

S. P. Gessel, associate professor of forestry at the University of Washington, discusses tree fertilization with Todd Tremblay, NPFI's Northwest representative. Tree on left received a good fertilizer program and has obviously prospered much better than the one on the right which received none. NPFI recently made a grant to the University of Washington for forest fertilization studies



Weather, Credit Grab Spotlight in the West

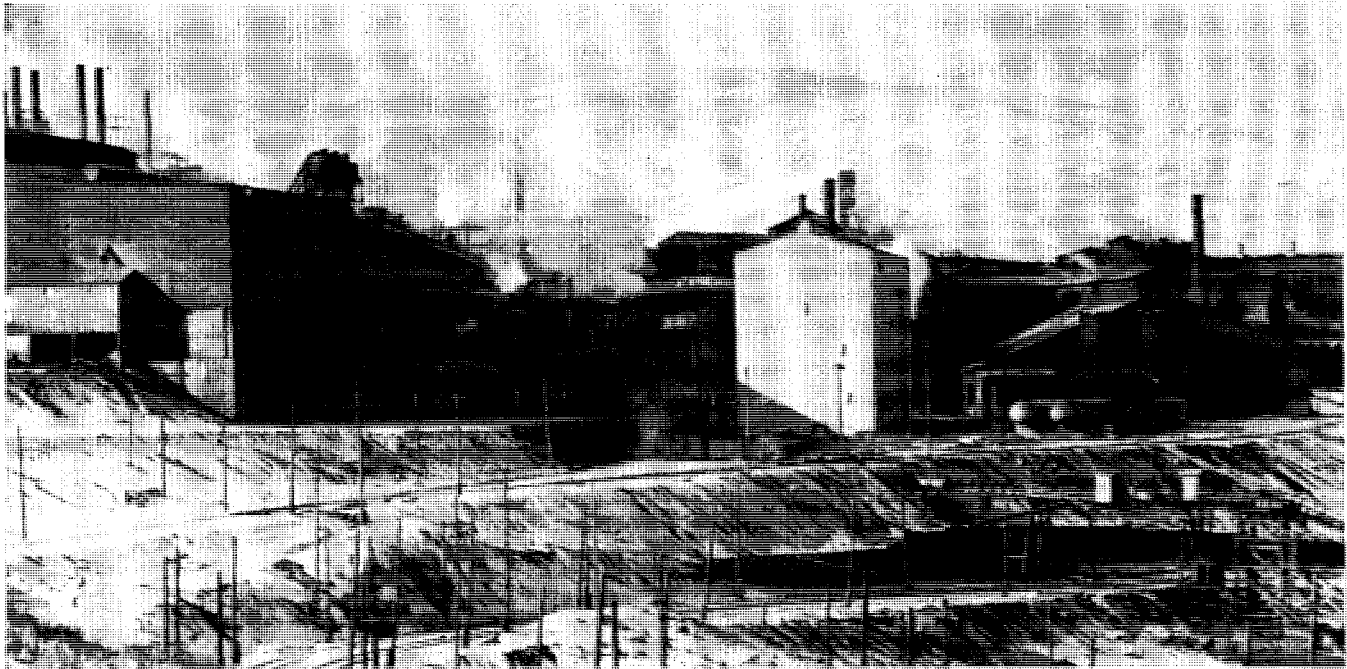
DOMINATING the fertilizer picture in the West this year: clouds, both storm and economic. Unusually heavy and long-lasting rains in March and early April kept farmers out of their fields throughout much of their normal planting season. And economic clouds have focused attention on credit policies; noticeable throughout the industry is a tightening up on terms, from producers through distributors to the dealers. Even the banks have tightened up on loans to farmers, although they are still a major source of short-term money.

Over-all, fertilizer sales are expected to be at about the same level as last year, despite a rather slow first quarter (18% below the same 1957 quarter in California). Since production and sales plans made last fall were based on a continuing rise in consumption, actual results have led to an inventory problem. But it is not out of hand; producers have been able to keep an adequate balance among production, sales, and inventories.

