Ag and Food Interprets . . .

- **Choosing sides in elements vs. oxides scrap**
- **Recognized effects on plant growth of pesticide residues in soils**
- **Plant nutrient consumption slips for first time in 16 years**
- **London firm says U. S. upped its nitrogen use 4%**
- **Soil Bank and exports expected to push farm income up in '57**

Elements vs. Oxides

Various groups take sides in argument over whether fertilizer guarantees should be expressed in elemental or oxide form

With the advantage of hindsight, one can see now that the stage for war between the proponents and opponents of changing to the elemental basis for fertilizer guarantees was set last October. At that time, the Association of American Fertilizer Control Officials met in Washington, and voted its approval of a proposed change in the model state fertilizer bill to permit the switch from P_2O_5 to P and from K_2O to K.

At the same meeting, it was revealed that extension agronomists and horticulturists approved the change three to one. The only public dissent at the meeting came from William F. Price of Swift's plant food division.

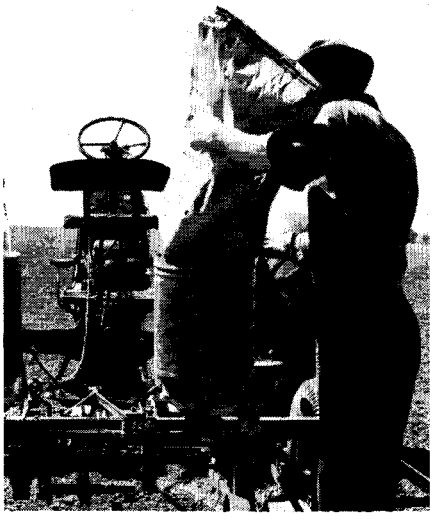
After the meeting, little more was heard publicly until December, when Allied Chemical & Dye's Nitrogen Division, in its advertising in two trade magazines, released a blast at the AAFCO proposal. Shortly afterward, the National Plant Food Institute revealed the results of a poll of its member companies and announced that NPFI "looks with disfavor" on the change.

Then, early in January, Sam Nevins of Olin Mathieson came out strongly in favor of the change.

Most recent to take sides are the California Fertilizer Association and the Pacific Northwest Plant Food Association. Both are officially opposed to the switch.

Before the October meeting, an AAFCO committee had, for many months, been working on the problem with industry people and other interested parties. Its big job had been the preparation of amendments to the model bill which AAFCO could recommend to state legislatures as an equitable plan for accomplishing the changeover. One of its problems had been to find a plan that would make the changeover as smooth as possible and avoid the confusion that might result if some states made the change and their neighboring states did not. The solution reached was a proposal to give the state secretary, director, or commissioner of agriculture authority to hold a public hearing on the subject any time after July 1, 1960. If, on the basis of information developed at the public hearing, the official should find that no economic hardship would be worked on users or distributors in the state by reason of conflicting labeling requirements, he must order the change to take place. The model bill also provides that, after the effective date of the regulation, two years be allowed in which the guarantees be expressed as P_2O_5 and K_2O as well as P and K.

Will U. S. farmers use more or less plant food if guarantees are changed from oxide basis to elements?



Iowa may be the first to consider such legislation. A bill prepared by the Iowa fertilizer industry, the state department of agriculture, and Iowa State College is to be introduced in the legislature soon. It departs from the model bill's provisions in that it would authorize the Iowa Secretary of Agriculture to make the switch after two thirds of the states adjoining Iowa authorize a change. A two-year grace period will be allowed before the change is mandatory.

All over the country this winter, at their annual meetings with experiment station agronomists and fertilizer industry representatives, control officials have been informing industry people about the proposed change. In Indiana, for instance, Hoosier fertilizer control official F. W. Quackenbush discussed the plan at his meeting and told the group no effort to get legislation passed would be made in Indiana at the 1957 session; the legislature will not meet again until 1959. Quackenbush, chairman of the AAFCO committee on fertilizer guarantees, is now sending out a questionnaire to other state control officials asking about the situation in other states.

