INFLUENCE OF FERTILIZERS ON YIELD AND MATURITY OF SOY BEANS.1

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INTRODUCTION.

Experimenters in soil fertility and crop response have observed that all crops do not respond alike to the same fertilizer and that a given fertilizer will not produce the same results on the various soil types with the same crop.

Scovell and Peter (11) observed that for corn, potash is especially needed on the soils of their State and that wheat is greatly benefited by potash also. They also observed that the greatest profit in every instance was where potash was used.

Neale (9), at the Delaware Station observed that the greatest net profit in every instance resulted from the use of muriate of potash alone, the increased crop due to nitrate of soda being in no case sufficient to meet the increased cost of the fertilizer. He also observed that corn yielded most abundantly with nitrate of soda and muriate of potash, and that wheat gave the best return with nitrate of soda and acid phosphate.

Goessman (3), of Massachusetts Station, stated that sulphate of potash and magnesia on leguminous crops gave, in most instances, better results than muriate of potash. Tests with soy beans showed that potash had the greatest effect upon the increase and quality of the crop. In the soil tests with corn, potash was found to be the controlling factor.

Phelps (10), of Connecticut, reported that nitrogen had very little beneficial effect on either the total yield or the feeding value of cow peas or soy beans, but when supplied in the form of manure increased the yield nearly 9 bushels over that of mineral fertilizers.

Williams (12), of North Carolina Station, stated that ordinary applications of commercial fertilizers hastened the maturity of cotton. High nitrogen (N-P-K) applications on all types of soil studied generally produced larger percentages of total yield open at the first picking than high potash (N-P-K.) applications.

Fellers (2), in his work with soy beans in New Jersey, found that applications of from 50 to 400 pounds of muriate of potash per

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3 Reference by number is to "Literature Cited," p. 197.