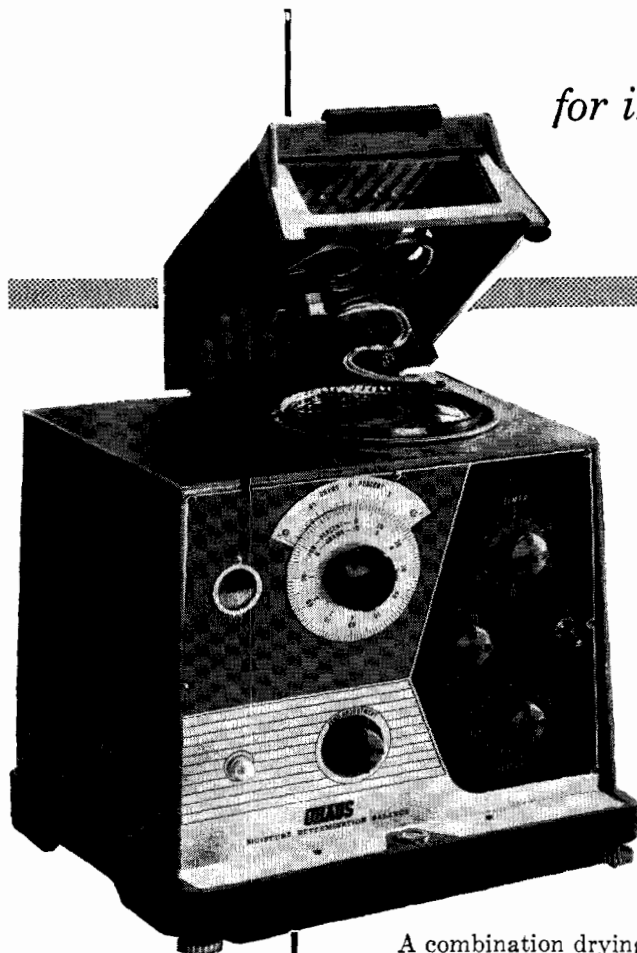


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A Staff Report on . .

Good Season

Weather, government actions, and income all worked together this year to increase fertilizer sales. Industry also pushed harder, seemed wider awake to seize the opportunities. Profit margins are still not satisfactory, but price cutting is less widespread than before, except in the West's nitrogen industry

Midwest's Sales Show Marked Gains

MIDWESTERN fertilizer manufacturers are enjoying a brisk year. Tonnages sold in the past 12 months, they report, have been up anywhere from 5 to 20%—with an average of about 8%. Most companies are brimming with optimism. Even if profits have not been outstandingly good, they have definitely been better than last year's.

Here are some of the reasons underlying the Midwest's expanding sales in 1959:

- Weather in most areas has been good. Generally, it has not been so wet that farmers couldn't get their trucks into the fields. And in most areas, there has been enough subsoil moisture. The weather has not been ideal, but certainly better than in 1958 when many areas were drenched or even flooded.

- The Government has removed its acreage restrictions on corn. Corn acreage in 1959 will be up about 12% nationally—to the highest level since 1949. Corn acreage in Indiana will be up an estimated 14%, in Illinois 16%, in Iowa 19%, in Nebraska 25%. This is important because corn takes the largest single share of the nation's fertilizer (one major company says corn growers buy at least 75% of its annual output).

- Farm income was up in 1958 (about 20% over 1957), so that farm-

for Fertilizer Sales

ers this year have been in an unusually good position to spend money on fertilizers.

- Partly because of poor spring weather last year, many farmers used less than the customary amount of fertilizer in 1958. They are making up for it this year.

- Farmers this year have been encouraged by the marked improvement in the nation's over-all economy.

- And there is a growing realization among farmers that greater use of fertilizers can mean substantial increases in profits.

Nitrogen Doing Well

Nitrogen in all its forms was the big seller this year. Reason: It's the major nutrient in fertilizers for corn, wheat, and other midwestern crops.

Particularly striking has been the Midwest's expanding use of nitrogen solutions. One producer of nonpressure solutions containing ammonium nitrate and urea says its sales have been up more than 20%—for the biggest single growth in its fertilizer line. Still fairly new, nitrogen solutions actually account for only about 5% of the fertilizer nitrogen in the Midwest.

Another big growth area is in sales of mixed fertilizers for lawns, gardens, golf courses, and other nonfarm uses. The upsurge in suburban living and the increased emphasis on fertilizing lawns and gardens have sent nonfarm sales booming. Although, in terms of tonnages, the nonfarm fertilizer field is small (less than 5% of the Midwest total), it is an attractive market because of relatively high profit margins.

Swift has been extensively promoting its Vigoro lawn food through dealers, supermarkets, and other outlets. International Minerals has been test-marketing its Thrive lawn fertilizer in the Chicago-Milwaukee area. Consumers Cooperative this year began pushing sales of its Big 3 lawn fertilizer, which also contains an insecticide. Although Monsanto does not make a special fertilizer for lawns, it has been actively helping its customers promote ammonium nitrate at garden supply stores, gasoline stations, and elsewhere.

In both the farm and nonfarm fields, the trend is definitely toward higher analysis. In Missouri, for example, the plant food content of a ton of mixed fertilizer has increased from an average of 21% in 1948 to 35% last year—an all-time high. The upward trend in the nutrient content of fertilizers is likely to continue throughout the Midwest.