In view of the position taken by industry associations, it might seem that fertilizer manufacturers are solidly against the change. However, an analysis of the NPFI vote can be interpreted as indicating a nearly even split. With some 80% of the NPFI membership voting, 67% were opposed, 17% favored the change, and

16% favored a neutral position. This means that just a few more than half of the members actually went on record as being opposed to the change.

How a company voted was probably determined to a great extent by its evaluation of the effect a change would have on its business. This evaluation, in turn, is based on various theories about how farmers would react to the change. If the change goes into effect, would farmers realize that the old 1-1-1 ratio has become 2-1-2? Would they realize that what was 20% superphosphate on the old basis has become 8.75% P? Answers to such questions, of course, depend on the extent to which education efforts are successful, and they rest in the murky waters of the unpredictable.

The statements of Allied Chemical and of Olin Mathieson are probably representative of the two viewpoints.

Sam Nevins, vice president of Olin Mathieson and head of its plant food division, takes the position that the change to elemental guarantees is bound to come and that it might as well be now. He says the changeover will cause no raw material or manufacturing problems that do not already exist. Actual formulations would remain just as they are with only slight changes up or down to eliminate fractions in the ratios. He sees no reason for price increases based on the changeover, for, he says, "all ingredients will be the same, cost the same per unit, and should sell for the same unit price." He argues that the educational campaign will increase farmers' awareness of their need for fertilizer, and as a result, the fertilizer industry will experience the greatest boom in sales in its history. Referring to the oxide basis as an "outdated usage," he declares: "Condoning this kind of farm malarkey is not becoming to our industry . . . If we ask ourselves honestly, 'whose advice does the farmer really take?' we must admit in most cases he will follow the recommendations of the very group of scientists who are recommending these changes . . . Can we criticize the farmers for not following their advice and at the same time turn about and disregard their suggestions?"

The Nitrogen Division of Allied contends, on the other hand, that manufacturers of the concentrated phosphates such as diammonium phosphate, ammonium metaphosphate, and superphosphoric acid "are working actively to lay the ground work for injecting into the proposed model bill when it is presented to the state legislatures, amendments requiring that minimum water soluble phosphorus be guaranteed." It is also concerned about the effect elemental guarantees would have on normal superphosphate, which, it says, "will be greatly discriminated against by the proposed law, especially so if a guarantee of water soluble is required." Its statement contains a discussion of the agronomic and economic value of 20% super. Says the Nitrogen Division's E. W. Harvey, director of technical service: the gypsum supplied in normal superphosphate provides to the farmer at no cost considerable quantities of calcium and sulfur, both of which are essential plant nutrients. A legal requirement for a guarantee of water solubility for fertilizer phosphorus, he calculates, would eliminate the full use of ammoniating solutions and raise farmers' fertilizer costs possibly by $50 million or more per year. Ammoniating solutions, he says, are the lowest cost form of nitrogen available to the fertilizer industry and consequently to the farmer. Normal superphosphate is the lowest cost form of phosphorus available, he contends. The bulk of the fertilizer phosphorus used in this country comes from normal super, a form manufactured mostly by smaller companies in the field.

AAFCO's Answer

The AAFCO committee on fertilizer guarantees has prepared a statement in answer to those who oppose going to the elemental form. Significant parts of it are as follows:

". . . a small group in the industry has led an active campaign against the changes proposed in the uniform bill. The most reactionary of these have referred to the provisions of the bill as 'radical proposals.' This is unfortunate, because the primary arguments against the bill have focused not on elemental guarantees but on items which have little or no relation to the form of guarantee. The implication that the objective of control officials in drafting the bill may have been to aid special interests has drawn justifiable resentment.