The picture within the industry is mixed, to say the least. Some companies report that their sales have held up well, and will go as high as 10% above last year. Others say they have been hard hit. One company admits to a 75% drop-off in first quarter business, a drop for the whole fertilizer year of about 20%.

Other contradictions also emerge. Some outfits say ammonium nitrate sales are slow; others say they are brisk. The same goes for ammonium sulfate, phosphates, and other plant foods. The difference, it seems, lies in whether the company dominates sales of a commodity in its sales area or is only a small factor in it. In the latter case, a harder sales push gets the company its business, whereas the major supplier must rise or fall with the overall market in the area.

Almost everyone agrees that this has been an unexciting year from any point of view besides weather and credit. Almost no new trends have shown up in products, placement methods, or equipment. There has been no unexpected run on any fertilizer, as there was last year with urea. There have been no shortages lasting longer than it took a truck to resupply a dealer. Closest thing to a real shortage may have been in ammonium sulfate. As one California company puts it: "We swept the warehouse floor pretty clean a couple times, but no one had to wait." Reason for this situation with sulfate: with eastern



Anaconda is putting the finishing touches on its new ammonium phosphate plant in Montana. Scheduled for start-up July 1, it has capacity of 75,000 tons a year

steel production so low, there was little sulfate coming over the Divide to compete with local material.

Trends in evidence in the past have continued. Many farmers who apply their own fertilizers now demand pelleted or granular mixes. Use of liquids continues to grow, but not spectacularly. There is a gentle trend toward mixed fertilizers, particularly ammonium phosphates and complete N-P-K mixes. In California, however, farmers still use about 30% mixed and 70% straight materials, as they have for several years.

Diammonium phosphate sales have been much higher this year than before, although they are still small. Calcium metaphosphate has not yet gained acceptance; it has barely been introduced to the West, and field data are scarce.

Minor elements have received more attention this year. Particularly in the Pacific Northwest, some minor element deficiencies (notably molybdenum) are cropping up and are handled locally through the assistance of agricultural extension scientists. Advertisements mentioning that fertilizers contain this or that minor element have had little effect; farmers apparently prefer to treat these deficiencies individually as they appear.

The general opinion is that minor elements will become more important and will hold more interest each year. In Washington, for example, field trials are now in progress to check soil vs. seed application of sodium molybdate.

If this goes over, it will cut total moly consumption but will mean quite an increase in total acres treated.

Another small segment of the fertilizer business—fertilizer-pesticide combinations—has been slow to get started in the West. Last year, a few companies got requests for a batch or two; this year they have about twice as many requests, but volume is still low.

Potash application in the West historically has been small. However, producers say that some potash deficiencies are showing up and that there is more interest in complete N-P-K mixes. In all, because of the late spring, potash consumption will be down a bit from last year despite the heightened interest in it.

Overcapacity in most segments of the fertilizer industry, destined to remain for several more years, has softened prices. But rising costs have squeezed producers so hard that they cannot lower prices further and stay in business. This year, therefore, the large ones have firmed their prices a bit (for example, anhydrous ammonia and ammonium sulfate are up \$3.00 a ton); only local formulators, distributors, and dealers have done any cutting—and only a few of those.

In the long run, price cutting will hurt those who do it, the producers feel. For they cut prices only because they do not know how much it really costs them to do business. (They often do not figure return on their investment, for example, as a necessary expense.) Eventually, then,

they will go broke, as is already happening to some this year. The net result: fewer, larger, and more businesslike local outfits.

In keeping with their move toward firmer prices, producers and sales agents have tightened down on the credit screws. In contrast to the easy terms of 1956 and 1957, payment within 30 days is the rule now—with a 5% discount for 30-day payment. They accept fewer poor risks, and often insist on payment for one order before shipping the next.

Distributors and dealers are passing tighter credit along to farmers. The farmers, many of whom are in better financial shape than they have been for several years, either pay from last year's earnings or go to banks for short term loans. Crop mortgages are not being accepted by dealers in most cases, unless the grower already owes the dealer money. Choosing credit risks more carefully has cost most companies some business, but it is business for which they might never collect anyway, they say.