Watch Those Trace Elements

Considerable interest is being focused on fertilizers containing such trace elements as copper, zinc, manganese, boron, and molybdenum. International Minerals with its Rainbow fertilizer, Armour with its Vertagreen, and Consumers Cooperative with its fertilizer containing 7% zinc for Nebraska use have all been giving special stress to these materials in the past year. IMC says its Rainbow fertilizer sales during the past nine months have risen more than 75%.

Although many midwestern states report that their soils (except in a few isolated areas) have no serious shortages of trace elements, this situation is likely to change as crop lands become increasingly depleted. One manufacturer calls the development of trace-element fertilizers "the first glimmer of light we've seen in the mixed goods business in years."

Also growing in importance in some midwestern states, such as Illinois, Iowa, and Missouri, is the use of bulk blended fertilizers. Unlike chemically combined fertilizers, they contain such compounds as ammonium nitrate, potassium chloride, and triple superphosphate as separate particles. Their big advantages are relatively low cost (about 15 to 20% less than that of chemically combined materials) and ease of handling.

Midwestern producers of chemically combined fertilizers are becoming increasingly concerned about the inroads being made by blended materials. And their concern is shared by some disinterested observers. They point out that a blended material is satisfactory only if all the particles have essentially the same size and density, and if the material is thoroughly mixed to ensure uniform distri-



Monsanto's new E-2 ammonium nitrate remained free-flowing despite a stay on the roof of the research laboratory in rough weather. Bags survived 4.88 inches of rainfall, temperatures ranging from 27° to 95°F., and humidities ranging from 22 to 100. Free-flowing quality is achieved by an additive—not a coating

bution of the plant nutrients. In actual practice, this distribution may not be uniform.

On the other hand, chemically combined fertilizer, as pointed out in a recent promotion piece by the Iowa State Fertilizer Institute, "is formulated so that all the granules contain the proper ratio of plant foods the soil needs. Segregation of the different plant foods cannot occur." A bulk blended fertilizer may not do the best possible job of boosting crop yields if it does not uniformly provide the right ratio of plant nutrients. A lively topic already, this controversy is likely to get considerably hotter in the Midwest in the next year or two.



IMC held sales clinics in 10 cities throughout the country during the past year. Well attended clinics were part of its "Full Orbit" service

Use of fertilizer-insecticide mixtures is declining in the Midwest. In general, the best timing and placement for one are not the best for the other. In the improved method of fertilizing corn, for example, the fertilizer is placed to the side and below the seed. Since an insecticide tends to move downward in the soil, it would fail to protect the seed and the young roots. For this reason, fertilizer-pesticide mixtures are not being recommended with the new placement method. However, as one Iowa spokesman points out: "We do expect these mixtures to be used on a considerable acreage for a number of years to come—as long as the old split-boot fertilizer applicators are still in use."

Concern over Profit Picture

Midwestern producers continue to lament the industry's relatively low profit margins. And most companies hold out very little hope for any significant improvement in the near future. The trouble is that, for years, fertilizers have been sold largely on the basis of price, and price-cutting has been rampant. One industry representative complains: "Many fertilizer salesmen these days really aren't salesmen at all—they're price detectives. They just can't bear the thought of anyone's selling the stuff at a lower price, even if it means selling it almost at cost."

Industry leaders have emphasized repeatedly that fertilizer should be sold primarily on the basis of quality, its beneficial effects on crop yields and farm profits, and the company's ability to provide service. But they still have not followed their own advice sufficiently to put the merchandising of fertilizers on a sound footing.

In recent months, midwestern fertilizer companies have been watching closely the sharp decline in the price

of anhydrous ammonia on the West Coast—down to \$66 a ton, compared to the prevailing midwestern price of \$88. This drop (generally regarded as an attempt by West Coast ammonia producers to discourage any other company from setting up a plant in the area) has so far had no effect on the ammonia price in the Midwest.

Most suppliers expect the midwestern price of ammonia to remain steady at \$88 a ton. One major producer believes this price is actually about \$5.00 a ton too low, and would like to see it raised in the coming year.

"We're concerned, but not worried." That's the way one fertilizer company describes its attitude toward the announced intention of the Senate committee on antitrust and monopoly to investigate the fertilizer industry's prices and marketing practices. Most fertilizer companies believe that the proposed hearings by the Kefauver committee are, as one Midwest spokesman put it, "politically inspired and an obvious bid for the farm vote."

Companies emphasize that average fertilizer prices have increased relatively little in recent years. In some cases, they have declined. One spokesman observes: "If fertilizer manufacturers have been doing any 'colluding,' they've obviously done a miserable job of it."

The fertilizer industry, of course, does not relish the thought of a Senate investigation. A great deal of time and money would be required to gather data. But, as one producer comments philosophically, the investigation would at least have the virtue of putting the industry's business practices, and especially its profit picture, clearly on the record so that all—including farmers—could see it.

Midwestern companies have applauded the National Plant Food Institute for conducting a salesmen's

training school early this year. More should be done along these lines, they say, to promote better selling practices. Also more should be done to train the owners of small and medium-sized fertilizer companies in the principles of good business. Says one observer: "These people should know much more about efficient company management and how to evaluate the costs of doing business. Too many outfits have folded in recent years because they lacked this basic know-how."