"One item, wholly unrelated to elemental guarantees but much confused with the subject in the argument, concerns guarantees for water-soluble phosphorus. Such a guarantee was not contemplated or even discussed by the committee which drafted the bill. The current bill, like previous drafts of the past decade and like many present state laws, would permit a manufacturer to make such a guarantee if he so desired.

"The special committee on fertilizer guarantees which was appointed by the Association of Fertilizer Control Officials intends to go ahead with its assignment to help make possible a change which a number of actively interested groups, including many in the industry, recognize as a progressive and desirable step in the long term. The fertilizer industry has shown its progressiveness in many other ways and we do not feel that the industry as a whole will drag its feet on an issue which the majority of groups feels is worth the effort."

Is the situation stalemated on dead center? Probably not. The opposition that has developed may prevent meeting the AAFCO's July 1, 1960, target date, but most agree that the change to elemental guarantees is certain to arrive eventually. Even those who oppose it doubt that it can be stopped in the West. They fear a split, with the states east of the Mississippi staying with oxides and those west of it going to the elements. Others think that once the ball is rolling and several states have passed the enabling legislation, opposition will begin to melt and that, in the interests of uniform state fertilizer laws, the emphasis will shift to getting the legislation passed in every state.

Arrival of the highly potent chlorinated hydrocarbon insecticides during and after World War II rekindled interest in the need to determine how pesticide residues may affect crop plant growth and product quality. While all pesticides could come under scrutiny, to date the chlorinated hydrocarbons and arsenicals have received most attention. Recent research at several levels—ranging from pot investigations to large scale field tests—has produced much data confirming suspicions that residues of chlorinated materials do affect the growth of many plants and flavor of several crops. But, as yet, no generalizations can be made as to which insecticide will always affect what plant.

Because many factors influence the effects of pesticides on crop plants,

no sweeping conclusions can be drawn concerning effects. Such factors, some controllable and others not, include:

- Presence of impurities combined with the active pesticide in the soil.
- Presence of degradation products from both the pesticide and impurities in the soil.
- Soil conditions—pH, temperature, moisture, and particle size.
- Microorganisms as they influence degradation or chemical change in pesticides.
- Weathering effects on pesticides.

These factors complicate study of the effects which pesticide residues in soils produce in crop plants.

Three direct considerations in the over-all problem of residue effects—all interdependent—are influenced by these factors. These are accumulation rate for a residue, persistence in the soil, and plant tolerance to the material.

Accumulation and persistence of the pesticide in the soil are very desirable for control of some pests. However, from the standpoints of direct influence on plant growth and indirect influence on microorganisms —as they affect soils—accumulation and persistence present potential difficulties.

Plant tolerance to pesticides proves the most difficult of these factors to pin down through consistent data relating crop, soil, and pesticide. Since it is the foremost consideration, researchers devote most of their efforts to phytotoxicity work. Seldom has actual killing or complete growth prevention of any crop plant been attributed to a pesticide residue in soil. Most instances of effects on plants involve stunted growth or reduced yields.

Residues and Flavor

Next to actual growth effects, off-flavors in edible portions of crops appear as a second important result of pesticide residues in soils. Benzene hexachloride, either as technical grade or in the form of pure isomers, has received the most attention in the last decade.

The degree of off-flavor varies with soil, time elapsing between treatment and harvest, the kind and amount of BHC isomers present, and the techniques used in processing the food. Peaches sprayed with technical BHC were found to have no off-flavor when eaten fresh or frozen. Yet others treated at the same time, but later canned, had off-flavors.

Since the type of soil influences the persistence of BHC, and hence its effect on flavor, soil effects must be minimized in studies of other variables. In Virginia and South Carolina studies of peanut off-flavors from BHC in soil, utilizing as nearly uniform soil as possible, showed intensity of off-flavor could be correlated with dosage of insecticide applied to cotton grown previously in the plots. However, excessive amounts of BHC were required to produce off-flavors.

