Comprehensive study of pollen grains in honeybee colonies (apis mellifera L.)

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The present work was carried out in the apiary of the Faculty of Agriculture, Moshtohor, Benha University on pollen grains which collected by honeybees (Apis mellifera L.), during two seasons (2004&2005).This work conducted at the Department of plant protection at the same faculty. The results of this work indicated the following points:1-Survey on the pollen plants in Moshtohor plantation region:Pollen foraging activity of honeybees (Apis mellifera L.) in Moshtohor plantation was studied and indicated that about more than 50 flowering plants were sources for honeybee colonies in this area. The major pollen sources were Indian Corn (Zea maize L), Egyptian Clover (Trifolium alcxandarinum L.), Citrus trees (Citrus Spp.), Broad bean (Vicia faba L.), Wild mustard (Brassika Kaber Koch), Orientals plants and weed grasses .Pollen grains are examined and photographic for each types found in the earias of the honeybee colonies activities.2-Pollen gathering activity: 2-1- Pollen gathering activity during the year 2004 and 2005:Four F 1 Carniolan colonies and four Fl Italian colonies used for this experiment. During the daily recorded of pollen traps on each colony per 3 days weekly were weighting the amounts of pollen trapped in two races. The mean amount of pollen trapped was 3412.5 g and 2049.59 g/ colony in case of Fl Carniolan and Fl Italian bees respectively during the year 2004. While during theSummary 142year 2005 it was 3059.5 and 4379.75 g/colony in case of F 1 Carniolan and Fl Italian bees, respectively.2-2-Trapping pollen collections to determine pollen flow periods during the Citrus trees blossoming:Three F 1 Carniolan Colonies and three F 1 Italian colonies used for trapping pollen during the Citrus seasons 2004& 2005. The mean amounts of pollen trapped was 132.3 and 189.3 g/colony in case of two races, respectively during the Citrus season 2004. The mean amount of pollen trapped during the second season was 177.3 and 262.3 g/colony in case of F 1 Carniolan and F 1 Italian bees, respectively. This results indicated that was highly significant between the two races of honeybee colonies.2-3-The amounts of pollen trapped during the clover blossoming of 2004& 2005:Three F 1 Carniolan and F 1 Italian colonies were used for trapping pollen during the Clover season 2004& 2005. The mean amount of pollen trapped was 249 and 243 g/colony in case of F 1 Carnelian and F 1 Italian bees, respectively, during the Clover season 2004. While the amount was 232.66 and 389 g/colony in case of F 1 Carniolan and F 1 Italian bees, respectively during thesecond year (2005).2-4-a. The activity of honeybee workers on the gathering of Corn pollen (Zea maize L.) during 2004 & 2005:Pollen traps are placed on three colonies of F 1 Carniolan bees and three colonies of F 1 Italian bees.In 2004 the mean amount of pollen trapped during the active season on corn was 396.0 and 640.0 g/colony in case of F 1Summary143Carniolan and Fl Italian bees, respectively. While it was 686.3 and 1157.6 g/colony in case of F 1 Carniolan and F 1 Italian bees, respectively, during the Corn pollen season 2005.2-4-b. Temporal changes in total wet weight of pollen for 3 colonies during the tasseling periods (10 day in 2005):The data showed that after the 6-day from the fitted of trap on the hives, the total wet weight of pollen trapped per day was decreased gradually until the 10- day, therefor the pollen traps used for 3 days weekly during pollen flow season2-4-c. Comparative distribution of major pollen types in pollen traps at two seasons (2004 & 2005):The average of percentage of pollen trapped during the two seasons (2004 & 2005) was 49.7% pollen of Citrus Spp, while it was 88.5% pollen of Clover in case of Clover pollen flow season. This percentage was 97% pollen of Corn in corn flow seasons 2004& 2005.2-4-d. Comparative

behaviour of pollen foragers during the tasselling period of Corn in (2004 & 2005):In both races of honeybees the frequency of pollen trips decreased as the day progressed, but that of nectar trips increased.2-4-e. Evaluation of Corn pollen production from plants by removed its from flowers during the tasselling periods:Amounts of pollen harvested from Corn spikes during the tasselling periods on (2004 & 2005), was estimated .The amounts of pollen produced per a Corn tassele was 0.379 g in 2004, while it was 0.414 g in 2005.