More and more fertilizer producers are taking the initiative in promoting training programs for fertilizer company executives, salesmen, and others. In recent months, International Minerals, as part of its "Full Orbit" sales service program, has held 10 regional meetings in the U. S. and Canada to help mixer-distributors learn improved selling techniques. Varied training programs are also being sponsored by Spencer, Monsanto, Sinclair Petrochemicals, Consumers Cooperative, and others as aids to mixer-distributors, dealers, and farmers. Many of these programs have been greatly stepped up in the past year or two. Consumers Cooperative says it conducted over 600 fertilizer meetings with farmers this past year—50% more than in the year before.

Emphasis on Research

Midwestern agricultural experiment stations are intensifying their research on fertilizers and methods of application. The Nebraska station is studying the effects of trace elements, particularly zinc, on the growing of corn, and using radioisotopes to develop improved methods of applying fertilizers. The Kansas station is studying the nutrient requirements of wheat, corn, and sorghum and the best possible placement of fertilizer in relation to seed position. The Michigan station is attempting to find out how soil-test results can best be used to determine the amount of fertilizer to be applied at planting time.

Among its varied research projects, the Missouri station is studying the extent of segregation in blended fertilizers. The Iowa experiment station is gathering statistics on the economics of fertilizer use. It is also attempting to discover how crop fertilizer requirements can be estimated more closely on the basis of plant composition.

Elsewhere, work is going ahead on improved equipment for applying fertilizers—with special emphasis on cost-cutting techniques and better placement. Farmers in increasing numbers are learning the advantages of using new machinery that simultaneously applies both seed and fertilizer.

Tonnage Picks up In the Northeast

FERTILIZER SALES were moderately better this spring in the Northeast than a year ago. Tonnage gain for the area was probably somewhere between 3 and 5%, and neither the business recession nor recovery played much part in it.

For the 1958-59 season as a whole the outlook is good for industry sales and profits; some credit for this is due to a stable price situation. Spring was late again in New York and New England, but where it was rainy in 1958 it was cold in 1959, and this encouraged the movement of fertilizers. Some experts place the general rise in industry profits this year at 7%, others at 5%. F. S. Royster Guano estimates a 15% gain in sales for 1958-59 and a profits upturn of about 10%.

A notable exception was Maine, where fertilizer sales have been badly hit by a low price for potatoes, and consequent lack of cash. In contrast, larger acreage was planted to tobacco in Connecticut, perhaps 30 to 40% more to binder varieties. In Massachusetts, dairymen show increased interest in fertilizing pastures and haylands. Eastern States Farmers' Exchange also reports that its new lawn fertilizer is being very well accepted in the Northeast's urban areas.

Nonfarm consumption of fertilizers is playing an ever-increasing role in tonnage sales. The Agricultural Experiment Station at Morgantown, W. Va., says lawn and garden demand is increasing, and that a sales push based on agronomic principles could boost this market to as high as 25% of all fertilizer sold in that area. With the increase in urbanization in New Jersey, reports the Extension Service of its College of Agriculture, more fertilizer is being used on home lawns.

High Nitrogen Formulas

Delaware reports the use of 81,554 tons of mixed fertilizer during 1958 against 82,483 tons in 1957. Of the 1958 total, 38,374 tons represented 5-10-10. But higher nitrogen formulas are in use elsewhere. In New England interest is centered on high-nitrogen fertilization for grasses such as canary, timothy, and brome grass. Eastern States Farmers' Exchange has had excellent response to its new 15-10-10 grade.

Some farming areas had a good 1958 season, others a very poor one. In New Jersey, New York, and the northern tier counties of Pennsylvania,



Introduced in the Northeast and other areas for the first time this year was Climax Molybdenum's Moly-Gro, which involves seed treatment as a means of supplying plants with the micronutrient molybdenum

growers who had onions left in storage during the winter did extremely well. In this same area dairymen find themselves in a much better financial position than a year ago.

In contrast, the financial status of the potato growers, who normally use large amounts of fertilizer, is at an all-time low. One report is that growers in Aroostook County, Me., have already lost more than \$25 million on the potato crop dug last October. There is no hope of the market's improving—some think it may work even lower.

One year ago a barrel of potatoes (165 lb.) was quoted in the daily government report at \$5.50 to \$6.00, f.o.b. Presque Isle, Me. On April 3, 1959, the quotation had sunk to \$1.15 to \$1.25.

The Soil Bank and acreage allotments this year should have a minimum effect in the Northeast. Quite a number of farms will be going into the Soil Bank, says A. M. Eno of the G.L.F. Soil Building Service, but in general these will not be farms which use great quantities of fertilizer. Probable outlook: less acreage but more

fertilizer used. Larger fertilizer sales are expected also in New Jersey despite loss of 20,000 acres of corn through the Soil Bank.

Shift in Imports

Fertilizer imports recently have been lower; they have also shifted or spread from the West Coast to the East Coast. The change has not materially affected domestic markets. Rather, the competitive activity in the domestic market appears to have caused much of the change in the import pattern.

The credit problem is neither better nor worse this year; financing farm resources, says a manufacturer, is always a problem. A more adequate credit system would materially improve fertilizer sales, he feels.

Industry in the East evidently expects no major break in the costs-profits squeeze. There seems to be no hope for important increases in profit margins, says a large nitrogen producer and marketer, unless they are achieved through more efficient production and cost cutting procedures.