The time elapsing between BHC application and growing, harvesting, and processing of the subsequent crop affects the degree of off-flavor. Some crops grown a year after treatment with BHC still have a definite off-flavor, report many investigators. However, intensity does decrease.

Some crops, lima beans for example, show different degrees of off-flavor with treatments of different isomers of BHC. The gamma isomer seemed to cause less off-flavor than beta isomer, delta isomer, or mixtures in experiments conducted by USDA researchers.

Pesticides other than BHC have also been investigated to check whether their residues in soils cause off-flavors. With very few exceptions, none has been found to affect crop flavor.

Recommendations

Research on the effects of pesticide residues aims at showing how to use pesticides effectively without plant damage of any kind. In most experiments excessive dosages of materials under test are used to find out as quickly as possible the dosages that would be harmful. These experiments obviously correlate with overdosages and other forms of misuse of pesticides in actual practice.

USDA officials point out that in recommending insecticides, they carefully seek to avoid plant damage, whether from direct application or possible accumulation of residues in the soil. Only those insecticides that will control the insects in dosages below levels likely to cause plant damage are recommended. For example, in the 1956 season DDT was widely recommended for both soil and foliage treatment, but BHC was seldom recommended for foliage treatment and never for general soil treatment. The limitations on BHC stemmed from the hazards of off-flavors on food crops.

Because of the many variables in the pesticide residue–crop welfare picture, most workers in the field hesitate to generalize. Most will say a potential hazard exists. Major differences of opinion exist as to exaggeration of the hazard and interpretation of present data.

As more work is done on the effects of pesticide residues, a more consistent picture of the true hazard will form. For certain pesticides (including a few herbicides) effect or lack of effect on some plants has been definitely established. In some of these cases effects have been recognized, only, not investigated.

The possible translocation of toxic quantities of pesticide residues to edible portions of plants may be at least as important as taste or odor effects. How to determine reliably when the residue concentration becomes sufficiently high to require switching to nonsensitive plants is another big problem pointed out by workers in this field. These and several other questions regarding the effects of pesticide residues in soil on crop plants will remain unanswered until a vast amount of additional research is done.

Fertilizer Consumption

Preliminary report from USDA shows small decreases in both total tonnage and primary nutrient use in 1955-56

After 16 consecutive years of setting new records, total consumption of primary nutrients in fertilizers slipped in 1955–56 to a level slightly below that of the year before. The drop was slight—39,000 tons, or 0.6%—according to the preliminary report prepared by Scholl, Fox, Wallace, and Crammatte, and just issued by the USDA's Fertilizer and Agricultural Lime Section, Agricultural Research Service. It appears that the drop was real, however, and the long upward climb has been halted—at least temporarily.

Estimated consumption of all commercial fertilizers in the U. S. and territories, according to the report, was 22,096,000 short tons in the year ended June 30, 1956. This figure represents a decrease of 2.8% (628.-000 tons) from the quantity used in 1954–55. The fact that this percentage drop is greater than that for primary nutrient consumption shows that the trend to higher analysis goods has continued.

Consumption of mixed fertilizers amounted to 14,749,000 tons—a decrease of 3.9% (599,000 tons)—and of materials for direct application 7,347,000 tons—a decrease of 0.4% (29,000 tons). Included in the materials for direct application is 6,568,000 tons of products containing one or more of the primary plant nutrients (N, available P_2O_5, K_2O) and 779,000 tons of secondary and trace nutrient materials. The tonnage of secondary and trace nutrient materials, of which approximately 85% was consumed in the Pacific region, was just a shade below that in 1954–55.

Total fertilizer consumption decreased in seven of the nine regions of the continental United States and in the territories (Hawaii and Puerto Rico). Slight gains occurred in the West South Central and Pacific regions. Approximately 79% of the decrease in total consumption occurred in the Middle Atlantic, South Atlantic, and West North Central regions where nearly 45% of the tonnage of all fertilizers was used. These three regions also accounted for most of the decreases in mixed fertilizers and in materials for direct application.

