RESPONSE OF SOYBEAN TO NITROGEN, PHOSPHORUS AND POTASSIUM
I- GROWTH CHARACTERS

BY

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ABSTRACT

Two field experiments were carried out at the Research and Experimental station of the Faculty of Agriculture at Moshtohor, Zagazig University during 1985 and 1986 seasons. The study aimed to elucidate the effect of N, P and K on growth characters of soybean. Dry weight of different plant organs, i.e., leaves, branches and pods as well as the whole soybean plant at different stages of growth significantly increased with increasing N-levels up to 80 kg/fed. in the two seasons. Similarly, number of leaves/plant, number of branches/plant as well as number of pods/plant were affected markedly by different levels of nitrogen. On the other hand, addition of P and K had no significant effect on all growth characters under this study.

INTRODUCTION

Soybean (Glycine max, L.) is an important oil crop grown in Egypt. it is used as human food and animal feed.

Recently, efforts have been made to increase the productivity of soybean per unit area by applying macro-nutrients, especially, N, P and K. Many workers reported that increasing nitrogen rate resulted in enhancing plant growth of soybean at all stages of growth and also improved its productivity per unit area (Sharaf, 1980; Ali, 1981; Aamer, 1982; Sharaf, 1984 and Osman, 1985). Likewise, Sharaf (1980) and El-Deepah (1985), reported that application of P-fertilizer significantly increased plant height, number of branches/plant and number of pods/plant. On the other hand, Bassiem (1983) and Hefni et al. (1983), found that increasing P-levels from 10 to 40 kg P_2O_5/fad. did not exert a significant effect on growth characters of soybean plants. With regard to the effect of K application on growth characters of soybean, Webb and Westerman (1979), mentioned that there