Politics! That is the general reaction of the fertilizer trade to a Senate committee's plans to investigate fertilizer practices. There are no grounds for anti-trust action, they contend, and the inquiry is being staged for political reasons. Said one of the large eastern co-ops:

"It only requires a few minor complaints to encourage politicians to try and make a name for themselves with investigations. If the fertilizer industry is investigated, it will be found to be highly competitive, and there certainly doesn't appear to be any need for new legislation to keep it that way."

New Legislation

As to new legislation likely to affect fertilizer consumption, some states are considering tightening regulations regarding bulk spreading of solids and the application of liquid fertilizers. New rules are needed, said one manufacturer, because of the inability to check guaranteed analyses under present "loose procedures."

The plant nutrient content of fertilizer will go even higher in the next five to 10 years. It has already been raised about 25% in six years, and the industry figures it will be further increased anywhere from 10 to 25%. A cooperative points out that much of the increase in plant nutrient content has been brought about with the trend to granulation.

As far as fertilizer technology is

concerned, nothing revolutionary has come to light in the Northeast this year. J. L. Gerwig and H. W. Indyk of New Jersey's Cooperative Extension Work call attention to one interesting development. This is the use of machinery for applying fertilizer adjacent to but not directly with the seed. The idea has increased in popularity in this area.

Availability of bulk diammonium phosphate (18% N and 46% available P_2O_5) granular, and greater quantities of granular triple superphosphate, is helping the trend toward more bulk and liquid spreading by blenders. New and cheaper granulation equipment also has been observed, as well as new equipment for bulk and liquid spreading. In Connecticut increased use of nitrogen solutions (ammonium nitrate and urea) was a highlight of 1958-59. And use of phosphoric acid as a replacement for triple superphosphate has become a major development.

Mixed Granular Favored

Throughout the Northeast, and down into the South Atlantic states, popularity of complete mixed formulations (granular, semi-granular, and pelleted) continues to increase. For cash crops, specially tailored formulations are proving economical. Also, liquid mixtures (especially nitrogen carriers) are being used more in these areas, but they are limited somewhat in their convenience by topography. There is hardly any liquids-application equipment in the field yet, so progress in its use is slow.

Clearer trends point to the granular mixes. But New Jersey agronomists, considering the greater use of soil testing in that state, look for an increase in straight materials as a flexible method of feeding specific nutrients just where they're needed.

Ammonia Market Steady

Most sources feel that ammonia is in supply-demand balance in this area. They do not expect any notable price variations, despite the flurry in the Far West earlier this year. The actual imbalance is between *capacity* and demand. And capacity, states a major chemical firm, will remain excessive for as long as another 10 years; a smaller fertilizer company says twenty years.

About the only products in reduced supply are natural organics, used chiefly as nonfarm, specialty fertilizers. Production capacity of synthetic fertilizers generally exceeds total demand. A shortage of superphosphates re-

ported in the South may have been due mostly to shipping delays. One producer notes a tight market in urea.

Although urea is being promoted widely today, and is getting more popular as its price becomes more competitive, the general favorite now is ammonium nitrate. It is being used for top dressing more this year than is any other material. Solutions of both this and urea are replacing sodium nitrate and ammonium sulfate.

Placement Gives Results

Techniques of fertilizer placement are looming important this year. Most discussed case is for corn, where new equipment permits side application next to the seed. This practice permits higher plant population, with better yields per acre. Fall plow-down of nitrogen is being emphasized, too.

Most sources in this part of the country see a slight but consistent increase in the use of fertilizer/pesticide mixtures. Some state agencies still do not recommend such combinations. But one agricultural school blames high prices for preventing their wider use.

Real progress is being shown in pasture fertilization this year in the Northeast. Universities in the area generally recommend this and, especially in the case of seeded pasture, the development in this direction is rapid. It may not come along quite so fast as experiment stations and manufacturers would like, because advantages, in direct returns the farmer can see, are not always easy to demonstrate at once. But in Virginia last year acceptance was great enough to encourage aerial top-dressing of even steep pasture land.

Training Programs Pay Off

Most manufacturers, and all the extension services reporting, pick soil-testing as the prime target in programs for farmers. Intensive courses in some cases, new literature in others, point out the need for soil tests. International Minerals & Chemical is using movies; other firms give live demonstrations. It all goes to help the farmer know his "good earth" better, they say.

The NPMF educational and promotional campaigns—both for farmers and for fertilizer salesmen—are too new to show any determinable increases in fertilizer sales yet. But they have created widespread interest and activity. And as one major co-op puts it, "anything which will help sell fertilizer on its merits instead of on price will help both the fertilizer industry and the farmer."

South's Sales Up Significantly

IN STRONG CONTRAST with last year's performance, fertilizer sales in the South this season show a significant increase over 1957-58. As usual, weather proved the big factor. To a lesser extent, Soil Bank changes and higher farm income also helped.

The range of sales increases runs between 10 and 35% through the first quarter of 1959. As a rough average, over-all increase should be about 20% over last season.

But while sales increases border on the spectacular, the industry's profits from operations in the South are not expected to rise above those of last season. In short, the profit squeeze remains. Possible better profits from higher volume are offset in many instances by lower prices, higher marketing and transportation costs.