Among the individual areas, the East North Central region showed the largest decrease in use of mixed fertilizers (152,000 tons), but this drop was largely offset by an increase in use of direct materials (132,000 tons). In only the Mountain and Pacific regions was there an increase in the use of mixed goods; however, the mixtures used in these two regions comprised less than 15% of the tonnage of all fertilizers used there, and less than 3% of the total consumption of mixtures in the United States as a whole. The consumption of materials for direct application showed increases in only three regions—East North Central (13.3%), West South Central (1.1%), and Pacific (0.5%).

Of the various classes of materials used for direct application, an increase in consumption was shown only by the phosphate products. Among such products, the greatest increase (nearly 55%) was registered by phosphate rock, chiefly in the North Central regions where most of it is used. Consumption of normal superphosphate appears to have decreased about 15%, while the other two principal phosphate materials—concentrated superphosphate and the ammonium phosphates (11–48, 13–39, 16–20)—showed little change from their use in 1954–55.

The estimated consumption of anhydrous ammonia for direct application is placed at 431,000 tons, an increase of 21.8% over the total for 1954–55. Increases occurred in all regions, but were greatest—about 40% each—for the East South Central, West South Central, and Mountain regions. The use of aqua ammonia increased 30.2%; consumption of nitrogen solutions was nearly the same as in 1954–55.

Primary Plant Nutrients

The estimated quantity of primary plant nutrients contained in all fertilizers consumed in the United States and territories was 6,081,000 tons, as compared with 6,120,000 tons in 1954–55. The total for 1955–56 included 1,952,000 tons of nitrogen, 2,240,000 tons of available P_2O_5, and 1,889,000 tons of K_2O. In comparison with 1954–55 consumption, these quantities represent decreases of 9000 tons (0.4%) for nitrogen and 44,000 tons (2.0%) for available P_2O_5, but an increase of 14,000 tons (0.8%) for K_2O.

Increases in the consumption of total primary nutrients, shown in five of the ten regions, were proportionately the greatest in the West South Central (7.4%) and Pacific (5.7%) areas. The largest decreases were in the West North Central (8.0%) and Middle Atlantic (5.9%) regions, and in the territories (7.3%). The use of N and P_2O_5 increased in five regions, and K_2O consumption increased in six regions. Except in the case of K_2O, however, these increases did not offset fully the decreases that occurred in the other regions.

The consumption of primary plant nutrients supplied by mixed fertilizers is estimated to have been 4,275,000 tons, consisting of 815,000 tons of nitrogen, 1,789,000 tons of available P_2O_5, and 1,671,000 tons of K_2O. These quantities represent 12,000 tons (1.5%) more nitrogen, 32,000 tons (1.8%) less available P_2O_5, and 13,000 tons (0.8%) more K_2O than those in 1954–55. Materials used for direct application supplied 1,137,000 tons of nitrogen, 451,000 tons of available P_2O_5, and 218,000 tons of K_2O, representing decreases of 21,000 tons (1.8%) for nitrogen and 12,000 tons (2.7%) for available P_2O_5, and an increase of 1,000 tons (0.6%) for K_2O, as compared with 1954–55.

The average primary nutrient content of all mixed fertilizers consumed in the United States and territories climbed to 29.0%, from 27.9% in 1954–55. For all direct-application materials that supplied primary nutrients, the corresponding averages were 27.5 and 27.9%.

While all of these figures are preliminary estimates, no major departures are expected when the final official figures are in. Slight year-to-year drops in total tonnage consumption are not a new story, but a drop in primary nutrient use, even a very small one, is rather a different story. It is not the sort of business development that makes for peaceful sleep; perhaps 1956–57 will go down as the year of the "big sell" in fertilizers.