Plans for Promotion

It would be an overstatement to say that the NPFI survey has shaken up western producers and sellers. For they already knew that their messages did not universally hit the target.

Visitors to the western scene usually are told that fertilizer use in California is an example to the rest of the country of what good practices can do. But even in this state, twice as much

fertilizer could be used profitably, according to the California Fertilizer Association. This means an extra 1 million tons of fertilizer a year in California alone.

There are many farmers, of course, who follow state agriculturists' recommendations. These are not the ones who need the fertilizer message; it should be aimed at the man who doesn't know and often doesn't care to know about recommendations.

Most members of the industry in the West feel that the label is not the way to reach this man. They concede that theoretically it might be desirable to do something about the bald "5-10-5"—for example, change it to:

Nitrogen 5%
Phosphate 10%
Potash 5%

or the like. But this does not get at the heart of the matter, which is that the nonfertilizing farmer sometimes doesn't even know the functions of these nutrients, or which ones his soil needs. Still, a label change could do

no harm, and might do some good.

The big artillery to aim at those who don't use fertilizers is a test plot, most feel. Apparently, seeing is believing, while lectures may go in one ear and out the other. Other approaches under consideration include:

- More grower meetings. Some feel these should be souped up almost to carnival atmosphere to attract farmers. But others say that if pertinent information is presented, no "circus" is needed.

- More visual aids to show good fertilizing practices.

- A switch from grade advertising to brand advertising. Experience in the West shows that advertising of grades just confuses the farmer who hasn't learned the basics.

- Keeping dealers informed on latest technical developments by bulletins, dealer meetings, and personal contacts. Then dealers can pass know-how on to the farmer.

- Providing technical services such as complete soil and plant tissue testing—either directly or by financial support.

In general, the industry is already doing most of these things in some measure. The effect of the NPF1 survey will be mostly to intensify promotional efforts and to direct them a little more precisely at the target—the farmer who is not now buying. Already some companies have begun using the survey to modify their promotional programs; others plan to make changes with the beginning of the next fertilizer year.

And if there is any one thing that all agree on, it is that ads should have more know-how in them than they now have—which means they will be more informative and more "institutional" than they have been in the past. The message will be more like this: "In X county nitrogen (or phosphate or potash) is the thing which will make money for you. When you think of nitrogen, think of us."

Weather Delayed Buying in East

FERTILIZER SALES in the eastern states were none too good during the season just ending. Constant rains greatly reduced consumption of mixed goods in many areas; the Soil Bank contributed a further slight reduction—probably about 1%—in New England, New York, New Jersey, and Pennsylvania.

Pennsylvania had a very late spring, and fertilizer movement there was about three weeks behind. Even so, according to James H. Eakin of Pennsylvania State University, some manufacturers have now sold about as much fertilizer this spring as they did last year. This indicates that if spring had been normal, sales in many cases would have exceeded those of last year. Eakin feels that neither the Soil Bank, prices, business recession, nor the trend toward bigger farms is producing a marked effect in his state.

Acres Removed

In the Northeast, according to W. G. Colby, head of the agronomy department at Massachusetts College of Agriculture, industrialization and suburbanization have taken a considerable amount of intensively cultivated land out of production. A corresponding drop has followed in fertilizer use.

In New Jersey, the Soil Bank may have reduced total fertilizer sales. However, R. B. Alderfer, head of the soils department at the Agricultural

Experiment Station, says that when a farmer removes part of his land from production he tends to use larger amounts of fertilizer on the acres kept in production. If final fertilizer sales figures do show a decline in 1958, one of the principal reasons will be the cost-price squeeze on farmers—despite abundant proof that greater use of fertilizer is often the surest way of countering the squeeze.

As to prices for fertilizers and for farm products, the rise in the latter over 1957 is seen in eastern manufacturing circles as having little effect one way or the other on sales volume. The rise in farm product prices is offset to an extent by a rise in farmers' other costs. Effect of the business recession also is negligible at the farm level.