Comments on the weather range from "good" to "beautiful!" In some parts of the South, above-average rainfall delayed fertilizer sales. However, the beneficial effects of adequate moisture more than offset tonnage lost in bad weather. Heavy sales during good weather made up for delays.

Soil Bank Changes Help

Throughout the South increased plantings as a result of changes in acreage allotments also gave a significant boost to fertilizer sales. The year's totals are expected to show a substantial increase that can be directly attributed to the changes.

Depending on the area of the South selected, the size of the effect of Soil Bank changes appears to vary. Some in the Southeast consider the changes as the main reason for higher sales volumes. In the Midsouth, the changes meant more row crops such as corn, cotton, and soybeans, all of which respond well to fertilizer.

Other influences on fertilizer sales this year are less definite. In some areas increased farm income had a small effect. Much of the increase in farm income last year came from grains and livestock—the one a low ranking income source for southern farmers, and the other an aspect of farming that is just becoming a sizable factor in fertilizer sales. Business optimism is cited more often as a cause for increased sales than is improved income.

Growing more important are non-farm markets for fertilizers. Generally, profits are higher on goods sold for such uses as lawns and gardens, highways, and explosives (ammonium nitrate). Some producers report that these outlets account for up to 10% of their total volume.



Coastal Chemical's new facilities at Pascagoula, Miss., can make anhydrous ammonia, sulfuric acid, and fertilizer materials derived from those and phosphate rock. Dock channel connects with the Gulf

Even with stoutly increased sales, demand for all types of fertilizer materials has been met with little difficulty. While periods of good weather brought rapidly depleted inventories, spells of bad weather gave a breather and a chance to rebuild stocks. Some materials such as synthetic granular ammonium sulfate or urea were in "tight" or "short" supply during March and April in certain sections. In parts of the Southeast, normal superphosphate turned a bit short during a two-week period in mid-April.

Changes in Credit and Selling Policies

Throughout the South, credit policies have become stricter—more so than ever before according to one producer. But credit remains an important competitive factor, and some producers feel it became even more important this year. Collections improved slightly.

The trend toward higher application rates entails higher credit needs. This all ties in with a more important trend toward more businesslike operation by farmers. Bankers encourage this trend by asking that farmers follow soil test recommendations when applying for production loans. Result—strengthening farmers' ability to borrow, and refining their business methods.

Direct selling from manufacturer to dealer or consumer has attracted much interest in the Mid-South area this year. How much direct selling occurs depends to a large extent on location. Volume that comes under direct selling is generally reported as a small part of total sales in the South, but it is increasing at a rapid rate.

The area of direct selling in the South seems concentrated in Arkansas, Louisiana, and Mississippi. Among

major producers, Monsanto has sold ammonium nitrate directly to dealers in parts of these states. This was done, it says, to compete with co-ops who offer a relatively low price.

The manager of one small co-op in Mississippi estimates 50% to 60% of the fertilizer in his area is sold direct. A relatively small-scale private producer in Arkansas says direct selling in his area has been negligible; he doubts that it will become permanent.

Most of the materials sold direct go to growers with large acreage. In Mississippi, anyone who can buy a 10- to 18-ton truck load can buy direct. Success of the system, of course, depends on its being more efficient or more economical for producers and mixers of fertilizer materials and for growers than the present system of distributors and dealers. Still, many large producers who are not organized for it strongly oppose direct selling.

Ammonia's Price Steady

Price cutting on West Coast ammonia had little if any effect on ammonia prices in the South this year. And no changes are expected this year by producers around the South. The significant over-capacity situation is expected to continue, possibly as long as 10 years—or until ammonia producers see a leveling off in plant food content of mixed fertilizers.

Similarly, few expect any effect on ammonia prices from the Securities and Exchange Commission's acceptance of Chemical Fire & Casualty Insurance Co. for registration. The company proposes to provide coverage to ammonia distributors who reportedly have had difficulty in getting insurance. Some observers had felt that securing coverage might enable distributors to shave prices somewhat.

What effect the new insurance might have on state regulations remains to be seen. So far this year, no legislation significantly affecting fertilizer use has been enacted in such southern states as Mississippi, South Carolina, and Tennessee.

Ever increasing plant food content in fertilizers—stemming to a considerable extent from fast increasing use of ammonia and derivatives—is expected to continue for at least several years. A rapid climb of another 25% in plant food content will precede a leveling trend, say some agronomists.

Economics favors the increased plant food content. But producers continue to report that farmers do not seem to realize the savings possible through higher analysis materials.

Tied to higher analysis are liquid formulations. These materials continue to make gains at the expense of solids in much of the South, but as yet are still a small fraction of total sales.

Efforts of the NPMI are generally applauded. As yet, however, most results of its educational and promotional programs remain indefinite. In some areas, the effectiveness of its programs in achieving better understanding of fertilizer use is reported as doubtful. In other areas, particularly the Southeast, they get credit for some influence in bolstering sales.

Encouraging soil tests is perhaps

most often cited as the part of the NPMI effort that helps sales. Even with some results such as more widespread soil testing already attributable to NPMI activity, manufacturers point out that these are long term programs. As one producer says, education of the farmer to the use of fertilizer is in its infancy, and much remains to be done.

But most companies surveyed by AG AND FOOD are not relying on NPMI programs alone. Many are stepping up their technical service efforts, and are training their salesmen to be more competent technically. Most companies also seem to recognize that there is a limit to the amount of technical advice a salesman can be expected to give. Whether a firm line can be drawn between the salesman's ability to provide answers and the need for the company technical service department to be called in is a moot question.