New Outlook For Nitrogen

Final U. S. consumption during 1955–56 up 4%, says Aikman. European-Egyptian usage 7% above last year's

LAST MAY, when Aikman (London), Ltd., made its regular half-year report, the bleakness of the nitrogen fertilizer outlook led to predictions of an over-all drop in U. S. nitrogen usage of 6.5%. However, the demand for nitrogen fertilizers changed so drastically in the months following that the

Aikman Nitrogen Estimates

(Excluding U.S.S.R.)

	Production		Consumption	
	For Agriculture	For Industrial Purposes	For Agriculture	For Industrial Purposes
	(Thousands of Metric Tons)			
1951–52	4420	820	4355	820
1952–53	4920	920	4935	920
1953–54	5450	1040	5340	1040
1954–55	6270	1150	6020	1150
1955–56	6945	1230	6350	1230
1956–57	7875	1285	6705	1285
1957–58 (estd.)	8885	1355	?	?

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Sohiogen 10, Sohiogen 11, Sohiogen 12, Sohiogen 15 — 41 to 44% nitrogen solutions containing 10 to 15% urea to help mixed goods conditioning

Urea — Ammonia Solutions

Sohiogen 21, Sohiogen 22 — Urea and ammonia in 45% nitrogen solutions, winter and summer grades

Urea — Ammonium Nitrate Solutions

Sohiogen 31, Sohiogen 32 — 28 and 32% nitrogen solution used to add supplemental nitrogen to mixed fertilizers

Urea — Water Solution

Sohiogen 40 — 40% urea solution, liquid source of supplemental nitrogen

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declines pessimistically estimated on the basis of expected weather effects failed to materialize. Aikman, in its end-of-year report, says that final figures for 1955–56 show an over-all increase in consumption of about 4% over 1954–55. The consumption increase was chiefly a result of agriculture's requiring about 150,000 metric tons more than had been estimated, with unprecedented demands developing in May and June. Actual industrial usage fell 100,000 tons below midyear predictions, because of smaller-than-expected purchases by the Government.

Final consumption data for Europe and Egypt show an increase of 7% against the May estimate of 2.5%. Several factors contributed to the increased usage. In U. K. there was a significant increase in consumption for agricultural purposes amounting to 35,000 tons of nitrogen—largely for grasslands fertilization. Polish consumption increased 60,000 tons, French 25,000, and Western German and Yugoslavian 25,000 tons each. In the rest of Europe there was little change.

In the U. S. there has been a material cut in production. New plants in interior states have not been able to sell their full capacity locally, and freight rates to the coast make exportation impossible, according to Aikman. As a result, there has been a 25% reduction in estimates of production as compared with capacity. In Europe, production does not show an increase corresponding to increased consumption, so that availability for export has been greatly reduced; exports during 1956–57 are expected to be small.

Fertilizer Trends

Aikman observes that users still are turning increasingly to high grade nitrogens—81 to 83% anhydrous ammonia, 45% nitrogen solutions, 45% urea, and 33.5% ammonium nitrate. As a result, ammonium sulfate sales are down considerably. (According to the 1955–56 annual report of British Sulphate of Ammonia Federation, Ltd., released in December, world production of ammonium sulfate in 1955–56 was 2,605,000 metric tons as compared with 2,395,000 the year before.)

The current international situation could lead to a sizable reduction in European production estimates. Aikman points out that contributing factors are fuel difficulties, affecting production directly and a shortage of shipping, important because much of Europe's production must be exported. Stocks at next midyear are expected to be much higher than last June's unless production in the U. S. is radically reduced from present estimates.

Total world production capacity for 1956–57 is now estimated at 9,160,000 tons, and consumption at 7,990,000 tons. During the next two years, production will have to be cut substantially if present building plans, promising a capacity of 10.3 million tons in 1957–58, materialize. It is now thought that supply and demand might be balanced by 1961–62.

