

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, SEPTEMBER 28, 1906.

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MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y.

SOME PROBLEMS FOR AGRICULTURAL CHEMISTS.¹

THE topic of my paper is not intended to convey the idea that I have anything new or startling to suggest, or that I intend to point out the shortcomings of the American agricultural chemist. My purpose is mainly to state what an experience of twenty-five years has suggested in the way of chemical investigations that seem now to be essential, if we are to maintain, or increase, the fertility of our soils, and thus retain the position that we have acquired as an agricultural people. We have in this country quite as capable chemists, I am sure, as there are in any country, yet the conditions existing here in the past, and that do exist now, in a way, have been such as to demand that our agricultural chemists should follow lines of a semi-technical, rather than of an investigational, character, in the sense that they have necessarily applied themselves to the problems of crop utilization, rather than to those having to do with the principles involved in their production. The principles of agricultural chemistry, which the early investigators established, and which were collated and formed into a science by the aid of the immortal Liebig, have served as the foundation for our work, and this basis has been sufficient to enable us to make great progress from the economic standpoint, so long as there were, in a sense, new worlds to conquer and new

¹An address delivered before the American Chemical Society at the Ithaca meeting.