

Effect of some agricultural practices on faba bean infestation with certain insect pests

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The experiments reported herein were carried out at the Experimental Research Station, at Moshtohor Zagazig University, Kalubia Governorate, Egypt, during the two successive seasons 1998/99 and 1999/2000. The purpose of this study was to investigate the effects of planting dates, phosphorous fertilizer levels and some faba bean cultivars and the magnitude of interactions between these factors, on infestation with some insects, i.e. *Aphis craccivora*, Koch., leaf miner (*Liriomyza congesta*, Becker, yield and its components in both seasons. Two experiments were conducted at different planting dates early (during October) and late (during December). In each experiment, a split —plot design with three replications was used. The main plots were randomly assigned three levels of phosphorous i.e. 0, 30 and 60 kg P₂O₅/fed and five cultivars Giza 3, G 461, G. 674, G. 716 and Giza 843 were allocated in the sub plots. Data recorded : number of aphid (*Aphis craccivora* Koch) leaf miner, the percentage of infestation with *Bruchus rufimanus* in 100 seeds, yield, its components, histological examination of leaves and chemical content. Results could be summarized as follows:-

A-Aphids:

A-1. Effect of phosphorous fertilizer levels: The average number of aphids in both seasons in each planting date significantly decreased by increasing P-levels up to 60 kg P₂O₅ /fed. Summary 146A-2. Varietal performance:.. In The first season, the average number of aphids over different weekly samples, the lowest values 7.58 individuals /10 plants were detected by G.3 followed by G. 843 and then by G. 461 in early planting date. While, G. 3 followed G. 461 and then G. 843 in late planting date gave the lowest ones. In the second season, the average of number of aphids in the early planting date showed that G. 674 attracted the lowest of number of aphids but G. 3 had the lowest number of aphids/10 leaves in the late planting date. From the result of two seasons it may be concluded that G. 3 had the best variety within the five tested cultivars for aphid infestation avoiding followed by G. 461 and G. 674. The number of larvae and pupae of leaf miner:

B.1- Effect of phosphorous fertilizer levels: -The average number of larvae and pupae/10 leaves were higher in early planting date compared with late planting in the same sample. In both seasons the no. of larvae and pupae/10 leaves of leaf miner on faba bean were significantly decreased by increasing phosphorous fertilizer up to 60 kg P₂O₅/fed. B. 2- Varietal performance: -In the first season average over all samples in early planting date, G.716 followed G.674 had the lowest number of larvae and pupae /10 leaves of leaf miner. While, G.716 followed by G.843 showed the lowest number of larvae and pupae /10 leaves in leaf miner in late planting date. However, G.3 gave the highest one in both planting dates. In the second season G.3 followed G.716 gave the lowest average number of larvae and pupae /10 leaves of leaf miner on Summary 147 faba bean over all samples in early planting date. Also, both cultivars G.716 and G.843 gave the lowest average number of larvae and pupae of leaf miner in late planting date. Also, over two seasons and two planting dates, G. 716 gave the lowest number of larvae and pupae /10 leaves. C- The percentage infestation of leaf miner:

C. 1- Effect of phosphorous fertilizer levels: -In both seasons, the average of all weekly samples, the infestation percentage of leaf miner was decreased significantly by increasing P-levels up to 60 kg P₂O₅/fed. C.2- Varietal performance: -In early planting date, the two varieties G. 461 and G. 716 and G. 716 in the late planting date were lowest values of average of infection % of leaf miner in the first season. While, G. 716 gave the lowest infection % of leaf miner in both planting dates in the first season. In the second season, the lowest values of

infestation % of leaf miner average over the different samples were obtained by G. 461 followed by G. 3 in the early planting date and G. 674 followed by G. 461 in the late planting date in the first season. While, G. 461 gave the lowest infestation percentage of leaf miner in both planting dates in the second season. It could be concluded that the G. 461 was considered the best variety for low infestation % of leaf miner.