Authors:	Pradeep, Abhishek (/browse?type=author&value=Pradeep%2C+Abhishek)
Advisor:	Kumar, Binay (/browse?type=author&value=Kumar%2C+Binay)
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Abstract: The honey bees play vital role in pollination of many field crops, vegetables, fruits and fodder crops. Keeping this in view a field experiment entitled “Foraging behavior of honeybee pollination in coriander and mustard”” was carried out in the Apiary of Birsa Agricultural University, Kanke, Ranchi, Jharkhand. Species of insects pollinators visiting on mustard and coriander crops during flowering in the last week of December 2016 to January 2017 were collected from open pollinated plot, their number and species were identified and proportion was also noted. More than eight type of pollinating insects visited the mustard and coriander crops like Apis mellifera, Apis cerana, Apis dorsata, with peak period of visit ranging from 9:00 am to 11:00 am. During the morning time 07:00 to 09:00 hrs, number of bees / m² / 5 min. was highest for Apis mellifera (5.69) followed by Apis florea (4.63). In coriander, relative abundance of Apis mellifera was 4.16 / m²/ 5 min. during 7:00 – 9:00 am which increased to 16.08 during 9:00 – 11:00 am. Among the different honeybee species, the maximum mean number of flowers / min (9.56) was visited by Apis mellifera in mustard while in coriander, maximum foraging rate of 16.83 flowers / min was recorded during 09:00 hrs to 11:00hrs for Apis mellifera. The diurnal foraging pattern of insects visitors on mustard and coriander was also noted. During early morning period (07:00 – 9:00 hr), the maximum visits was seen for Apis mellifera (4.82) in mustard while it was 3.62 in coriander. The foraging speed (time spent / flower) by honey bee species was recorded from mustard and coriander flower. The foraging speed of nectar gathered by different species of bee. The time spent by insects including honeybees during morning (07:00 – 9:00 hrs) was maximum for Apis mellifera (7.04) in mustard while it was 7.42 in coriander. The foraging speed of honeybee species for pollen gathered in mustard during 09:00 – 11:00 hrs was seen maximum for Apis mellifera (8.15) in mustard while maximum foraging speed for pollen gathering was 8.15 by Apis mellifera in coriander. Apis mellifera started initation earlier (8:46 am) followed by Apis cerana indica (9:02 am) in mustard. In coriander, Apis dorsata started initiation earlier (8:07 am). The correlation studies on mustard revealed that sunshine (hrs.), had highly significant and positive correlation with population build up Apis mellifera (0.773**), Apis dorsata (0.828**), Apis cerana, (0.838**), Apis florea (0.892**) and other insects (0.921**) respectively. The correlation studies on coriander had highly significant and positive correlation with population build up Apis mellifera (0.961**), Apis dorsata (0.918**), Apis cerana (0.692**), Apis florea (0.713**), and other pollinators (0.951**) respectively. The effect of different modes of pollination on yield and yield attributing characters on mustard showed that pollination caged with Apis mellifera resulted in maximum number of flower per plant (162.91), number of siliqua per plant (146.98), number of seeds per siliqua (14.11) and 1000 seed weight (4.01 gm). In coriander also, pollination caged with Apis mellifera resulted in maximum number per plant (233.27), number of umbel per plant (177.01), number of seeds per umbel (22.39) and 1000 seed weight (10.11 gram).

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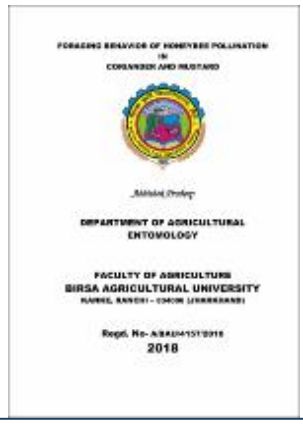
1696 Abhishek Pradeep.pdf		3.82 MB	Adobe PDF	

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