



Members of panel on "Proper Use of More Fertilizers": Roy Battles (left), The National Grange; W. F. Price, Swift & Co.; Werner L. Nelson, N. C. State College; O. J. Kelley, USDA; Milton C. Cummings, banker of Effingham, Kans.

Reduction of Farm Unit Production Costs Seen as Answer to Lower Farm Prices

WHITE SULFUR SPRINGS, W. VA. —Farm production must be geared to current needs, declared Russell Coleman, president of the National Fertilizer Association, before the annual convention of that organization held here June 15 to 17. Our needs today are far different from those anticipated a year ago. Food surplus, not food shortage, is the current problem.

The American people should demand an adequate reserve of all storable farm commodities to avoid any possible disaster, according to Dr. Coleman. Admitting that the acceptance of a reasonable food reserve does not justify an unmanageable agricultural surplus, he urged that our people should be more realistic than emotional about owning abundant food supplies.

Regardless of whether our food problem is one of surplus or shortage, Dr. Coleman said that fertilizers are like a double-edged sword for attack on the problem. One edge has the ability to increase agricultural production to give our nation a strong weapon against starvation. The other edge can slash the cost of producing farm commodities, thus enabling the American farmer to compete profitably in a declining farm market and to produce lower cost food for the consumer.

Dr. Coleman said that the present corn crop could be grown on 20% less acreage by using the amounts of fertilizers recommended by the state experiment stations. This could represent an annual cut of \$500 million in cost of production yet would require an expenditure of only \$181 million for fertilizer.

Concern Over Next Year. Louis Ware, International Minerals and Chemical

Corp., in his address as chairman of the board of NFA, said that within the fertilizer industry there is more than usual concern over the period immediately ahead of us. He listed three main conditions contributing to this concern: a war uncertainty; the changed government in Washington with a more realistic approach to farm subsidies, surpluses, and problems; and the continued expansion and changes in plant food industry.

Mr. Ware said that while the fertilizer industry is over 100 years old in this country the recent changes and growth are unprecedented. The projected expansion between 1951 and 1955 would call for about \$600 million investment of capital by private industry. These new facilities, he noted, will be capable of producing \$700 million worth of additional fertilizers. He discussed the current leveling off or turning down in farm income. Normally, it would be expected that fertilizers would follow the same trend, but Mr. Ware opined that there have been changes in recent years and perhaps this trend can be arrested. One method suggested was increased sales effort and adherence to good business practice.

The farmer, with lower sales realization for his production and higher operating costs, should turn to ways of lowering his unit cost of production.

True D. Morse, Undersecretary of Agriculture, declared that American agriculture has a solid future (see page 506).

Effective Spread of Information Important to Fertilizer Industry

A panel discussion of the proper use of more fertilizer by representatives of

government, industry, universities, and finance, impressed on the meeting the need to carry to the farmer information which will convince him of the benefits he will gain from the application of plant foods. According to Omer J. Kelley of the U. S. Department of Agriculture, improvements in soil testing, particularly for phosphorus needs, can lead directly to better use of fertilizers. There are between 4 and 6 million acres of mountain meadows in the western states, said Dr. Kelley, and experimental work has shown that the use of large amounts of nitrogen can be valuable for the production of high quality. Increases in crude protein content of such hay have been particularly striking.

More Fall Application. W. L. Nelson, North Carolina State College, emphasized two aspects of the fertilizer problem which need attention: careful studies of changing fertilizer needs which are brought about by the improvement of crop varieties and the need for more research on the fall application of fertilizers. The entire panel, including moderator Roy Battles of the National Grange, commented upon the benefits which could come from the proper application of more fertilizer in the fall. Not only could this relieve the labor problem by filling in during a lax period, but it would help the fertilizer industry a great deal with some of its delivery problems.

