

its plant nutrients as materials, while in contrast the Middle Atlantic region uses 89% of its requirements as mixed fertilizers. Even within individual states there are wide differences. Florida, with the largest tonnage of mixed fertilizers, 1.3 million tons, in 1957 had 972 grades registered. California reported over 500 grades. North Carolina, with the second largest tonnage of mixed fertilizers and the largest total tonnage, 1.57 million, used only 43 grades. Thus, present statistical averages give misleading approaches to the problems of the industry.

In conclusion, the fertilizer industry has a great need for—and this is a plea for—better communications. Flecks of dust in the eyes of the industry have been cited. These redden the eye and blur the vision so that the beam in front of the eye cannot always be seen. There are many big problems and big pictures in which there can be joint effort—the poetry of photosynthesis, the mathematical beauty of energy exchange in the soil and in the plant, the study of the living soil—if communications are perfected.

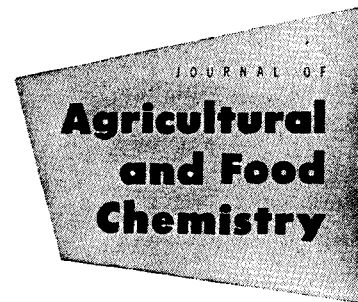
It must be recognized that today the U.S.S.R. is putting into agricultural research a substantially higher percentage of its national income than is the United States. Granted that the U.S.S.R.'s needs are greater now. In time its agricultural research and productivity will be a geopolitical weapon more potent than an intercontinental ballistic missile.

Progress in fertilizers is a single phase. When the fertilizer industry flicks away the flecks of dust, sees all its problems in their true light, and with communications as an instrument, solves these problems for the betterment of all, it might be that the fertilizer industry could then claim for itself R. H. Kean's poetic description:

"Eyes fixed on the stars, but its head should not be in the clouds
It should progress with giant strides
in extending the frontiers of human knowledge
But it must always keep its feet firmly on the ground
It must dare to dip into the future
Far as the human eye can see
To see the vision of the world
And all the wonder there will be."

—But I doubt it.

The foregoing papers are based on those delivered before the Agricultural Research Institute meeting at the National Academy of Sciences, Washington, D. C., on Oct. 13, 1958.



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