

SCIENCE

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MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE NEXT STEP IN IMPROVEMENT IN WHEAT CROPPING—HOW TO INCREASE WHEAT PRODUCTION IN 1918 AND 1919¹

YOUR secretary has requested me to prepare a paper on soil organisms affecting cereal production. The subjects which should come before you at this time are without question of the greatest importance to this nation and particularly to the cereal-producing states, and, of these, none are of greater import than those which touch upon the causes of seed and crop deterioration in cereals, under the general cropping and marketing processes now in use. In the case of wheat on the general market it may be truthfully described as yearly more closely approaching the "no grade" condition because of mixtures of kinds and qualities through the jumbling methods of the handling processes. In the case of the seed used on the land in such general cropped regions, the start or first crops produced are always at "No. 1 quality." The finish is always reached after a gradual yearly reduction in purity, vitality and weight quality, until crop failure ushers in seed importation, and then, final failure of the cereals as the chief crops. Are these consequences a matter of necessity?

I am well aware that agriculturists, fertilizer experts, agronomists, and perhaps some plant pathologists, do not agree with me in assigning as great importance to the rôle of plant diseases and to soil and seed sanitation in cereal cropping as I do. However, stock raising, gardening and

¹ Read before the third Interstate Cereal Conference.