What about the outlook for the entire season? One large factor anticipates sales losses for the industry ranging up to 20%, except for the cooperatives, which are expected to maintain their volume. Another looks for only slightly lower tonnage for the industry, accompanied by some reduction in profits. But fertilizer salesmen in Pennsylvania are optimistic for the 1958 season as a whole; some contend their sales were never better.

Forecast for Season

Eastern States Farmers Exchange reports prices steady and a successful winter shipping season for fertilizer. The co-op's own sales are ahead of last year's, even with the late spring. It looks for as good a year during 1957-

58 as in 1956-57, and perhaps better.

Some shortage developed in the East this season in ammonium sulfate, but manufacturers expected it to be only temporary. Production and sales of ammonium sulfate will be lower this year than they were in 1957. Just how sharp the curtailment will be depends on steel operations. Sales of coke-oven ammonium sulfate in the first quarter dropped nearly 21% from the level in the first quarter of 1957. (Figures for the synthetic product are not available.) Production of the coke-oven product was down 32% below that for the first quarter of 1957. A rise in steel operations could cancel out part of this loss. Other nitrogen materials and the phosphatic group have been in ample supply. Some of the ammonium sulfate needs have been shifted over to ammonium nitrate and urea.

In Pennsylvania, the shift has resulted in unusually large demands for ammonium nitrate—and only to a lesser degree for urea, which experienced unexpectedly good sales last year. In most sections of the East, however, no unanticipated demands are probable. But one of the biggest urea manufacturers looks for a continuing rise in the agricultural market for urea.

Granulated Form Popular

While total sales of commercial fertilizers fluctuate, granulated products seem to be an increasingly preferred form.

Most authorities in the East look for a more tempered increase in over-all

sales of liquid fertilizers, although demand varies regionally. Thus, while mixed liquid and phosphoric acid plant foods, for example, are up in the West, they are actually down in the East. International Minerals & Chemical calls for an "accelerating" trend toward liquid when higher analyses become available and lower salting-out temperatures are achieved.

Conventional solid fertilizers are subject to the least change in acceptance this year. But one large company mentions the possibility of a higher nitrogen ratio in the future, for solid as well as liquid. This may lead to bigger markets for both types of products.

Mixed solid fertilizers continue to outsell straight materials in most sections. Penn State University, however, calls for little change in its area for mixes, looks for a gradual increase for straight. In New England, decided increase in both types is foreseen, with little relative change between the two. Mixes are running 10 to 1 over straight materials in Massachusetts, according to Eastern States Farmers Exchange. With a more general view, a basic industrial producer feels that the share of the market held by straight fertilizers will level off "if plant-food content of complete mixes continues to increase."