Technical Developments

Trends under way in past years continued in the 1958-59 season. Pasture and range fertilization get more emphasis experimentally. But Arkansas and Georgia report practical progress in pasture fertilization is slow.

Dairy farmers in Arkansas are tending to use medium to high rates of fertilizer on pastures. In Florida bulk

spreading of fertilizers on pastures increases. But pasture and range fertilization is difficult to sell to farmers and ranchers. An official of the American Potash Institute says that more information on the economics of pasture fertilization is needed—especially when livestock prices vary as much as they have over the past 10 years.

The trend away from broadcast application and toward band placement continues. From several sources come reports of a shortage of suitable application machinery for banding fertilizer for row crops.

Throughout the South, the general gradual decline in use of sodium nitrate for top dressing continues. Now it is pretty much limited to Florida and the South Atlantic Seaboard states. Replacing this material—because of lower cost—are ammonium nitrate solutions or solids, ammonium sulfate, and anhydrous ammonia.

Interest in fertilizer-insecticide mixtures has changed but little. Arkansas has shown increased interest in a mixture containing a nematocide. But too little is known as yet about fertilizer-pesticide mixtures in general.

Summing up for the South this year, rebounding fertilizer sales overshadow most technical developments. If the improved sales can be converted to better profits, greater technical effort may then follow.

Fierce Competition In the West

Co-op" is a nasty word in some parts of the western fertilizer industry this year. For into a market already hip-deep in an oversupply of ammonia has come California Ammonia, a semi-co-op with a daily capacity of 120 tons. And rising rapidly near Fresno, Calif., is the plant of Valley Nitrogen Producers, a true co-op, with a planned capacity of 150 tons a day and start-up scheduled for this fall.

But co-ops really do not deserve all the epithets they have received. For they merely focus attention on a problem already present in the West—a problem which they aggravate but did not cause in the first place. That problem? Overcapacity and intense sales pressure—resulting in a price squeeze that has all but removed the distributor from the Western picture, and now threatens to engulf the dealer. And if the dealers go under, according to industry spokesmen, the result will be "utter chaos."

What makes the problem so much worse this year is that entry of the co-ops has forced the price of ammonia down to \$63 to \$68 a ton, com-

pared to around \$88 in the rest of the country. This softness has spread to other fertilizers containing nitrogen, including mixes. And it has not led to any major increase in nitrogen consumption—it has instead led mostly to further erosion of already-low profit margins for producers and a tighter squeeze on the middlemen.

Business Picture

Western weather has been as dry this season as it was wet last season. Where 30 inches of rain fell in northern California in 1957-58 (average is 20), only 12 arrived this winter, with commensurately less in southern California and Arizona—which usually get a mere 6 to 15 inches anyway.

This semidrought has resulted in an early peaking in fertilizer demand, with sales volumes ranging in different areas from about even to some 20% ahead of last year. Much of this will be at the expense of later sales, so season totals will show a more modest gain for the year, in most experts' opinions. The average estimate: sales will be up from 2 to 5% over-all, continuing the longterm pattern for the area.

Not all companies have fared equally well. Competition has been

tough, and some have lost both sales and money. Companies replying to AG AND FOOD questions show sales ranging from "down 15%" to "up 20%," with such factors as credit policies, sales area, and product line figuring heavily in who did what.

In general, liquids have continued their gains as they have for several years. A renewal of growth for solids has emerged, and solids are recapturing their share of the market as sellers of these items push them harder. Anhydrous ammonia seems to be leveling out, although some western producers, notably Shell, disagree with this conclusion. The outlook appears to AG AND FOOD to be that present popularities will hold for some time now, as liquids, anhydrous, and solids have each become firmly established where they serve certain functions especially well. Variations will come from varying success of suppliers of each type in merchandising their wares, but all will grow slowly from year to year.

As more and more nutrient deficiencies show up across the territory, mixes are becoming more popular. University of California surveys show that, in its state, areas deficient in



Collier Carbon & Chemical tried outdoor advertising for the first time this year to push its Brea brand fertilizers in the West

phosphate, sulfur, potash, and zinc are spreading.

To get business, companies have been competing keenly, and some interesting changes in the complexion of the industry are occurring as a result. The number of middlemen in the chain is getting smaller all the time, and reaches its minimum with the co-op—where in many cases there is no one in the middle. Most other companies have begun to sell direct to growers—usually where the growers are substantial fertilizer users or where dealers are scarce or ineffective. All in all, though, this direct selling—including that of co-ops—accounts for much less than 10% of the total business.

Dealers have been forced into a price war and have had to resort to other gambits to maintain volume. The main ones: credit and extra service. Credit, in particular, can turn out to be a two-edged sword. The dealer extends credit to the grower to get the grower's business. Then, he turns to his supplier—the basic producer, usually—for credit for himself. This the dealer must do, because if he borrowed money from a bank, the interest would be higher than his profit margin on the sale. Some dealers thus become overextended and a few this year have failed. In some of these cases, the producer takes over the business to protect his investment, and "one more middleman bites the dust."

Some dealers and producers refuse to extend credit and as a result lose sales. This is the reason given for its poor performance by the company which reported a 15% drop in business. One other company, however,

has taken the same tack, yet reports sales up 20%. The difference, according to the successful seller: increased sales effort, plus some luck in being at the right place at the right time.