Milton C. Cummings, Farmers and Merchants State Bank of Effingham, Kansas, urged greater attention to the education of bankers in the value of fertilizer as an investment. He said that returns of from \$3 to \$6 can be realized per dollar of investment in fertilizer, but neither the people extending credit or the farmers have had enough

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education on this point. Speaking on the basis of experience and observations, particularly in Kansas, he said that the banks can assist in the establishment of soil test laboratories and can work with both public and private forces to strengthen local agricultural technical services.

W. F. Price, Swift and Co., throughout his discussion and in his final summary, emphasized his opinion that industry should give much more active support to a campaign to improve the understanding of the value of fertilizer as an investment. Mr. Price said the problem of the proper use of more fertilizer is two-sided. On one hand there is a question of the profitability of the expansion of use of fertilizer by the farmer, and on the other hand the question of the farmers having the needed cash outlay. There seems to be ample evidence to show that an increased use of fertilizer should be profitable. The second part of the question, however, noted Mr. Price, hinges to a great extent on the profit made by the farmer and that profit can be increased through education. On this matter, he said, the USDA, the colleges, the banks, and industry—all must cooperate to demonstrate to the farmer that the use of more fertilizer can pay.

Valuable Potential Seen in Improved Irrigation

While supplemental irrigation is recognized as an important new technique, it is not new to all, according to Robert Q. Parks, Grace Chemical Co. The acreage to which it was applied was not even recorded in the agricultural census prior to 1939. A year ago he said the total amount of land being irrigated in the East was estimated at about 800 thousand acres and is now close to a million, excluding the rice lands of Louisiana, Arkansas, and East Texas where some 1,600,000 acres were being irrigated in 1950.

Dr. Parks emphasized that there are still many unanswered questions regarding irrigation, some of these are (1) both the physical supply and the legal aspects of use of water resources, (2) the critical



Principal speakers at the general meeting: Louis Ware, International Minerals; Undersecretary of Agriculture True D. Morse; and Russell Coleman, NFA president

periods of water needs for our various crops, (3) the water intake and storage capacities of our soils and the depth of the root zone reservoir for each of our crops, and (4) how to work out the optimum combination of soil, fertilizer, and crop and water management practices needed to achieve maximum production.

Dr. Parks pointed out, however, that there are a great many cases where the greatest benefits come from increasing fertilizer use and irrigation together. Here he interjected a word of caution pointing out that the efficient use of supplemental irrigation will require greatly increased use of fertilizers, but not necessarily the same fertilizers as those for dry farming.

Fertilizer Application through Irrigation Systems. James E. Ferguson, Southern Irrigation Co., said that there are several important advantages in using the sprinkler irrigation systems as a fertilizer distribution tool. Both irrigation and fertilizer distribution can be accomplished, he stated, with only slightly more labor than is required for irrigation alone. Close control can usually be maintained on placement

depth of fertilizer as well as lateral distribution. Supplemental plant nutrients become available to the plants more quickly because they are already in solution and ready to be used by the plant. Almost all water soluble or liquid fertilizers can be injected into the sprinkler system, said Mr. Ferguson. Nitrogen has been the most popular of all fertilizers used to date in sprinkler systems.

He reported that there is some controversy over the advisability of using sprinkler systems to distribute anhydrous ammonia. Some plant burn has been reported, as has loss of nitrogen from the sprinklers or the solution on the ground. On the other hand, some believe that ammonia can be distributed successfully by sprinkler systems if concentration is held low.

Supplemental Irrigation in Rainfall Belt. Supplemental irrigation is the most important single thing now offered for the improvement of agriculture in the rainfall belt or areas having annual rainfall of 30 to 50 inches according to W. B. Camp, farmer of Bakersfield, California and South Carolina. He based this statement on his own personal experience.

H. H. Tucker opens panel on more efficient water use. Other members: W. B. Camp (left), W. B. Camp & Sons; James E. Ferguson, Sprinkler Irrigation Association; R. Q. Parks, Grace Chemical; Malcolm H. McVicker, NFA

