

SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE
OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE

FRIDAY, NOVEMBER 22, 1907

RELATION OF CHEMISTRY TO AGRICULTURE¹

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THE subject assigned the writer on the program of exercises in honor of Dr. W. A. Noyes, who was recently appointed head of the department of chemistry and director of the laboratory at the University of Illinois, is "The Relation of Chemistry to Agriculture."

The friends of the university, who are present here on this auspicious occasion, will, as a matter of course, not expect anything new or startling in a paper of this kind. The application of chemistry to the art of agriculture is characterized by the same results which are manifest in many of the leading industries of the world after this fundamental science had thrown new light upon the processes involved. One general and most important result in this connection has been the establishment of rationalism in the place of empiricism.

It is true that in some of the methods employed in agriculture empiricism has been in advance of science. The beneficial effects of barn-yard manure upon crops was well established in the minds of farmers before chemistry had pointed out that carbon, hydrogen, oxygen, nitrogen, phosphorus, sulphur, potassium, calcium, magnesium and iron were essential to vegetable

¹ This and the following addresses by William McMurtrie, Julius Stieglitz, George B. Frankforter and William A. Noyes were delivered at the inaugural exercises of Professor Noyes as head of the chemical department and director of the chemical laboratory of the University of Illinois, on October 18, 1907.