

RESPONSE OF SOME NEW LINES OF FABA BEAN (*Vicia faba* L) TO FOLIAR APPLICATION OF ZINC SULPHATE

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ABSTRACT : Two field experiments were carried out at the Research and Experimental Station of the Faculty of Agriculture at Moshtohor, during 1990/1991 and 1991/1992 seasons to the response of five new lines viz Moshtohor 8, 10, 18, 43 and 66 as compared to commercial cultivar Giza 402 under foliar application of zinc levels (0, 0.2%, 0.4% and 0.6% Zn SO₄).

Giza 402, Moshtohor 18 and 66 gave the tallest plant as compared the other lines. Moshtohor 8 had the highest mean values for seed index, seed yield/plant and seed yield/fed. The new five lines were significantly higher than the commercial variety Giza 402. Moshtohor 8 and 10 lines increased seed yield/feddan over the commercial cultivar Giza 402 by 17.6% and 16.54%, respectively.

The differences between the averages of all characters under study were significant due to zinc sulphate fertilizer levels up to 0.6% as foliar application, except number of branches/plant in the first season and plant height in the second season. Foliar application of zinc sulphate at 0.2%, 0.4% and 0.6% significantly increased seed yield/feddan by 21.65%, 38.25% and 69.7%, respectively compared with the control treatment (zero Zn).

Significant positive correlation values were found between seed yield/plant, and each of number of branches/plant, number of pods/plant and seed index.

The direct effect of number of pods/plant and seed index and indirect effect of number of pods/plant through 100-seed weight were account for approximately 98.01% and 69.36% of seed yield/plant variation at first and second seasons, respectively.

INTRODUCTION

Effect of zinc on some of new varieties of faba bean and other crops had received the most attention during the last decade. Nigem et al. (1988), El-Shazly and El-Rassas (1989) and Abdel-Aal (1990) who found the differences among faba bean varieties i.e Giza 1, Giza 2, Giza 3, Giza 4,

Rebaya 40, Equadols, Giza 402 and NA 112 for all traits studied i.e. plant height, number of branches/plant, number of pods/plant, seed index, seed yield/plant and seed yield/fed. El-Hosary and Sedham (1990) reported that L 66 and L 43 had the highest values of seed yield/plant followed by L8 and was significantly higher than the check variety Gize 2