

STUDY ON THE POLLEN GATHERING ACTIVITY BY SOME HONEY BEE *APIS MELLIFERA L.*  
 STRAINS  
 BY

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ABSTRACT

*This* work was conducted to study the pollen gathering activity by some honeybee strains in two regions (Shebin El-kom and El-Qaumatir) during the years 2003 and 2004. The results revealed that the F<sub>1</sub> Italian was collected more amount of pollen than each of F<sub>1</sub> and F<sub>2</sub> Carniolan and, Also the F<sub>1</sub> Carniolan collected more amount of pollen than the F<sub>2</sub> carniolan during all months of the two years of study at the two regions (Shebin El-kom and El-Qaumatir). There were significant differences between the F<sub>1</sub> Italian and each of F<sub>1</sub> and F<sub>2</sub> Carniolan and between F<sub>1</sub> and F<sub>2</sub> Carniolan. The high monthly amounts of collected pollen by the three strains were during August. While, the low amounts of collected pollen were in December during the two years at the two regions. There were significant differences between the months of the year. The best seasonal amounts of collected pollen by the F<sub>1</sub> Italian, F<sub>1</sub> Carniolan and F<sub>2</sub> Carniolan were during summer season followed by spring, autumn and winter seasons of the two years of study at the two regions. There were significant differences between all four seasons

Key words: Honey bee, pollen, honeybee strains, year months, year seasons, pollen traps.

INTRODUCTION

Honey bee *Apis mellifera* L. is considered one of the most important beneficial insects for the people (Sharaf El-Din, *et al.*, 2000). The pollen is the fine particles formed in plant life and carrying the male germ cell responsible for fruit fertilization and plant embryo formation (Serra-Bonvehí, 1988). Pollen grains are main sources for protein, fat, minerals and vitamins for feeding people, bees and for brood rearing (Lorenzo, 1989). Pollen is collected by honeybees foraging workers from the plant flower in its pollen basket at the hind legs (Davis, 1991). The beekeepers used pollen traps which allows pollen to be harvested continuously without harming honey

bee colony (Cook and Wikinson 1986). The pollen pellets are removed from the bees before the bees enter the hive. There are many designs for pollen traps to easier the clean and the harvest of pollen. The efficiency rarely exceeds 50% i.e. less than 50% of the retiring foragers loose their pollen pellets (Cornejo, 1991). The studies have shown that pollen collected by honeybees foraging workers reflects environmental pollution levels when examined for heavy metals and radioactivity (Free, 1983, Bromenshenk 1985 and Crane, 1990). This work aimed to study the pollen collection activity by F<sub>1</sub> Italian bees, F<sub>1</sub> Carniolan bees and F<sub>2</sub> Carniolan bees.