The other dealer-sales factor, service, holds the key to the future health and well-being of the dealer system of fertilizer selling, most observers feel. There are a few examples of dealers who have been able to hold the price line through the services they offer; one of the most successful services seems to be bulk handling of solids offered now by more and more dealers. This requires an investment in extra equipment of \$20,000 to \$70,000 on the dealer's part but most have found that it has enabled them to maintain firm prices, and has paid off in extra sales and profits.

One man offering bulk handling in the Northwest, for example, is selling in bulk at a price higher than his competitor is offering bags. Yet the bags are not moving and the bulk man's bins are emptying fast.

Although a few dealers are making out well, the distribution picture throughout the West, particularly California, still features occasional bankruptcies and many shoe-string operations. Whether supply and demand reach a fair balance before many of these dealers go out of business, it appears, is pretty much touch-and-go at this time. And if the dealers go, the farmer will be the loser. The reason: few men selling for a large company covering a variety of areas can give each farmer the advice on his local problems of soil and crops as well as a dealer can—and few can gain the farmer's confidence as well as the

dealer—usually another local resident—can.

Where Lies Salvation?

Long term solution to the current unstable situation lies in bringing supply and demand into closer balance. Most soil experts in the West agree that farmers could apply to their money crops twice as much fertilizer as they do today and still get worthwhile returns—even in a state supposedly so advanced as California.

Creating demand among farmers is the approach that most producers, dealers, and trade groups are taking. All are trying to educate the farmer to the monetary benefits he will reap if he follows the fertilizer recommendations of the county agents and extension specialists.

Two other big markets are also being approached—forests and rangeland. Of these, forests will be the slower to get fertilization, because economic data take so long to get. But all producers and importers are pushing range fertilization. More acreage is treated each year, but current sales are peanuts compared to the potential. And the dry weather this year will slow up the rate of acceptance by ranchers. Most results so far this year show barely enough return to pay for the nutrients applied. But the carry-over next year, assuming some rain will fall, should give the program an extra push.

Biggest new factor in the field of grower education is National Plant Food Institute and its regional offices. Using as a springboard the institute's study of farmers' attitudes toward fertilizers, NPFI men in the West have held educational meetings for dealers and farmers all over their states. Not so new as the NPFI program, but also successful in educational and promotion-of-use activities, are the programs of the California Fertilizer Association. The CFA's work has been beneficial not only in California but in Arizona as well.

No one will or can ascribe any sales directly to NPFI efforts but all agree that if any institutional advertising helps, so will this program. And if no one upsets the western applecart by building a plant before new demand develops, supply and demand should be much closer to balance some time around 1965. There is hope for better profits as that day draws nearer.

However, there has always been some overcapacity in the West's fertilizer industry, even during the shortage periods of early postwar years. So as one ammonia producer sadly says, "it is a safe bet that as soon as a glimmer of daylight appears, some one else will build an ammonia plant."



In its "Full Orbit Service," IMC sees a program that points the way to profitable selling through sound merchandising and sales techniques—and not through price cutting

Profitable Sales Through Constructive Pricing

ANTHONY E. CASCINO, International Minerals & Chemical Corp., Skokie, Ill.

THE FERTILIZER INDUSTRY, not unlike a good many other industries, has suffered from competition on the basis of price alone. Like many other industries, therefore, it urgently needs a constructive pricing policy.

Just what is a "constructive pricing policy"? The most constructive pricing policy is one which tends to promote non-price competition. This is not a new and revolutionary statement. Actually, it is recognized by most business entities. All of us are struggling to develop effective non-price appeals. The trouble is that few of us succeed.

Probably the biggest contributant to failure is the fact that when we do resort to non-price appeals, we choose appeals that are neither valid nor of significant benefit to the customer. As a result, the customer is left with no recourse but to seek the lowest price. And then we are right back to destructive price competition.

So the primary prerequisite to non-price competition—and therefore to a most constructive price policy—is the existence of certain factors that are truly of benefit to the customer. These factors must be functional, discernible, and desired by the customer. When they exist, the customer is given a justifiable reason, almost regardless of price, for selecting one firm's products over another's.

The sad fact is that because most of us have failed to create a condition of non-price competition, we have jumped to the conclusion that "it just can't be done"—that price is the only language the customer understands, and that it is to no avail to try to promote other factors.

But just for the sake of argument, let's take a brief look at the consumer goods field. The consumer goods industry counts heavily on two main factors, other than price, in appealing to the ultimate consumer: namely, brand

stature and product superiority. Reputation and actual product differences provide the all-important basis for non-price competition.

Since the ultimate consumer is neither concerned with, nor knowledgeable of, the product's technical specifications, superiority is usually stated in terms of benefits—such as "whiter teeth" or "cleaner clothes"—that will be derived from its use. This approach has been most successful for Gleem, and Tide, and Zenith. But when meaningless claims are presented, non-price competition fails, and prices deteriorate.

A few years ago, most television manufacturers were claiming product superiority because of knob position. "Buy our set because our knobs are below the picture"; or "Our set is better because the knobs are on the side—or on the top front—or on the top back." Prices tumbled, profits suffered, and companies liquidated. All through this period, Zenith continued to command high prices and dispose of large volumes of high priced models; Zenith disregarded knob position and gave the customer remote controls which were functional, discernible, and desired.