What about prices and stocks? In Europe, prices have been maintained well, with export quotations varying between $43 and $47 per metric ton for bulk ammonium sulfate, f.o.b. European ports. Ammonium nitrate (20.5%) is $1.00 less. In contrast, prices in the U. S. dropped to $32 and $30 per ton respectively for synthetic and by-product sulfate. The situation has been improved somewhat by large shipments to India, Pakistan, and Korea. Demand continues very active in the Far East, and the next two years are expected to show a sizable increase in consumption if freight costs are satisfactory.

Settling Chilean Nitrate Picture

Nitrate drafts are being sold at an exchange rate of about 350 to 400 pesos to the dollar now that agreement between the Chilean government and nitrate producers has finally been fixed. Thus, the cost of production there has supposedly been reduced. However, long strikes during the past fertilizer year reduced supplies by about 250,000 tons of product so that the actual cost of production may not have been less. Prices were reduced $1.75 per ton under last year's levels.

Russian Situation

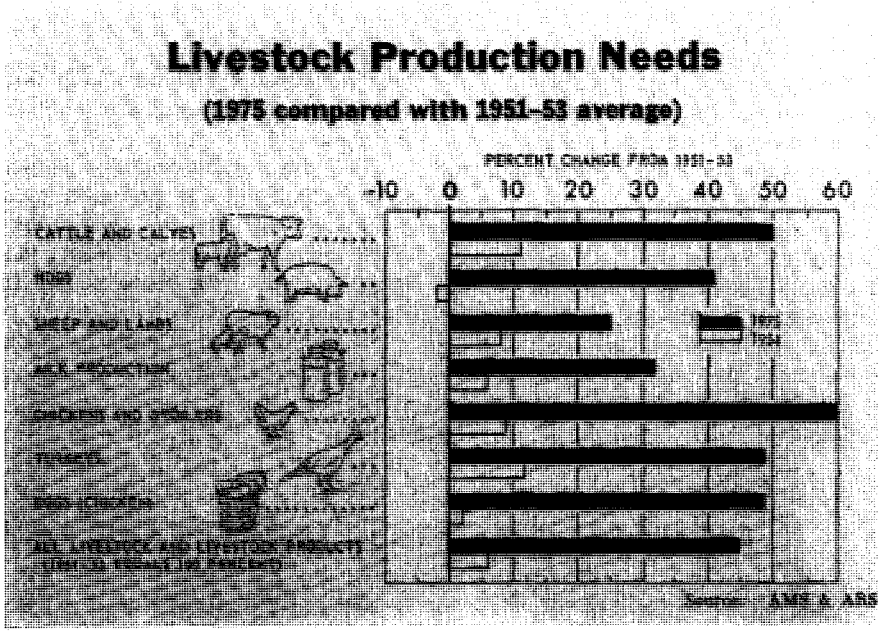
For next fertilizer year, it is estimated that production of nitrogen for agriculture in the U. S. S. R. will be 870,000 tons, and that for industry 130,000 tons. No exports are likely beyond the satellite countries. For the past two years, corresponding estimates were 670,000 and 130,000 for 1954–55, and 770,000 and 130,000 in 1955–56.

The Farm Situation—1957

Prospects for an agricultural production-demand balance spring from anticipated high exports and a strong Soil Bank program

U. S. FARM INCOME is registering an upturn for the first time since 1950. Gross income during 1956 improved by 2%, and net by 3 to 4%. Large surpluses, primarily responsible for income declines from 1951 to 1955, are still a major problem to farmers, but with the Soil Bank in full swing and heavy exports of cotton, wheat, and rice scheduled for the year, some further improvement in farm income may be realized in 1957.

Farm output again broke records in 1956, and production expenses rose only 1%, mostly for overhead items. Marketings, also increasing, were high enough to offset slight price declines. But the Government's wool incentive and Soil Bank payments, adding $300



million to farm income, were vital in checking the poor earnings trend.