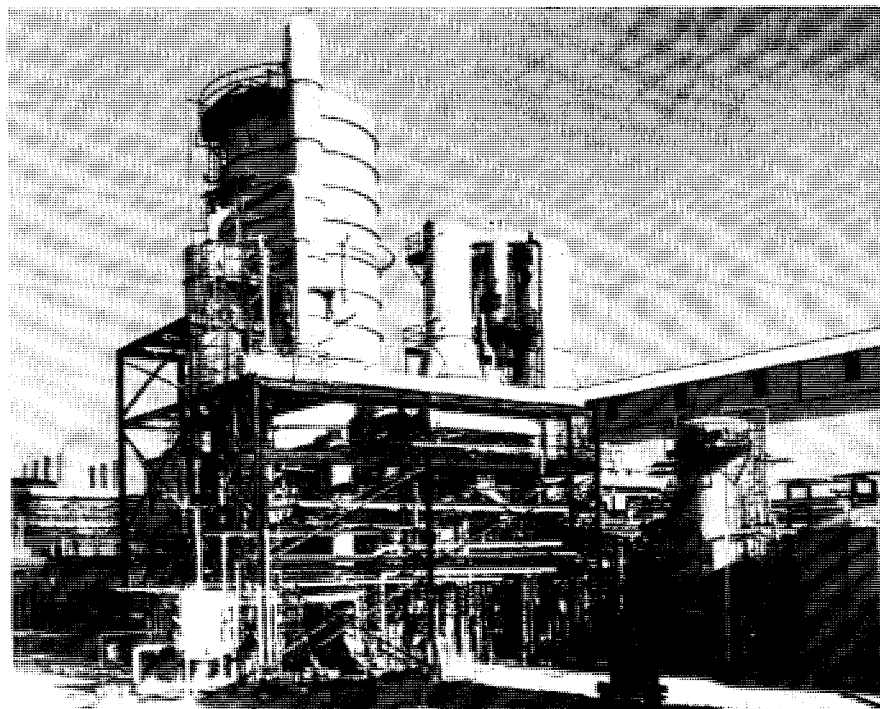
Trace Elements Need Study

While manufacturers feel trace elements are increasingly important, state experiment stations in the East say that the principal trace element deficiencies have now been taken care of, and that further interest will not be too evident—for now, anyway. In Pennsylvania, for instance, boron is the element most needed; use for this year should be about the same as last. In New England, though, ESFE calls for more study of the need for trace elements as a first step in a wider understanding of the whole subject of soil replenishment.

So far as mixtures of fertilizers and pesticides are concerned, relatively little interest is being shown in the East. Main reason, says Penn State's Eakin, may be differences in fertilizer requirements as determined by soil tests. These differences make it hard in some cases to apply proper amounts of pesticide. In Pennsylvania, he reports, the mixtures are being used mostly on potatoes. In other areas of the Northeast, limited amounts of fertilizer-pesticide mixes find their way onto lawns and gardens.

Aerial Application

While the national picture shows a continuing increase in application of



Ammonium sulfate crystallizer recently installed at Hopewell, Va., for National Aniline Division of Allied Chemical. It is believed to be the world's largest stainless steel crystallizer for ammonium sulfate

agricultural chemicals by airplane, there is not much activity along this line with fertilizers in the Northeast. In sections of New England, the method is not used at all. Even in the flat parts of south Jersey, almost all aerial fertilization is experimental. Biggest bugaboo is cost. In areas of the state where high rates of fertilizer are applied, there has been a substantial increase in bulk spreading at the surface.

The New Jersey Agricultural Experiment Station at Rutgers notes some "very small" interest in forest fertilization by plane.

Customers Want Extras

Manufacturers are well aware of customers' increasing demands for price concessions and extra services. One big firm terms these demands "incessant," cites "countless demands for fringe benefits." But good technical service is the producers' stock-in-trade, as W. R. Grace points out, whether they sell to the "trade" or to other manufacturers and blenders.

Co-ops in general are not bothered by demands for price adjustments, since their major sales point is lower prices through mass buying. Members get any "profits" back as dividends, anyway.

The chief agronomist at a state university in New England feels that customers should demand even more services from the fertilizer industry. Penn

State says soil testing is probably the foremost of these services today, and the University is engaged in a program of free testing sponsored by Grange League Federation.

Eastern fertilizer makers, too, are running such programs for soil fertility. These, affirms IM&C, "very definitely form a basis for sustained fertilizer sales." Grants-in-aid to experiment stations, farm demonstrations, and "special technical task forces," along with massive direct-mail campaigning, form industry's major promotion efforts this year.

Markets off the Farm

Probably the most interesting development this year, says one producer, is the emergence of a large number of firms who are concentrating on specialty fertilizer markets. Most are developing products based on synthetic organic nitrogen.

Most producers see the nonfarm market growing rapidly, with both large and small companies active. The shift of land from agricultural to suburban or industrial use has opened up important markets for special grades of fertilizer for lawns, gardens, and ornamentals. An estimated 25% of New Jersey fertilizer sales, for instance, is for such specialty use. And some small-town outlets in Pennsylvania reported sales for lawn fertilizer alone of more than 30 tons before the end of April this year.