The obvious conclusion is that a

dispenser of consumer goods must produce a product that has exclusive features of significant benefit to the ultimate customer, if it is to achieve non-price competition and maintain a constructive price policy.

In contrast to consumer goods, most industrial goods lack product differences. Products are standardized, brand identification is practically nonexistent, and the customer is well aware of the technical specifications. Here, the development of non-price competition is much more difficult than in the consumer goods industries.

The question here is: Can effective non-price appeals be developed when the products of all firms are practically identical, and the customer is enough of a technician to know that the products are identical? There really is little one can say about the product itself that is likely to have any effect upon the purchaser.

Now, these are the conditions that makers of fertilizer ingredients face in selling to manufacturers of mixed fertilizers. Phosphate rock is sold by established grades, potash is referred to as "60% muriate," and triple superphosphate is measured in terms of available phosphoric acid. And these specifications apply to the products made by all companies.

Of course, we at International Minerals & Chemical Corp. firmly believe and we will always claim that even though the specifications are identical, our products are still superior. We believe they have less dust, better particle size, and are freer flowing. But we are sufficiently realistic to recognize that our claims of product superiority, justifiable as they may be, are not of sufficient significance to cause the customer to favor us over our competitors.

Actually, our research shows that the customer accepts the claim of "good quality products" as the minimum to be expected from the supplier. Although he will severely indict any supplier for producing a poor product, the customer places no premium on the production of a quality product. He accepts this as standard.

If a company cannot claim product superiority, and if it is to avoid a mere price approach, it has only one other alternative. This is to claim that although the products are the same, the company itself is superior. That is, it must replace the claim of product superiority with the claim of service superiority. Again, this concept is neither original nor profound. It has been exploited by producers of standardized goods for many years.

Our company, in its sale of fertilizer materials, could justifiably talk about abundant reserves, reliability as a

source of supply, superior production processes, scientific quality controls, and other factors that have made IMC stand out as a company. For many years these attributes were unique and of serious concern to the customer. As a result we were able to secure a major share of the business.

But like most competitive advantages, these company attributes tend to become neutralized through time. Our competitors managed to acquire adequate reserves, and attain technical and production know-how. To claim reliability and dependability was still accurate, but no longer sufficient. We had to create new ways of gaining the customer's favor.

To avoid resorting to claims that were meaningless or of little value to the customer, we decided to let the customer himself define the areas that were of significance to him—services and activities that he desired and would greatly appreciate. To preclude bias in the discussion, we employed a research agency to probe the customer's mind.

Here is what our survey showed: while the customer was still in need of some technical service that would help him *make* the product, his greater need was to know how to *move* the product. Because the industry had progressed from a position of short supply to one of excess capacity, demand side problems had become paramount. Through most of the post war period, the fertilizer manufacturer had felt little need for developing sophistication and proficiency in marketing and merchandising; but now the customer was in desperate need of help.

And he was not vague about the areas in which he sought assistance. Five specific activities emerged as being of greatest need and urgency: First, he wanted help in determining the total potential of his marketing area, and the relative potential of each county. Market analysis. Second, he wanted help in hiring, training, and paying salesmen. Third, he wanted to learn more about the field of advertising and sales promotion. Next, the customer wanted assistance in improving the attendance and effectiveness of dealer and farmer meetings. And finally, because transportation charges may often exceed the cost of the product, the customer wanted expert assistance in selecting the most economic route and medium of transportation, in fighting freight rate increases, and in settling freight claims.

That is what we learned from our survey of a representative number of our customers. We were certain that this information provided us with a basis for strong non-price appeals. If we now could find some way effec-

tively and economically to fulfill these needs, as expressed by our customers, then we should have provided them with a justifiable reason for selecting us as their supplier—even though there was no important difference in the products produced by all companies. By providing these services we should be giving the customer a complete package, of which the product was only one part. And this package would be not only different, but also superior to anything being offered by our competitors.

To execute this program we decided (and subsequent experience has indicated it was a proper decision) that our field salesmen should be the focal point in providing these services. To make them proficient in these specific areas of need, we should bring them into the home office for an extended period and give them a complete and thorough training on each facet. By doing this, we should lift our field force from the level of order seekers to the preferred position of personal consultant and confidant of the customer on many phases of his business.

In addition, to assist both salesman and customer in the actual execution of any activity—such as a market analysis program or the development of an advertising campaign—we should prepare a series of manuals covering each of the five areas of service. These manuals would be down-to-earth books written in the vernacular of the industry, posing problems and citing examples of situations encountered every day by our customer, the fertilizer manufacturer.

An important point must be noted: these manuals were not intended to supplant the services of the salesman. He alone provides the services. The manual fulfills two basic purposes. First, it helps the salesman orient the customer, and gives the customer a reference for solving problems when the salesman is not available. Second, it is a constant reminder to the customer that International Minerals and Chemical is truly his partner in business.

These, then, were the major steps of the program we would undertake to preserve company superiority in an industry of standardized products.

But the program still lacked an important element so essential in any marketing endeavor. That element was emotion—excitement, sparkle, glamor. The usual concept held in the industrial goods field is that products are sold according to specifications; that the purchaser is an intelligent technician, and that therefore, it takes a technician to sell to the customer. When technician sells to technician, according to this concept, there