During the past 15 years, farming has become so efficient, through use of fertilizers, pesticides, weed killers, and mechanized equipment, that in 1956, production more than one third greater than that of 1940 was achieved on the same amount of crop land. Farms are fewer now than in 1940, but average size is larger, and fewer workers are employed. Because of this high productivity per acre of farm land, USDA experts participating in their 34th Annual Outlook Conference predicted that it will be five to 10 years before population and general growth factors make any demands on U. S. farmers for increased production. Instead of a supply problem, U. S. agriculture will be concerned, for some time, primarily with constant adjustments to control surpluses.

In addition to further technological advances, including development of industrial uses for farm products, the outlook for a better farm picture in 1957 is based on several major economic assumptions:

- A large and successful Soil Bank program
- General business activity's continuing to new highs
- Agriculture's sharing equally in the national economic growth
- No further deterioration in international relations

Under these conditions, commodity expectations add up to higher returns from livestock and lower receipts from crops. Soil Bank contributions, however, will more than counter the drop in crop income and promote the chances for larger farm profits.

A reduction in surplus commodities and consequent better balance between farm supplies and demand could take place in the 1957–58 crop year, if the Soil Bank functions successfully.

Currently the bank is adding a quarter of a billion dollars directly to farm income. Net Commodity Credit investments are over $10.5 billion. Winter wheat farmers have already signed up 10 million acres in acreage reserve, according to USDA, and substantial participation for spring wheat, cotton, and other basic crops is indicated. Altogether, 40 to 45 million acres will be in the 1957 Soil Bank—about one ninth of the total acreage cultivated. On this basis, Soil Bank payments for the year will approach the authorized $1.2 billion.

Favorable U. S. Export Position

Abundant supplies, solvent customers abroad, and competitive pricing policies provide the U. S. with facilities for moving to an all-time high in farm commodity exports in 1957. Some believe this country may also profit from a good shipping position, an unplanned and unexpected situation set up by the Suez blockade. This advantage applies particularly in doing business with Western Europe—that is, so long as the situation does not backfire, causing diversion of European expenditures from farm products to fuels.

In Western Europe, agricultural development is slowing as industrial production is pushed ahead. Demand for farm produce will continue high, says USDA, and easing import restrictions coupled with favorable prices should allow the U. S. to sell quantities of cotton and other surpluses in this area.

Eastern Europe must import food this year, especially if there is to be a derationing program. Most of its countries face grain shortages in addition to permanent undersupplies of meats, fats, and dairy products. These facts exist, of course, regardless of any impact on agriculture arising from recent events in Hungary and Poland.

A few Latin American countries may show improved farm production during 1957, but generally the continent is not able to provide food supplies fast enough to keep up with population increases. Latin America uses quantities of U. S. wheat, flour, fats, dairy products, and processed foods. During 1957 the value of commodities purchased from the U. S. is expected to exceed $500 million.

U. S. exports of agricultural products have been increasing for the past three years, but how long the foreign markets will continue depends on many factors; some countries are already buying U. S. foods for stockpiling.

Government Program

While heavy exports this year will be operating to reduce U. S. surpluses, especially in cotton, wheat, and rice, corn stocks are expected to increase.

Early in January, Secretary Benson met with Senate and House agriculture committees to discuss legislative matters to be brought before the new Congress. Particular concern was expressed regarding corn—excessive production, low prices, stimulation of livestock production, and inadequate Soil Bank provisions.

Benson wants Congress to take action on the corn predicament, to extend the Agriculture Trade Development and Assistance Act of 1954, and to provide for research to find new crops and new uses and markets for farm products.

A group of congressional studies, initiated earlier, is intended to throw light on the agriculture policies and practices of the Government—for example, methods of improving the parity formula; food stamp plans; industrial utilization of farm products; and price supports for cotton. Most of these investigations are completed, says Benson, and will be reported to Congress within the next few months.

Although some new legislation for farmers may come from the 85th Congress, the Administration's program, except for possible extensions and expansions, is generally regarded as "set."